

THE RAINS HAVE ARRIVED. IS THE DROUGHT OVER?

Southern United States; 1930: The southern plains were affected with devastating dust storms that rose up to levels of hundred and more feet. Covering the vast plains that were once lush grasslands, the prolonged drought had rendered the region into a 'dust bowl'. This human-made agricultural disaster was the result of the failure to apply dryland agricultural practices, intense mechanised ploughing, continuous cultivation, soil erosion, and excessive expropriation of water. Thousands migrated out to the other regions creating an internal exodus that was unprecedented in the history of the U.S.



[PHOTO: Dust Bowl: USA, 1920]

In its arrival the South-West monsoon has brought respite and hopes. But, it is important that we not forget what the drought and its manifestations should teach us about the conditions of disadvantaged citizens, how we use the land, and what the future holds. Large swathes of Karnataka are now reminiscent of America's southern plains in the 1930s; several regions have not had sufficient rains since two to three years, temperatures have risen to unbearable levels, water tables have collapsed in many areas, agricultural livelihoods have been disrupted, plant diseases have spread, and vast tracts of land lie uncultivated with dust levels that are unprecedented. The signs are ominous and call for us to closely read the condition of the land and its cultivators and to initiate changes in the pathways of agriculture, resource management, and overall development policies in Karnataka.

Significance of the Drought of 2016-17: Unlike earlier droughts and compared to the drought of 1987, the drought of 2016-17 will be marked by the visibility of contradictory conditions. Although the rainfall deficit has been significant with some districts and regions recording upto 82 percent shortfalls in rainfall, the typical manifestations of drought distress such as complete absence of cultivation, widespread starvation, distress sales of goods and land, aimless migration among people have not emerged on a large scale. Several factors

account for this. First, the provisioning of food grains, through the Public Distribution System, the old-age pension schemes and food at anganwadis has meant that basic food needs are being met. Secondly, rural Karnataka reflects all-India trends and a significant proportion of rural households have income from non-agricultural sources and, unlike earlier times, are not wholly dependent on only agriculture-based income. A sample survey of a hundred households in one village in Chamarajanagar district indicated this. None of the families are at starvation levels and most consume at least two meals a day. Increase in the availability of credit has meant that several families have resorted to debts to meet not only expenses for health, education and social spending but are also purchasing groceries from stores that provide credit-based purchases. Several small and marginal agriculturists have not cultivated their lands since the past five years and this is borne out by studies that indicate an increase in the proportion of land that is uncultivated in the state. This is borne out by a report by the state's Agricultural Price Commission which has noted that about 12.49 lakh hectares (about 16 percent of the total) of agricultural land in the state are now lying fallow or unused. Most of these parcels of land belong to scheduled caste, tribe, Backward Class and minority communities.

Households that have been able to tide drought-related agricultural losses are those that have additional income through non-agricultural sources. Migration to urban and construction sites have provided wages and succour from absolute starvation. The most vulnerable are households with only elderly persons, physically challenged adults, or those with no male earning member. Such households either have only one meal a day or are dependent on neighbours and extended family members for the additional meal. Households that have access to land and capital, and who have invested in tube-wells and high technologies (tractors, harvesters, shade-net nurseries etc) have not borne the brunt of rainfall deficits. For those whose tube-wells have not failed, the access to water has assured good production and therefore regular incomes.

Such differences in access to resources and increasing livelihood variations account for the fact that droughts are now largely differentially experienced phenomena. Recent droughts have become opportunities for the resource endowed to further enhance their position and endowments. The decline in availability of work has meant that agricultural wage rates have fallen in many areas making production costs lower for the resource rich. But the labouring class has resorted to intensified forms of self-exploitation to tide over the situation. In the drier belts, it is not unusual to hear of workers who resort to group work so as to share work and wages among themselves. Groups of five to six women or elderly men gather into labour pools and then share the wages paid for only two to four people. Such differences in resource use and capital access have also defied any collective action or mobilisation to seek adequate and appropriate drought relief. Physically also the landscape bears the imprint of these contradictory factors. The two extremes of growing commercialisation and financialisation of agriculture among the resource rich and the abandonment of agriculture by the disadvantaged mean that we have a landscape of contrasts; of islands of lush agriculture made possible by new technologies and cultivation practices, and large swathes of land that are parched and laid bare.



