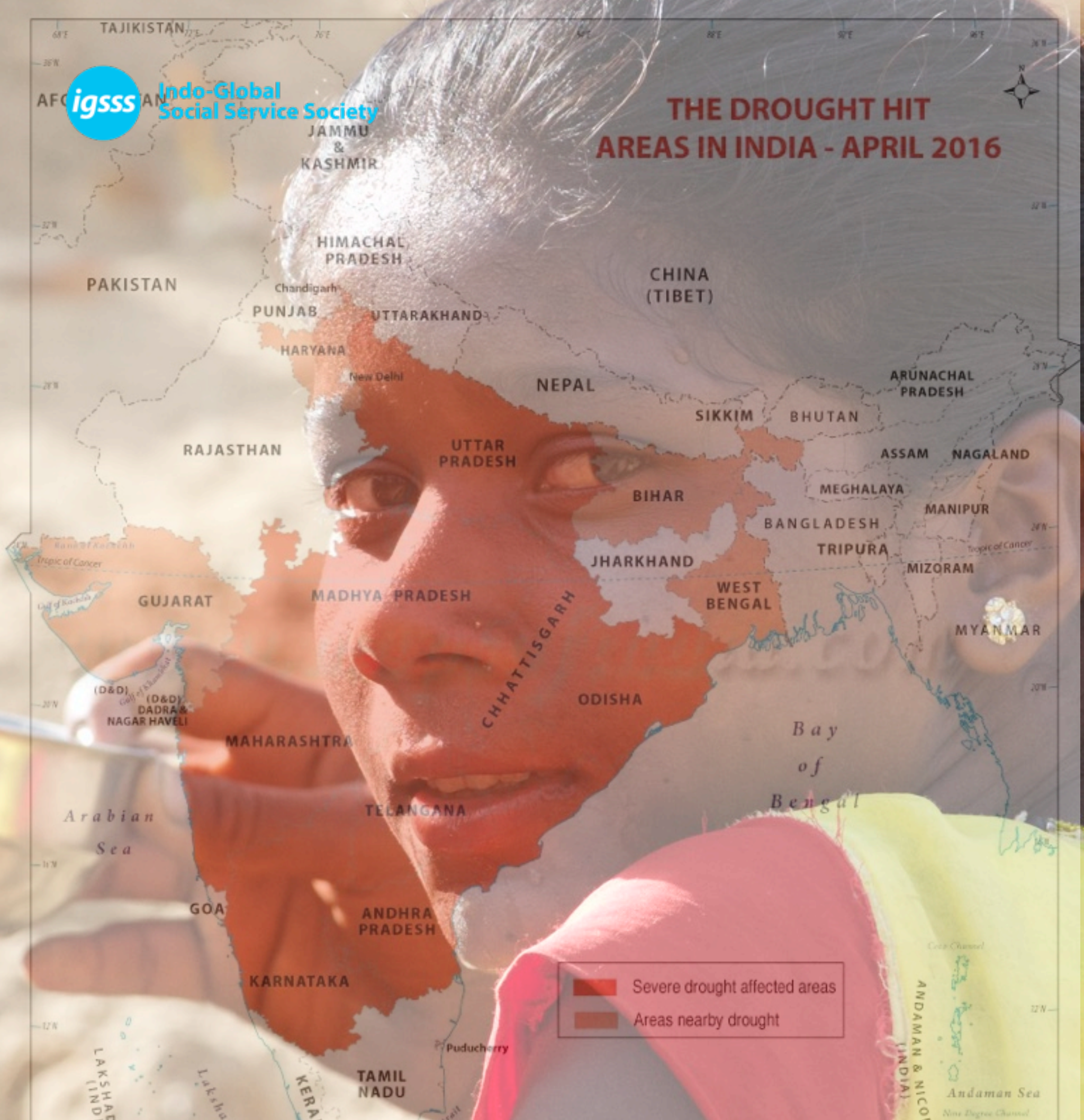


igsss

Indo-Global
Social Service Society

THE DROUGHT HIT AREAS IN INDIA - APRIL 2016



PERSPECTIVE WE ARE IN DROUGHT

AN IGSSS PUBLICATION



SOHINI BHATTACHARJEE

WHOSE DROUGHT?

