

Regional Economies and Small Farmers in Karnataka

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The divergence between economic growth and equality in the Indian context can be attributed to the disconnect between the macroeconomy and regional rural economies that host small landholdings. Comparing the agrarian peripheries of two distinct capital-accumulating urban areas in Karnataka, a decipherable pattern in distributional outcomes, food and livelihood security as well as sustainability are revealed. The portrayal of capital-centric urbanisation as an opportunity for livelihoods and poverty reduction among India's agrarian communities is questioned.

Few geographies and communities in today's world remain exclusively rural or urban. Rural social customs and food culture are commonly found in urban life. Rural life is replete with capital-driven technologies and urban "externalities" in all their forms. The coexistence of urbanism and rurality in hybrid lifestyles reflect both the contradictions and seamlessness of social evolution. This said, although rural-urban socio-economic boundaries are blurring, rurality continues to prevail in India in diverse forms. This paper addresses the trade-offs and challenges involved in adopting a regional development model built on rural agrarian enterprise when urbanism is pervasive, using the case of Mandya and Bengaluru as an anchor.

The rural is generally caricatured as money-poor and nature-rich, but a historical analysis suggests otherwise. Rural surpluses fuelling market-centric towns around agricultural hubs can be traced to the mercantile economy of irrigated paddy lands in Tamil Nadu (Harriss-White 2013), to the agro-industrial regions of North Bihar (Misra 2007), the North East Americas (Clark 1990) or Thailand (Andriessse 2014). They indicate that capitalism and urbanisation are often built around rural enterprise. Harriss-White (2012) addresses the question of why local capitalism in agrarian regions needs careful academic treatment.

From the second half of 20th century onwards, after a brief spell of economic success during the green revolution, material prosperity in agrarian India has been an exception rather than the norm. Despite a growing economy, agricultural trade, and technology, India's agricultural performance in general, and the welfare of the large constituency of smallholder agriculturists, has been poor. This noted, a development model based on generating capital in the rural primary sector is important in India for many reasons: the large number of people dependent directly or indirectly on agriculture, the persisting dominance of rural smallholders, the extent of land under diverse farming systems and the role this sector plays in the well-being and sustainability of a highly populated nation.

In this paper we take a closer look at the widening rural-urban divide from the perspective of the agrarian community, the now dominant rural people¹ using the cases of Mandya and peri-urban Bengaluru. We examine how rural communities and geographies are being used for capital accumulation in the urban core of a growing economy. We then examine different paths of urbanisation along with impacts on their peripheral geographies and communities.

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Food Famine to Livelihood Famine?

Despite technological advancements and large budgetary outlays, the decline of agrarian well-being is fairly evident.² It is difficult to ignore the increased dependence of farmers on a seller's market for inputs amidst volatility in agricultural prices and climate (Deshpande 2002; Abraham 2009), stagnating yields, a declining share in gross domestic product (GDP) (IES 2011) and degradation of land and water resources (Singh 2009). This has to be read along with the fact that 58% of rural households depend significantly on agricultural activities and around 67.1% of the total income of a typical farm family is drawn from agriculture (NSSO 2014b).

A surge in the number of middle-class consumers (from 25 million in 1995–96 to 153 million in 2009–10; Shukla 2010) has pushed the demand for food commodities. Moreover, the nature of consumption has also shifted from cereals and pulses towards vegetables, fruits, milk, egg, meat and fish (NSSO 2014a). However, the urban phenomenon of a surge in demand and related concerns of safe and healthy food has not been translated into benefits for agrarian livelihood. Instead, growing demand has raised serious concerns for livelihoods, food safety, nutritional security, and ecological health. Symptomatic of these problems are high food price inflation, farmers' suicides and the water crisis.

As the Indian economy has grown, farmers earned less and less compared to others. Vasavi (2016) points to the divergence in the growth of average income for different groups—farmers (19%), government employees (370%) and corporate sector employees (1,000%)—during last three decades. If this continues, uplifting farm livelihoods along with urban growth as discussed in many studies (Satterthwaite et al 2010; Rao et al 2004) will remain a mirage, especially since about 60% of agricultural land is at risk of losing productivity. Environmental crisis in terms of water and biodiversity threaten the production prospects (Das 2013). With increased irrigation also came inefficiency in water use, bringing in depletion of groundwater, surface flows and soil moisture along with disappearance of local crops and animals. A crisis in local production and food systems has been in the making at a time when the rest of the economy has been booming in India.