[Photo of plastic-laid fields: Chamarajanagar; Photo by Arati Kumar-Rao]

[Photo of abandoned fields; Harve, Chamarajanagar, Photo by Arati Kumar-Rao]

WATER ECONOMIES: The most glaring contradiction of the drought is the extent to which there has been an intensification of the water economy/enterprises. The extraction and commercial sale of water from deep tube wells through a vast network of water operators and suppliers has created a new water entrepreneurship which erodes any idea that water is a collective good. Agriculturists purchase water from neighbours for rates ranging from rupees two hundred to five hundred per hour of water supply. Tanker suppliers sell water to high-end urban residential complexes for rates that range from 800-1000 rupees per tanker. District administrations pay ransom amounts to commercial operators to supply drinking water to villages, and middle class households in villages pool in to purchase water from tankers that ply between villages, and in some cases astute but greedy businessmen have purchased land only to set up tube-wells that supply water. Observing this, the writer Shivanand Kalave has rightly called this the ‘tanker drought’ (*tanker bara*) as this may be one of the key ways in which the drought has been managed. Behind the supply of water through tankers are the water entrepreneurs who operate a vast network of tube-well digging machinery, construction materials, pump-sets, and transportation equipment including portable generators. They scour the countryside offering interlinked credit and construction deals to agriculturists and many are now the new rich in the towns and taluka headquarters. Their rampant mining of water has seen little or no administrative supervision and there are none to question the subsequent

despoliation of the countryside. Despite the ban (until February 2017) on the construction of tube-wells for irrigation, the illegal tube-well construction network has succeeded in making tube-wells the most visible artifacts of rural Karnataka. So rampant and intense has tube-well construction and its dependency become that several agriculturists have more than three tube-wells in less than one acre of land. For example Chamarajanagar district as a whole has 51,792 tube-wells (for a population of about one lakh farmers) of which 13,658 have failed indicating a failure rate of 26 percent. The failure rate of the new borewells sunk by the Rural Water Supply and Sanitation Department of Chamarajanagara Zilla Panchayat during 2016-17 was 36 percent across the whole district which was significantly higher than the 15-23 percent failure rate during 2014-15. Similarly, across the state, water tables have declined and the average depth of tube-wells is now about 700 feet. The increase in the number of tube-wells is linked to the changing land-use and cropping patterns. Between 2007-08 and 2015-16, the area in the state under cereals and millets decreased by 18 percent while that under horticulture crops increased by about 15 percent. While this may be celebrated as increasing production of commercial or market valued crops and hence enhancing farmers' income, the ecological cost of such policies is yet to be fully realised. The extraction of water and the subsequent cultivation of wet, commercial crops even at a time of drought has become one of the key reasons for the differential experience of drought and for the failure to collectively recognise the gravity of the drought.

What the drought highlights is how policies that promote productivity and marketability of crops, now compounded by the financialisation and technologisation of agriculture, are resulting in eroding the ecological bases of agriculture itself. The impact of this is evident in that even the natural abilities of soils and land to withstand periodic droughts have decreased. Much of this was evident during the mungaru season of 2016; lands that were not despoiled by intense cultivation with fertilisers and pesticides were able to produce atleast the dry grains of pulses, oil seeds, and millets. Lands that were under the regime of chemical agriculture and which were marked by salination and poor soils were the first to lose crops that either withered and died or became victims to a range of diseases. Further, new technologies that include tube-wells, tractors, tillers and also harvesters and even pitchforks (called JCBs by the name of the most popular brand) for clearing land, have created vast expanses of degraded and abused land.

HYBRID DROUGHT: In the late 1980s, village residents of Bijapur, recovering from the severe drought of 1987 often pointed out to the then spreading hybridisation of agriculture and many would express that the future drought would be a 'hybrid drought'...where hybrid seeds and their attendant inputs (of chemicals and machinery) would be the cause of the drought. Perhaps, they were not too far off in their reckoning for now we are witness to sights where it is indeed hybrid seeds and commercial agriculture that have become the key reason for ecological degradation. Visions of dried out vineyards, of exhausted ginger and turmeric fields, collapsed banana plantations, and drying pepper, arecanut and coconut gardens are now common sights. Far from modern, green revolution agriculture resolving the problems of food insecurity, it has now become the bedrock on which local agricultural practices are eroded and economic risks and ecological fragility has increased.

Although discussions about global warming and the possibility of the increase in frequency and spread of droughts in the state have been reiterated, there seems to be no concern about the on-going degradation of land and agricultural resources. And even as the Agricultural department is busy promoting new high technologies through its 'Krusha Abhiyan' sessions, there is the failure to prepare people to fine-tune their agricultural practices to the changing climate and rainfall patterns.

Despite reports of the intensity and spread of the drought in the state it has remained a marginal issue of concern in political circles. In the recent by-elections to two constituencies, drought was barely an issue among the various candidates and the constituents. Farmers' organisations, that seem to wake-up only during periods of extreme crises, demand only moratorium on loans, overlooking the fact that the most marginalised farmers either do not have access to credit or are indebted to informal moneylenders which makes them ineligible for government sanctioned moratoria. The inability of farmers' organisations to comprehend the production of drought conditions and their significance for both long-term ecological sustainability and economic viability accounts for their failure to mobilise for better drought-related distress management or to engage in ecologically appropriate agricultural practices.