In my everyday metro life, drought is almost a non-existent alienated subject. Rather, to me there are more pressing issues to meet in my daily existence - to catch the early morning metro, work to tick off from my list, socializing, my take on national and international affairs, endless discussions on seeking purpose, debates on social change and the list goes on.

In my dissection of the priorities, of looking at issues as *'important to my life'* or *'none of my business'*, drought has no space. Conveniently forgotten, wrapped inside my morning newspaper where the subject might have got a mention, or in switching between FM channels when I choose to listen to a lighter song than to concentrate on serious social concerns. My mind silently warns me, conserve energy, you have much more heavier tasks to complete. Those are somebody else's concerns, not yours, those are rural issues with no bearing on your urban life.

Then what suddenly drew my attention to the subject of drought. The imminent need of writing an article for an online journal. As I delved deeper into secondary research, however, the magnanimity of the situation started to penetrate. Statistics revealed startling facts, that one third of the country is under the impact of drought. Further digging brings to the fore that 10 states, 256 districts out of 675 are reeling under the effect of drought¹. The severity of the situation could be gauged from the fact that 330 million people are massively affected².

Highlights in news channels leaves me stupefied. Only three percent water is left in dams in the severely drought affected region of Marathwada in Maharashtra³. More alarming news hits the screen; two big hospitals are unable to conduct surgeries in Latur, which is one of the worst affected districts of the state⁴. The river Ganga is running dangerously low in West Bengal and Farraka, eastern India's largest power plant had to be shut down⁵. More such stories of water woes from Uttar Pradesh, Madhya Pradesh, Telangana, Gujarat, Odisha, Karnataka and other drought affected states leave me sad and flummoxed.

My mind gets skeptical. What lies ahead? Is the scare of mass death hovering in the mind's of the vast rural population? Is the alarming rise in farmer suicides not a

pointer in that direction? As the affected population makes a desperate attempt to secure their livelihood and take the road leading to nearby towns, I wonder whether our cities are prepared to house the affected migrants or provide them avenues of employment?

More heaviness awaits, as my imaginary wall dividing the rural and urban world comes crashing down. Can I take the food on my plate for granted anymore in the wake of India's agriculture slowly sliding into a coma? Am I so disconnected from the fact that farmers, the engineers of food production in our country, are gradually getting pushed out to become extinct.

Shortage of food will inevitably push the country to import from outside which would create pressure on the country's economy. This in turn would invariably make a dent in the pockets of the common citizens by inversely impacting their purchasing power. Drought has finally hit home!

As hunger and starvation lurches, waiting to break as an epidemic and eat away the country, we need to rise from our slumber.

The central and state governments are already making efforts to provide some relief to the drought affected population through MGNREGA and other food security schemes and the disaster management mandate. New initiatives have also been launched such as special trains which are carrying the much needed water to some of the drought affected states, launch of Krishi Sinchai Yojana, launch of eMandi to increase the purview of local markets for the farmers and the setting up of the National Electronic Fund Management, through which wages could be directly distributed to the beneficiary accounts.

However, institutional remedies alone cannot address such national concerns. It is alarming to know that levels

of 91 nationally monitored large lakes and basins, critical for power, drinking and irrigation, have fallen by a third. This when India has only 4% of the world's water resources while housing 16% of the global population⁶. The human resources of the second largest country in the world need to now put their hands together as agents of recovery.

Individual efforts such as developing rain water harvesting could be a significant step to address the drought situation. Every citizen should make conscious effort to preserve water in buckets, bottles or in any other storage facility. National 'Paani Daan' outlets could be created where people could donate the preserved water and states with excess in rainfall could lead the way. Similarly, mobile water donation boxes could be placed in religious places, schools, colleges, offices and Resident Welfare Associations (RWA's) during such emergency times. Water collected could be transported to the affected states. As we collect donations during natural disasters, water donation could also be collected from the nation both in form of resources or monetary.