Karnataka exemplifies this paradox of challenges in food, ecology and farm livelihoods amidst economic boom and urbanisation. With agricultural modernisation in the mid-20th century, the state seems to have addressed instability of cultivated area and crop production (Chand and Raju 2008) but tackling farm distress (Deshpande 2002) and instability in yield levels remains a challenge (Purushothaman and Kashyap 2010; Chand et al 2011). Karnataka is second among the few states in the country where suicide mortality rate among farmers is higher than non-farmers and increasing (Basu et al 2016).

Rural–Urban Dynamics in Karnataka

Urbanism currently encapsulates a non-agricultural economy as its essential characteristic. Till the 18th century, rural capital was instrumental in establishing towns and cities around agricultural trade. The *pete* (market centre) set up by Kempe

Gowda around 1537 CE with its network of markets for grains, textiles, flowers, etc, became today's Bengaluru. Agricultural trade gave way to industrial capital using natural and human resources available in the vicinity. A landscape that used to mainly host a primary sector economy transformed into urban spaces built on manufacturing and later on, service sector capital. Thus an agricultural trading hub over four centuries³ evolved into a neo-urban metropolis.

As urban capital accumulation continued over time, it embraced more distant drivers and discarded its rural origins. A capital accumulating “core” emerged as a popular image of development. The non-urbanised “rural” turned into a source of natural and human resources as well as a sink for effluents from an accumulating (the “effluents of affluence;” Guha and Martínez-Alier 1997) and conspicuously consuming urban core, weakening rural economy in the process. These outcomes, including distributional impacts seem to vary with the scale and origin of urban capital.

Diversity in development process with differential origins lead to diverse urbanisation processes such as metropolitan “agglomeration” and “subaltern” urbanisation (Denis et al 2012; Iaquina and Drescher 2000), reflecting the proximate and distant drivers involved. While the former has been discussed above, subaltern urbanism according to Denis et al (2012: 61) mean “that their growth not only helps the urban poor, but also the rural poor in the vicinity.” Subaltern urbanism is built on the argument in Himanshu et al (2011: 38):

[R]ural non-farm diversification (and resultant rural poverty reduction), is found to occur more rapidly where there is consumption growth in neighbouring urban centres and [suggest] that the association is stronger if the urban centre is a small town than if it is a large city.

Subaltern urbanisation could be driven by proximate drivers rather than distant forces like globalisation or centralised state institutions.

Karnataka (along with 15 other states out of 29 in India) experienced high growth rate in its urban population during 2001–11. Urbanisation in Karnataka is top-heavy with 67% of urban population residing in its Class I cities (24 out of 237 statutory towns in the state). This has implications for livelihood options available in these urban centres and in their immediate and distant peripheries.

It is not rare to see bustling towns in India nurturing long-standing linkages with agrarian landscapes and primary production systems in the vicinity. Mandya in Karnataka is one such, where local value addition enterprises and processing industries depending on surrounding agricultural areas for raw materials, resulted in relatively autonomous development of an agro-industrial town. Though this is comparable with the subaltern urbanism in Denis et al (2012) or with regional capitalism in Thailand (Andriess et al 2014), the case of Mandya explored here is more complex, with its proximity to the metro city of Bengaluru. This is because parts of Mandya lie in the corridor between the cities of Bengaluru and Mysore with access to markets, non-farm jobs and infrastructure.

Neo-urban region around Bengaluru: The region comprising the current city of Bengaluru lost its exclusive agrarian character quite early, through the reigns of Ganga, Chola, Hoysala, Vijayanagara and Mysore kingdoms. Trade and manufacture around sugar, betel nut, cotton, silk, spices, and salt made the city a precolonial trading link between the Madras and Hyderabad regions, with a brief lull during the time of Tipu Sultan (1782 to 1799 CE). Colonial rule following this period saw the establishment of trading hubs and settlements in different directions of the cantonment. This era is also notable for deindustrialisation of the textile sector that used to demand locally produced cotton. The early arrival of electricity further made this hub of trade and human settlement a natural choice as headquarters of administration after independence from colonial rule. Strategically located away from India's hostile neighbours, the city saw tremendous growth as a hub of public sector industries.⁴ During the last three decades of the 20th century, agricultural lands in the outskirts of the city began to be converted into exclusive estates of private industries.