Although official documentation considers the 2016-17 drought to be the worst in recent history, the attempts to address it and to drought-proof the state seem negligible. The Minutes of Chamarajanagara's Task Force on Drought Relief indicate that the members conceptualise relief as primarily providing drinking water and their recommendations for relief are primarily to supply water through tankers, construct more tube-wells or provision non-localised forms of water schemes. The structure of the drought relief task force at the district level includes the selection of nodal officers who are expected to be supervise and report on drought relief in each of the hoblis and perform these extra duties in addition to their regular responsibilities. In reality, the hard-pressed officials are disengaged from these additional duties and the lack of attention to details is evident in the fact that provisioning of adequate fodder for distressed cattle, ensuring conservation of water resources, regulation of the construction of tube-wells, attention to people's health requirements, or to the food security needs of the vulnerable groups or households are all issues that have been given a go by.

The much celebrated and cited forms of drought related financial relief have also not provided adequate relief. Across the two crop insurance schemes - Pradhan Mantri Fasal Bima Yojana (PMFBY) and Weather-Bases Crop Insurance Scheme (WBCIS), only 24 percent (or 1045779 out of the total of 4302787) farmers in the state were covered. The process of processing claims and transferring insurance amounts to farmers' accounts began only after mid-April and is yet to be completed.

Input subsidy is provided to farmers as a compensation for agricultural loss suffered by them in the previous year. Thus the input subsidy/compensation for Kharif 2016 is being provided to farmers in March-April 2017. This year, the input subsidy was provided by the Govt of Karnataka through an Aadhaar Enabled Payment System (AEPS) software called *Parihara*. In Chamarajnagar district, by April 22 2017, in 3 instalments, a total amount of Rs. 17.64 crores had been disbursed to a total of 44,304 beneficiaries. As per the Census 2011,

Chamarajanagar district had over 1 lakh cultivators which would imply that just over 42% of cultivators had received compensation by April. Even if one takes the *Bhoomi* database, which has 78,000 entries it would imply that just over 56% cultivators received compensation amounts one year after the drought affected the district. It is also important to keep in mind that compensation is awarded for yield loss over area sown and thus those who decided not to sow at all (mostly small and marginal farmers) would not be eligible for compensation at all even though they too suffered an income loss on account of drought.

MNREGA, which was designed as a demand driven programme has the potential of being used as a distress alleviation policy instrument to provide minimal employment to a household during drought period and to stem forced migration and also facilitate projects involving construction of drought proofing watershed structures. Yet, the state's record on this for the year does not indicate the full utilisation of this scheme. A comparison of employment generated (number of days worked by a household) in 2016-17, the worst drought year, with that in 2013-14, an average year in terms of rains, indicates that the number of days MNREGA work days for 2016-17 was below that during the non-drought period in several of the most affected districts in the state. A combination of factors, including dysfunctional panchayats, growing bureaucratisation, and peoples own aspirations to be employed outside their villages account for this. As the recent note by the central government indicates, Karnataka has spent only Rs. 500 crores of the sanctioned Rs. 1782 crores. That the administration has not considered this drought to be as significant a condition is indicated by this.

Other programmes such as fodder disbursal and establishment of go-shalas and provisioning nutritious food to pregnant women and elderly etc have been negligible and have not catered to the needs of the people in the most distressed regions. In the belts of Hanur taluk, an estimated 3000 thousand cattle have died and the failure to provide timely and appropriate fodder and the lack of availability of water has been the key reason.

Administrative and official machinery does not seem to recognise the extent to which the current conditions and attempts to address drought as primarily a lack of water will only lead to further enhancing drought conditions or turning the region into a vast wasteland. Myopic and distorted agricultural policies compound these approaches. As Suresha Kanjarapane has indicated, Karnataka has the most varied rainfall patterns and levels in the country and this ranges from the average of 500 mms in the dry belts to high rainfall of about 2000 mms in the Western ghat areas. Yet, agricultural policies overlook this variation and promote agricultural practices that assume rainfall or water availability is a given bounty across all regions. New Meaning of Agriculture: the promotion of wet, tubewell-based agriculture has become so significant that the meaning of agriculture has altered to make cultivation synonymous with using water from tube-wells. Even small holding agriculturists including adivasis consider agriculture to be worth it if only there is a tube-well in their land. Long-established and viable practices of dry cultivation have become passé and imitative agriculture rather than regional specific agriculture has become the model. Tried and tested dry grain complexes are now

largely replaced by a wet commercial grain complex that consists of combinations of sugarcane, turmeric, vegetables, fruits, ginger etc all of which require expensive hybrid seeds, large doses of fertilisers, pesticides, and technologies including tube-wells. That farmers continue to cultivate tomatoes in even semi-arid areas overlooking the ecological cost to the region and the economic burdens they bear is best represented by the tomato whose fluctuating prices see only occasional periods of peaks but frequent stretches of price crashes. As the recent low prices of tomatoes indicate, there is an overproduction of tomatoes even in a period of drought and indicates the skewed and distorted land use policies. In many ways, the tomato represents both the ecological and economic folly of policies that ruin both land and farmers.