We may not be able to build forest in the middle of cities, but may be we can replicate initiatives such as 'Each One Plant One'. Such climate change mitigation steps are the need of the hour to combat drought and other natural disasters. Such initiatives could be a crucial step towards involving and connecting masses of the country with social concerns. It could also give them a chance to see their tangible contribution in tackling national and global social concerns. Another crucial aspect is that such issues of national concern be at least spoken about in spaces of every day and not remain confined to intellectual discussions or or the media. Such realities should not be limited to text books alone but children across educational institutions should be made part of live discussions and should be encouraged to create solution centric models by making them visit the affected areas.

The e-journal 'Perspective' is one such attempt to dialogue on burning social issues. The first edition focuses on the issue of Drought with articles from eminent social activists such as Harsh Mander, Pranab Choudhury and in house subject experts like Krishna Chander Sahu, Sandanand Bag and Gayatri Mahar.

One sided dialogue rarely contributes to the development of new paths. We sincerely wish that our readers engage with us in this discussion and together we discover innovative and exciting approaches of social change and in doing so, ignite more debates.

REFERENCES: [\[1\]](#) [\[2\]](#) [\[3\]](#) [\[4\]](#) [\[5\]](#) [\[6\]](#)

Indo-Global Social Service Society

28, Institutional Area, Lodhi Road

New Delhi - 110003

ed@igsss.net

www.igsss.org

Perspective - We are in Drought

Volume 1 : Issue 1

May 2016

Editorial and Design

Sohini Bhattacharjee

Sunakshi Nigam

Mukesh Dubey

Photography

Mukesh Dubey

Copy Edit

Leena Bhanot



HARSH MANDER

THE INVISIBLE DROUGHT

India has transformed spectacularly in innumerable ways in the last two decades. One of the least noted changes is in the way the country — governments, the press and people — respond to drought and food scarcities.

Back in the late-1980s, many states across India were reeling under back-to-back droughts for three consecutive years, not much different from the circumstances of India in 2015-16. I was a district collector in districts of Madhya Pradesh and Chhattisgarh during those years. At that time, for Central and state governments, as for the media and public opinion, there was little that was weightier than responding, or being seen to respond, to the ongoing drought. Collectors had extraordinary rights to draw on the state exchequer without prior sanctions. Our mandate was paramount and unambiguous — to do all we could to save lives, and mitigate food, fodder, drinking-water and migration distress. We organised feeding centres for the destitute, fodder stalls for cattle, and transported drinking water over long distances. At the peak, we were creating one lakh person days of work in relief works every day in my district.

During the long, dusty, hot summers, officers like me would be out in our Jeeps from 5am until late at night, inspecting relief works, and ensuring that people and livestock had food and water to survive those hard months. Administrations did slip and falter: Runaway corruption in particular was not uncommon. But there was no doubt what the preeminent duty of the state was when its people were assaulted by drought. To do all it takes to ensure food, water and work for all. To save lives.

It is a lesson completely forgotten in the India of today. Farmers and landless workers in 11 states are crushed by drought, often for three years in a row, but if you scan newspapers or television screens, debates in Parliament and meetings in state secretariats, it would appear that this is a figment of some imaginations. This, indeed, is what some senior journalists and officials said to me, or implied — that we are inventing the story of drought hunger. I decided to travel to the rural backwaters of Bundelkhand in UP to see for myself.

In villages that I visited in district Banda, followed by a public hearing attended by 500 people, I encountered desperate people eating just one meal a day, and that too coarse ground grain mixed with wild leaves. I bit into one such roti, and found it bitter and foul. Villagers said it was difficult to persuade children to eat this but they had no option as there was nothing else for them to eat. They explained the virtue of these wild leaves: Once you eat them, you don't feel hungry for a full day. A rapid survey by some activists and lawyers found that already 86 per cent of families reported cutting down their dal intake, 79 per cent were eating roti and rice with salt or chutney, and 84 per cent had cut down milk for their children. In an estimated seven out of 10 households, not just men but often entire families had migrated to places as far as Punjab, Hyderabad, Surat and Delhi. Schools, therefore, were rapidly emptying out.