Around the same time, the city's reputation as an educational hub was also reinforced. With institutions of technology education came computer industries, software and hardware jobs as well as cross-border engagement of engineers mainly with the developed world. Computer and other industries like garments also meant outsourced contracts from countries with higher wages. Neo-liberal policies from late 20th century gave another fillip to capital, trade and infrastructure in Bengaluru and special economic zones (SEZs) with information technology, communication technology, and biotechnology companies setting up in the city's outskirts. We refer to these parts of the city as neo-urban Bengaluru.

These neo-urban areas with influx of foreign capital and cosmopolitan lifestyles coexist with agrarian communities in their immediate and distant peripheries. The peripheries of the districts of Bengaluru Rural and Bengaluru Urban show agricultural intensification and livelihood changes. The latter includes huge in-migration to the city core from rural households in search of casual employment.

Farming in the peripheries of Bengaluru: Land use change has been rapid and rampant around the city with parcels of land converted to either industrial landscapes (SEZs now and industrial estates earlier), residential layouts, highways or airport. Some areas in the newly urbanised sites where water tables went abysmally low or where land was abandoned for non-farm livelihoods have been planted with eucalyptus trees, adding to green cover in satellite maps, while taking land and livelihoods away from food production. Water abundant farms around the city with some family labour, opted for capital-intensive production of exotic vegetables, drip irrigated grapes or dairying. Demand for exotic crops and availability of waste water from the city triggered transition in some peripheries of old⁵ and newly urbanised parts in the southern part of the city to high-value marketable vegetables (for example, gherkin, baby corn, and coloured

capsicum). Figure 1 depicts the setting of a neo-urban region like Bengaluru.

In other peri-urban areas of Bengaluru, casual and contractual work opportunities in factories and residential layouts moved men away from farming.⁶ Thus, the push effect created by scarcity of labour and water and the pull of non-farm opportunities and urban food demand determine the state of farms in peri-urban Bengaluru. As a result, peripheral areas undertake capital-intensive (often poly-house) vegetable farming and/or fruit crops, if irrigated; or go for rain-fed crops like ragi/pulses/oilseeds.⁷ When both options are ruled out, land is left fallow or planted with eucalyptus.

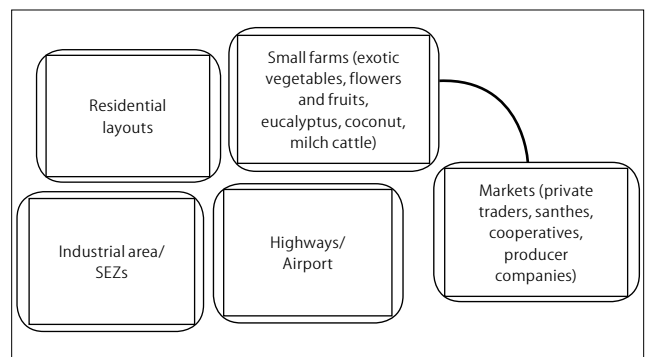
Growing urban demand for milk, meat and eggs drives live-stock holding in peri-urban areas, mostly as small dairy units attached to households and small- to medium-scale poultry farms. Poultry farming, in particular, was hijacked quite early from the backyards of small farms to industrial poultry units (GOK 2007; Delgado et al 2008).

Cultivators in the neo-urban peripheries increasingly depend on external inputs—whether it is seeds, fertilisers or pesticides. With decreased availability and quality of farm yard manure as a result of declining number of farm animals, market dependence for inputs has gone up considerably. In a few peri-urban villages of Bengaluru with access to sewage water (mostly untreated) from the city, scarcity of irrigation water is addressed with questionable public health impact.

Agro-industrial town of Mandya: Mandya shares some of its history of rulers with Bengaluru, as both were part of the erstwhile Mysore region. A dry rain-fed area, known historically for wool, butter and outmigration in summer, it is currently known for vibrant agriculture and sugar production. The first hydroelectricity project (early 20th century) and oldest sugar factory (established in 1933) in the state were established here, followed by a cooperative sugar mill (established in 1956) and adoption of Japanese technology for wet paddies.