In the technology-driven search for water there is little care about its conservation and appropriate use. Water management policies and practices are largely non-existing and those that exist are violated with impunity. That even in a region like the Malnad, that receives one of the highest rainfall in the world, agriculturists must resort to tube-wells and to tanker supplied water is an indicator of the distortions and dangers which our agricultural policies and water mismanagement have created.

Matching the financialisation of agriculture and the technologisation of the drought are the conditions of lack of accountability of decentralised governance and the overall failure of democratic processes to pay attention to the distress that has manifested during drought. Even as attempts are made to decentralise governance, and panchayats are supposedly the institutions to deliver this, the abilities of panchayats to address drought issues seems to have been bypassed. Following the state model of seeing tube-wells as the resolution for all water problems, panchayats commit to constructing multiple tube-wells for drinking water. It is not unusual now to come across villages with several panchayat tube-wells with many of them having dried up or becoming defunct. In most cases there is neither water harvesting nor conservation and there is little thought given to ways in which water can be locally tapped and used.

Compounding this tube-well fetishism, there are now large and expensive drinking water schemes. This despite studies that have indicated that multi-village drinking water schemes which focus on getting drinking water to villages through lengthy networks of canals and water pipes are not cost-effective, efficient or reliable, the state continues to promote them. Such centralised water schemes are beneficial to contractors and departmental personnel and they defy both ecological sustainability and economic viability. For example, a large scheme has been initiated in 2014-15 for Chamarajanagar district at a cost of Rs. 497 crores and is meant to supply drinking water to 510 villages. While the scheme is yet to be completed (the deadline is June 2017) the ecological cost has already been several hundred trees that have

been axed to make way for the pipeline. The recent haste to complete the project has seen the deployment of heavy machinery and an army of workers, whose living and working conditions are pathetic.

Policies and programmes such as these erode local governance mechanisms and instead of conservation, responsibility and accountability for local resources, people now harbour hopes and expectations that the government should resolve all problems for them. Discussions with village residents indicate this: they expect the government to alleviate drought-related distress, point to lack of reach of programmes, and the rampant corruption etc. Yet, there seems to be little in terms of their engagement in these issues and many violate even simple norms of water and soil conservation, retaining tree covers, and appropriate cultivation practices.

What the 2016-17 drought has highlighted and enhanced is the extent to which there is a constellation of factors that make droughts not merely a natural and recurring phenomenon but a human-made distress situation whose management itself is compounding the propensity to become even more drought-prone. Denial, obfuscation and the non-recognition of the human role in the production of droughts will only lead us to further disaster. Data for a radius of a hundred kilometres around Mysuru city indicates a significant increase in atmospheric dust counts since 2015. The increase in dust levels is only one sign of the portending disaster. The declining water levels, the distress and diseases among animals, the fatigue of soils, the spread of innumerable plant diseases, the declining productivity of crops, and the desperation among rural citizens to be out of agriculture are all indices of the deeper disaster awaiting to be manifested in full. If we must defy this scenario, then we must pay heed to noted litterateur, Devanur Mahadeva's call to people to "grow roots on rocks (*Bande mele bayru beera beku*)". In this call for persistence, we must ask ourselves which is the rock that we can select and what kind of roots we want to spread. The current drought and the conditions of the people and the land must be read as signs of what the future bodes and prepare us to change tracks before we render our region into a completely unliveable terrain and we subject the most vulnerable people to worse disasters. A hundred years since the 'dust bowl' of the Southern United States, there is a high possibility that a similar scenario will be played out in our own hinterland.

Karnataka: 2030: Its vast stretches of semi-arid regions have been rendered unliveable and mass migration is evident in several areas, the rich biodiversity of the Western ghats has been eroded, the southern dry plains have turned into new arid belts, and a few cities manage to exist through the expropriation of water and natural resources from the countryside. The dams, canals, tube-wells and lakes have become crumbling infrastructure and there are now several hundred ghost villages, which are abandoned villages. Once the home to myriad types of millets, including the nutritious ragi, the region now faces severe food shortages.

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