I found evidence of widespread intense food and drinking-water distress — and this when the summer months are not even upon us yet. There were also alarming reports of farmer suicides. The current drought was preceded, ironically, by a hailstorm that destroyed all standing crops. Many farmers, unable to pay off mounting crop debts, killed themselves after these recurring crop losses. But unlike in many other regions of endemic farmer suicides, we heard of landless labourers and marginal farmers also ending their lives. Their debts were not to banks but to usurious moneylenders who loaned at compound interest rates of 5 per cent per month. Shakuntala of Oran village, for instance, owns just two bighas of land. After sowing, her husband went to Punjab to find wage work but came back empty-handed even from there. He found that hail had destroyed their crops. Interest on loans by moneylenders of Rs 50,000 was mounting relentlessly. He needed to get his 18-year-old daughter married. Crushed, one day he hanged himself.



The response of the state administration to looming drought is disgracefully dismal and listless, lacking entirely in both urgency and compassion. People showed us empty job cards; public works under the MGNREGA, the most effective instrument to prevent distress migration, were nowhere to be found. Wages from earlier work had not been paid for over a year. Even more gravely, neither the Central nor the state government is serious about rolling out the National Food Security Act that should lawfully have commenced a year and a quarter ago. It would have ensured the availability of half of each household's monthly cereal requirements almost for free for more than 80 per cent of households.

In addition, I found no plans underway for feeding the destitute, especially old persons left behind when families migrate, the disabled, and single woman-headed households. ICDS centres were in a shambles, otherwise they could have been upgraded to also supply emergency feeding to the destitute during the drought. Schools only occasionally supplied khichdi to a small number of children. There were no arrangements for augmenting drinking-water supply, including ensuring that Dalit and Muslim hamlets had functioning tube wells, or

for transporting water where necessary. I found no attempt to create fodder banks and cattle camps.

All of these are fundamental elements of sound district administration, for which every young civil servant of earlier generations was trained and held strongly accountable. But no longer. Even British colonialists developed elaborate protocols for such times codified in famine codes. In *Ash in the Belly: India's Unfinished Battle against Hunger*, I reviewed these colonial codes and demonstrated how they did attempt to save lives but at minimal cost to the exchequer, disrespectful of human dignity and the equal worth of subjects. However, in contemporary neo-liberal times, attempts to avoid "burdens" of high public spending on people coping with acute drought and hunger have revived. There seems even less preoccupation with saving lives of dispensable, invisible rural poor populations. In today's times of rapid economic growth and overflowing grain warehouses, what can be more culpable?

Note : [The article](#) was originally published in Indian Express and is reproduced here with permission from the Author.



PRANAB RANJAN CHOWDHURY

ECOSYSTEM OF DROUGHT

**Understanding Ecosystem of Drought Vulnerability
to Improve Drought Resilience of Small Farmer Agro-
ecosystem.**

As drought this year touches lives of a quarter of the population of India (in 255,923 villages in 254 districts in 10 states)¹ and debates over drought preparedness and development priorities by the Centre and states are contested in the media and questioned by the Courts (viz. the row over IPL match in Maharashtra), this paper attempts a better understanding of the changing 'drought ecosystems' of poor farmers in India and explore whether 'living with drought' is possible drawing lessons from the regional adaptive traditions and by questioning the mainstream agricultural trends.

Drought: A Fact and Reality

A hydro-meteorological manifestation², drought is a natural phenomenon, as natural as the climate and its variability. In a country like India, when rainfed agriculture is the dominant food production system and land use, drought remains an inherent accompanier of the farmer, society and the economy³. Irrigated agriculture is no different, as most of the irrigation systems being surface water-based with links to precipitation.

In the context of climate change, as rainfall is predicted to be more variable in India and dry regions becoming drier, extreme and intense drought events with higher frequencies⁴ are expected. Whether it would be a meteorological drought, a hydrological drought and agricultural drought, this would depend upon causation shifting from rainfall deficiencies through run off deficiencies to the availability of water for crops in the growing season⁵.