Compared to the peri-urban region around Bengaluru, urbanisation here is slower, because industrial production depends on local agricultural produce. Very little agricultural land get diverted as demand from corporate and state concerns are less visible in Mandya. Farmers with access to irrigation often cultivate two or sometimes three cropping seasons, increasing the potential number of days of agricultural

Figure 1: Neo-urban Region



employment. However, the actual employment impact of irrigation varies, depending on factors, including nature of crops and mechanisation.

The emergence of an urbanising corridor between the cities of Bengaluru and Mysore where the peri-urban villages around Mandya town are located, provide semi-skilled non-farm informal sector jobs in addition to the mix of farm and non-farm employment offered by the agro-industries.

Region around Mandya has a long history dating back to the 19th century of industries based on its crop produce, mainly around jaggery, coconut oil, and silk. This predates the onset of canal irrigation in the 1920s (which was more than one lakh hectares in 2012), which increased paddy cropping area and led to the setting up of rice mills, from mid-20th century onwards.

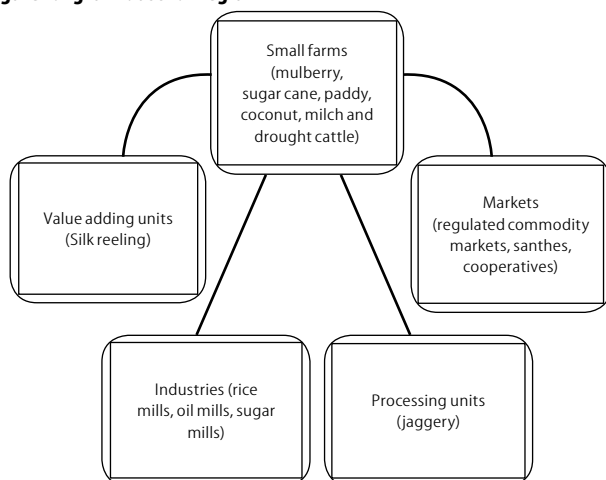
Irrigated by the river Kaveri and its tributaries, this region now grows four crops (paddy, sugar cane, mulberry, and coconut) mainly for the market and/or processing industries and one (ragi) mainly for family consumption.⁸ Rice mills, jaggery units, and coconut oil mills dot the landscape in and around Mandya (Figure 2). Tender coconut markets, regulated markets for silkworm cocoons,⁹ as well as trading in sugar cane, jaggery, vegetables and banana, make the region a vibrant hub of agriculture.

Mandya has seen an increased incidence of farmer suicides since 2010—a late occurrence compared to other distress affected regions of the state. A more lasting and equitable agrarian transition in Mandya would have meant affordable and less resource intensive systems for rain-fed and smallholdings, incentives for cane crushing and jaggery units (rather than for large sugar factories); small-scale silk reeling units, rice mills and value addition units as well as biodiverse farms including food crops. These would have supported non-farm jobs and marketable surplus for industries while providing affordable, safe and culturally compatible food for farm families to tide over distress situations.

Comparing Neo-urban and Agro-industrial Regions

Table 1 compares Bengaluru Urban district and Mandya district. The primary sector in Mandya contributes significantly

Figure 2: Agro-industrial Region



to the district domestic product (36%) while in Bengaluru with 85% urban dwellers, it is only 1%. The extent of land currently followed by farmers is more than double in Bengaluru compared to Mandya and cultivators in Mandya outnumber wage workers in agriculture, reinforcing the role of farm livelihoods (beyond just farm labour).

Agriculture: Bengaluru’s irrigated area of 10,900 hectares comes almost entirely from tube wells, catering to the city’s demand for fresh and exotic food. Mandya leads in canal irrigation, though as mentioned earlier, its agro-industrial history predates advent of canal irrigation. The number of tube wells per hectare in Bengaluru farms is 25 times more than that in Mandya. Subsidies and loans moving towards drip irrigation in these localities, are still out of reach of a small dryland farmer.

The landholding pattern across size classes (Table 2) in Mandya is not too different from that of Bengaluru with about 90% farmers falling in the small-marginal category. In fact, Mandya’s average holding size is less than that of Bengaluru¹⁰ (in 2010).

Farms around Mandya host better agro-biodiversity inclusive of food, non-food; short, medium and perennial crops; as well as local breed animals. A large share (28%) of Mandya’s crop produce goes to industries while keeping 86% of cultivated area under food crops (Table 3).