Making of a Drought: The Human Influence

While drought remains a natural 'phenomenon' and technically an event, what makes it a 'disaster' or matter of concern, is a combination of factors, which are often man-made. Not denying the fact that there are extreme and perennial droughts, impacts of which may be disconnected from anthropological connection, the fact re-

mains that 'droughts' are often man-made. Severe droughts, being experienced of late, can no longer be seen as purely natural hazards, because human activities play a role. Understanding and managing drought require acceptance of human influence as integral to drought is natural climate variability. (Van Loon et al, 2016)⁶

Understanding Drought: Proposing a Multidimensional Framework Lens

Premised on an acceptance that drought would remain a companion of Indian Agriculture in this profoundly human-influenced era, the Anthropocene⁷, this paper, attempts to explore, if its impact can be minimized on agriculture, food production, rural India and more importantly on the millions of small and marginal farmers, who are most affected by it, through a better multidimensional understanding.

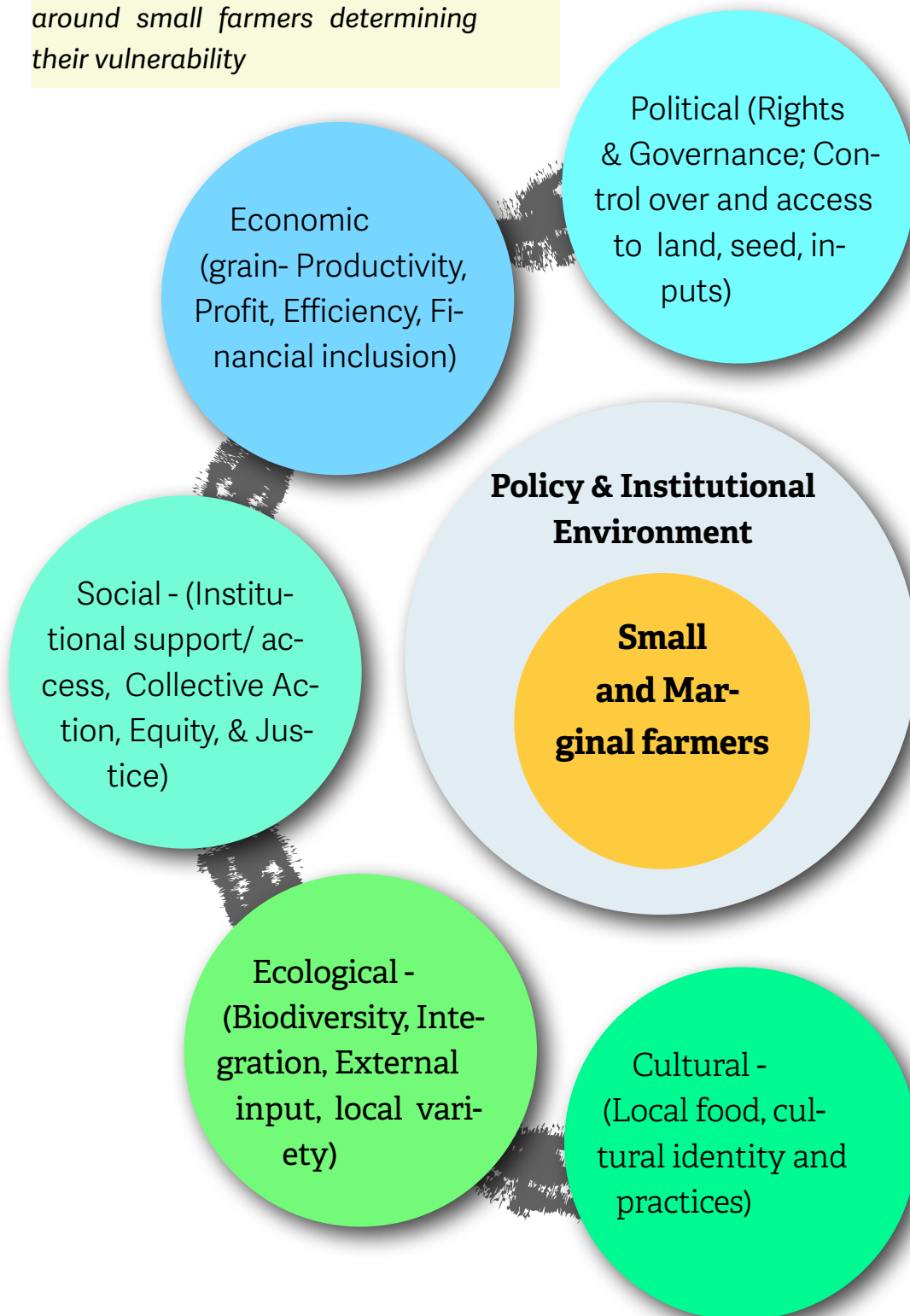
Keeping in forefront the millions of farmers who bear the burnt, this paper adopts a human-angle to propose a comprehensive 'Ecosystem Framework' to understand and analyze the drought vulnerabilities of poor, especially the small and marginal farmers in the Indian context. More particularly, it seeks to examine, whether such vulnerabilities have accentuated of late in the liberalized anthropocene, as a result of the development pathway that has been adopted in general⁸ and its influence on the agriculture sector in particular around policy, research, extension and market.

Ecosystem of drought vulnerability framed here, attempts to understand the small farmer's environment in holistic, multidisciplinary perspectives to analyze how the social, economical and ecological environment around it has changed of late along with the political and cultural milieu and whether the changes have induced higher vulnerabilities? As drought could most usefully be

characterized by its impact on the poor farming community and their ecosystem/landscape, this framework argues that the ecosystem of drought framework can probably help in a better appreciation of the quantum of its impact.

It is assumed, such a multi-dimensional diagnostic tool would help drought-stakeholders better appreciate the vulnerabilities and accordingly act to address the issues structurally, on a long-term perspectives and strengthen drought preparedness and adaptation, while also responding to post-drought measures.

Figure 1: Ecosystem of Drought around small farmers determining their vulnerability



From Living with Drought to Dying of Drought

Drought has been accompanying agriculture since its inception and farmers have been ingeniously adapting to climatic variability, through manipulation of biodiversity, natural resources management and agronomical practices. Traditional system of cropping and crop management, have evolved around local agro ecological strengths and limitations. While not romanticizing with past and tradition, an attempt is made to see whether there were reasonable element and logical practices adopted in the past to cope with drought and whether the changes brought in at a faster pace over last years, have made us more vulnerable.

Aggression of market and growth led agriculture-research in anthropocene, to defeat nature by imposing and manipulating agriculture systems through crop-choice, input and technology has often brought in negative externalities for small and marginal farmers, by either marginalizing them or weakening them, making them vulnerable in both ways.

An attempt has been made to analyze and contrast the developmental paradigms and agricultural practices across the five ecosystem-

dimensions to provide a holistic appreciation of drought impact and vulnerability. Considering the scope of the paper, limited aspects and examples under each dimension are dealt with, primarily to help in wearing this different lens. By no means the examples, references and anecdotes dealt below, must be treated as comprehensive and exhaustive

unpacking of typologies/elements under each dimensions.

It is required to be also appreciated that the comparison of the paradigms, primarily aims at drawing lessons for better drought preparedness, adaptation and mitigation and by no means aims at derogating the present practices. Present development paradigms have also multi-dimensional elements viz. decentralized local governance, access to IT-enabled services, scope of insurance, growing preference towards cultural and natural food etc., which no doubt, enhance the ability to live with droughts.

Ecological Trends: Losing Local Ecosystem Resilience with Increased External Dependence

Changes around the way food used to be sourced and grown; biodiversity used to be nurtured and relied upon; land and soil used to be husbanded; water used to be managed and more importantly, the way communities used to accept, respect and adapt to nature and natural limitations and geo-climatic variations, have affected the resilience of ecosystems with implications on adaptability and vulnerabilities of the small farmers.