Dairying is a popular vocation for smallholders around all urban centres. Bengaluru (urban) region hosts 1,047 milk cooperative societies with more than 2.3 lakh members. Though Mandya is comparable to the peripheries of Bengaluru in its increasing reliance on milch cattle, it has fewer dairy cooperatives (449) and still has some local cattle breeds, making considerable quantity of farm yard manure available. Despite

Table 1: Urbanisation and Agriculture, 2011 (%)

	Bengaluru Urban	Mandya
Share of primary sector in NDDP*	1	36
Urban population	85	17
Land under non-agricultural use	34.85	12.22
Land left as current fallow to net sown area	36.81	15.15
Agricultural workers to total workers	2.78	24.5
Cultivators to total workers	3.5	49

*Net district domestic product
Source: *District at a Glance 2012*, Bengaluru and Mandya.

Table 2: Landholding Pattern

	Bengaluru Urban	Mandya
Small and marginal landholders (% of total)	91	90
Medium landholders (% of total)	9	9
Large landholders (% of total)	0	1
Average landholding size (ha)	0.98	0.78

Source: Agricultural Census 2010.

Table 3: Agricultural Land Use

	Bengaluru Urban	Mandya
Cultivated area in total geographical area (%)	32	56
Area under food crops in total cultivated area (%)	63	86
Area under crops feeding agro-industries in cultivated area (%)	12	28
Number of agro-processing units	10	4,133

Source: Agricultural Statistics 2011; *District at a Glance 2012*.

growing urban demand, milk (dairying) and silk (silkworm rearing), popularly referred to as the pillars of farming around Bengaluru are severely affected by scarcity of labour and water.

Agriculturists who sustain their occupation are those who can take advantage of the urban demand. They are the relatively landed smallholders with supplementary non-farm income in agro-industrial regions, in the sense that they do not exclusively seek urban opportunities and also continue to raise food crops. Around the metro city they are the water endowed farm families growing high value monocrops in poly-houses or otherwise; and/or keeping dairy cattle.

Migration: As the urbanisation processes originating in rural activities offer economic opportunities to farming communities, livelihood distress and displacement appear less threatening in the farming peripheries of the agro-industrial town of Mandya. This makes such regions distinctive in terms of farm livelihoods, from both neo-urban peripheries where occupational shift and land-use conversion are high, and also from a remote dryland from where outmigration is high.

Outmigration of farmers especially due to distress is apparently very low (Reddy and Swaminathan 2014)¹¹ from Mandya and those who migrate mostly do so for skilled or semi-skilled jobs. In terms of both benefits and the costs involved (income and loans in Figures 3 and 4), Mandya appears conducive for small farmers and this explains to some extent, the low rate of following (Table 1) and outmigration. In contrast, many farmers in the immediate peripheries of Bengaluru undertaking input intensive, high value agriculture, abandon cultivation, awaiting real estate buyers.

Non-farm opportunities in the city draw both skilled and unskilled workforce from its own peripheries and from distant places. The unskilled labour requirement of the construction industry in the neo-urban areas is being met mostly by seasonal migrants from remote dry lands of Karnataka and the eastern part of the country. In addition, semi-skilled urban jobs in the informal sector (in factories, construction, driving, etc) employ short-term migrants and daily commuters from peri-urban villages of Bengaluru. Long-term migrants from the peripheries of old Bengaluru that urbanised very early have become its citizens engaged in relatively stable occupations like domestic labour, security guards, vending of vegetables, flowers, fruits, etc, or relatively skilled jobs like driving or factory work. The latter could be the dream of an aspiring

migrant from the hinterlands—to tread the trajectory from seasonal unskilled to long term and/or semi-skilled jobs of the city.

Socio-economic status: Comparing the two regions with selected indicators of development (Table 4), we find that while Mandya improved its Human Development Index (HDI) during 1990–2011, it also brought down its Gini coefficient marginally, while Bengaluru did just the opposite—reduced its HDI and increased its Gini. Rapid increase in per capita income to the tune of 20 times in two decades (Table 4) in Bengaluru, where primary sector does not appear in the economic radar, came with a social cost within and beyond its geography.

Table 4: Development Indicators

	1990		2011	
	Bengaluru Urban	Mandya	Bengaluru Urban	Mandya
Human Development Index	0.623	0.511	0.606*	0.663*
Gini coefficient	0.31	0.27	0.32	0.26
Annual per capita income (₹)	9,190	4,827	1,84,197	40,452

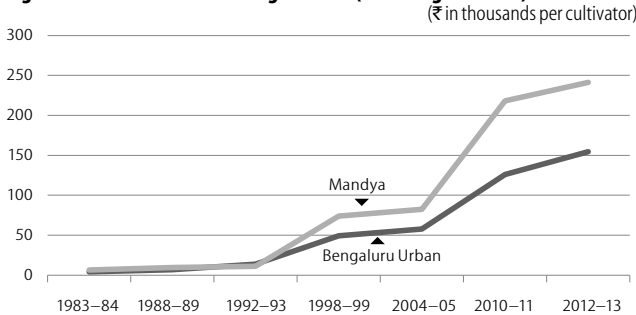
*Index of income in HDI was replaced by a Living Standard Index, incorporating access to basic facilities.

Source: State Human Development Report 1995 and 2014

To compare the farm household economy of the two regions, between 1992 and 2012, agricultural income per farm in Mandya increased 20 times while liabilities only tripled (Figure 4). The per capita income of farmers in Bengaluru is about half and their indebtedness 1.5 times than that of Mandya farmers (Figures 3 and 4). Ratio of per capita income to total outstanding loans were 3.2 and 4.34, in Bengaluru and Mandya regions, respectively. Nevertheless, change in trade and price policies¹² of sugar and silk impacts this agro-industrial economy.

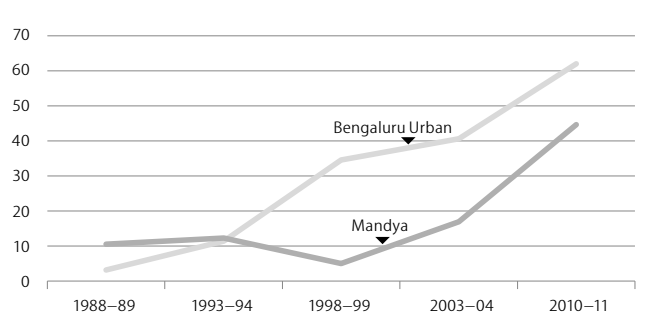
Institutions: Traditional agrarian norms and institutions around sharing seed and labour, crop selection, community decisions on planting and harvesting, etc, are almost non-existent now. Without the emergence of alternative local institutions, this disappearance leaves a conspicuous vacuum (for more on the role of institutions in agrarian Karnataka, see Purushothaman et al 2013). Agricultural extension agencies in the public and private sectors tend to overlook the need for sociocultural institutions. This results in widening the above lacuna often seen in individualisation and deskilling¹³ among farmers, helping a sweeping globalisation agenda to take over

Figure 3: Annual Income from Agriculture (including livestock)



Source: Various Economic Surveys of Karnataka.

Figure 4: Outstanding Agricultural Loans



Source: Various Economic Surveys of Karnataka.

the unique strengths of our farm sector (small, communitarian, biodiverse and persistent), erode the welfare objectives of the state and add new vulnerabilities to farm families already at the mercy of the monsoons.

Neo-urban landscapes also recreate caste and class hierarchies of rural society in different forms. Efforts to collectivise farmers around marketing produce or sourcing inputs are emerging in urban peripheries or in areas where voluntary agencies are active. While farmers around neo-urban Bengaluru increasingly rely on collection centres of retail chains and producers' cooperatives, state regulated agricultural markets (agricultural produce marketing committees or APMCs) are the most important destination in Mandya especially for paddy, cocoons and coconuts. Mandya accomplishes its agrarian performance from a large number of small agro-based processing and value addition subsidiaries (Table 3). This agrarian dynamism has a role in shaping Mandya's agro-political activism.¹⁴

Urbanisation for Agrarian Livelihoods, a Possibility?

Smallholdings ability to persist with just minimum returns, unlike capitalist or corporate farms, contribute to their collective potential to sustain agro-industrial economy. Despite this potential and opportunities provided by open markets, urban demand, and non-farm informal sector, farm-based livelihoods appear vulnerable. When we segregate peri-urban areas of major cities and metros from those of small towns, the complexity of the relationship that urbanism has with agrarian livelihoods becomes apparent. While Bengaluru's high-income formal sectors impart some income advantage in terms of job opportunities, it comes with uncertainty and lack of consistency in supporting farmers in its peripheries. The city continues to exploit land, soil and water for immediate profits, undermining livelihood security in the long term.

Value addition and processing units procuring local farm produce, informal and semi-formal collectives connecting producers and consumers of safe food and trade policies that avoid market volatility help the synergy between rural and

urban regions. This type of local capitalism, rather than abandoning or discouraging non-farm sectors, helps to tease out and strengthen multiple adaptive linkages with secondary and tertiary sectors. We believe that pursuing such agrarian transformation will shift the development emphasis to inclusivity.

Pursuing Agro-industrial Capital

In the near future, farming will continue to be crucial to India even if it is not anymore the "back bone of Indian economy." It will remain the single-most important occupation of the masses—contributing to their food, culture, identity and welfare. Is there an inevitable trade-off in pursuing local agrarian capital? Distributional challenges within and between regions need to be foreseen and taken into account. Otherwise capital may still by-pass smallholders in the dry agrarian regions, or not bring them on par with their counterparts in the peri-urban farm holdings. Towards this, we need to evolve institutions for rational small capitalist farming in rain-fed areas, like the vertical cooperatives of Chayanovian peasant economy (Chayanov 1991).

Agrarian Mandya shows that large surpluses can be replaced by numerous small surpluses, while rerouting public and private investment to value-adding small- to medium-scale agro-industries. Even when regions are driven by such local industries, pursuing agro-capital without consideration of its social-ecological system is likely to result in missing other objectives. Epstein (1967) and Mishra (1985) reveal the social cost of a thriving agrarian economy in Mandya. Mishra unveils how a thriving market economy reconfigured a caste-ridden agrarian society to a differently regressive class-ridden sugar economy that is vulnerable to global market fluctuations.

Promoting an inclusive growth policy calls for transforming agrarian landscapes into vibrant regional economies with their own different logics of accumulation. This kind of plurality of robust agrarian economies may be something that is necessary for sustainable societies in countries like India.

NOTES

- 1 Other rural occupations like weaving, crafts, grazing, folk arts, metalworks, etc, are rarely pursued now.
- 2 "Agrarian" and "farm livelihoods" in this paper is confined to small and marginal holders, constituting 85% of total holdings, operating in 45% of net sown area (Agricultural Census 2011).
- 3 Walker and Walker (1855) has an account of this history.
- 4 Bharat Electronics Limited (BEL); Bharat Heavy Electricals Ltd (BHEL); Bharat Earth Movers Ltd (BEML); Hindustan Machine Tools (HMT); Defence Research and Development Organisation (DRDO); Indian Space Research Organisation (ISRO); Hindustan Aeronautics Ltd (HAL) among others.
- 5 Kanakapura, Magadi (now in Ramanagara district) and Anekal, for instance.
- 6 Working in factories is considered less strenuous and more dignified.
- 7 During 2011, area under vegetable and fruits was 12.5%, ragi, pulses and oilseeds was 59%

and eucalyptus 26.5% of net sown area (Agricultural Census 2011).

- 8 Paddy, sugar cane and mulberry constitute 51.3% of net sown area while ragi, pulses and oilseeds are grown in 48.5% of net sown area in Mandya district (*District at a Glance 2011*).
- 9 These extend to neighbouring places like Ramanagara, Maddur and Tiptur.
- 10 Average landholding size in Bengaluru is larger due to large-sized institutional holdings.
- 11 Table 7 in Reddy and Swaminathan (2014) compares outmigration from a village in Mandya with two villages in other districts of Karnataka. Our visits to four colonies of migrant construction workers in Bengaluru city, found none from Mandya.
- 12 Distress in Mandya due to delayed price confirmation of sugar cane and reduction in import duty of raw silk is highlighted at <http://www.frontline.in/cover-story/the-spectre-of-suicide/article7549791.ece>.
- 13 For individualisation see Munster (2015) on ginger farmers and for deskilling in cotton, see Stone (2007).

- 14 Prominent agro-political outfits like Karnataka Rajya Raitha Sangha (KRRS), voluntary organisations like Raita Teerpu, Hasiru Sene, Krushi Koolikarara Sangha have notable presence in Mandya.

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