Sourcing food from non-agricultural (uncultivated systems viz. forest, wetland, pastures etc.) along with agricultural ecosystems, an ecosystem approach to food consumption, used to allow rural and tribal communities to address year round food and nutrition requirements as well as disaster and seasonal induced shortfall of agricultural foods. Since the productivity of trees is often more resilient to adverse weather conditions than that of annual crops, forest foods often provide a "safety net" during periods of other food shortages caused by crop failure, as well as making important contributions during seasonal crop production gaps (Blackie et al., 2014; Keller et al., 2006; Shackleton and Shackleton, 2004).

Farmers in the rainfed tracts and in tougher agro-ecosystems (viz. mountainous, upland, arid etc.) had evolved their choice of crops and varieties as well as spatial and temporal crop-mix in response to vagaries of monsoonal rain and other physical limitations. In response to climatic and physical risks, they had also oriented their dietary intake and diversity to ensure food and nutritional security.

Adaptive elements to climate change like diversification, low external input/energy use, weather forecasting/adjusting, traditional natural resources management (moisture, nutrition and pest management), cropping practices (mixed/inter/relay cropping, crop rotation etc.) collective food and seed storage and distribution etc. are inherent to small farmer agriculture. The practices of such adaptation are more pronounced in marginal and remote ecosystems and there are research evidences, which demonstrate their potential in augmenting local food and nutritional security.

The food production in these farms has undergone tremendous changes over last few years with respect to crops, varieties, cropping patterns and crop management, in response to external market, research and extension stimuli. Most of these changes have occurred without taking into cognizance the potentials of traditional farming systems, which had evolved over years of interaction with local resources limitations, in terms of their adaptation and cultural linkages. The new technologies which crept into these rainfed small farms have not always been always designed for smallholder situations and are often ill equipped to withstand increasing intensities of disaster. As a result, the vulnerability of the small and marginal farmers is increasing with increased external dependence and expectations and reduced internal control and adaptation.

Agriculture developmental approach focused on breeding, use of agro-chemicals, irrigation-based high input technologies around few selected food crops has been quite successful in meeting national food security and in augmenting income of many farmers. However, it has also resulted in narrowing of crop and varietal diversity evolved to adapt local geo-climatic variations, deteriorated soil health and water holding capacity, negative changes in water regimes (viz. ground water depletion and salt accumulation), making the farming contexts more vulnerable to droughts.

Social Trends Around Small Farmers: Reducing Scope for Local Collective Action & Control

Changes around the way water, seed, food and feed used to be stocked/conserved/ harvested and shared by the communities, transformation of the gender role in agriculture and reducing scope of collective actions around farming have impacts on the safety nets which protect communities from disaster situations.

The shared and adaptive water management and governance systems, particularly in water-scarce and deficit ecosystems, evolved with discipline, restraint and internal-control and augmentation in water use, have eroded and of late replaced with external dependence, exploitative free-rider use and lack of local initiatives to conserve and harvest water. Efforts around participatory watershed development and water-harvesting initiatives, have shown results, but have remained largely externally induced and fund-driven, with instances of elite capture and negative externalities marginalizing poor, landless and tribals.

There are informal seed supplies and distributions systems, which comprised of farmer managed seed production and management systems based on indigenous knowledge and local diffusion mechanisms. These systems include methods such as retaining seeds on-farm

from previous harvest to plant the following season and farmer-to-farmer seed exchange networks. There has been little or no emphasis on the informal seed supply sector⁹.

Despite evidence that gender-informed approaches are needed to bolster women's roles, productivity and farm-resilience, they are not yet a mainstay in the agriculture sector. Women's involvement in agro-biodiversity preservation, livestock care, genetic improvement, food and seed storage and processing are no longer promoted or practiced, except in some areas where feminization of agriculture is taking place due to male migration. It is a fact that, women play a critical role in helping family fight and adapt to drought, by food foraging, sharing saved resources, taking care of family while also contributing with wage labour.

Instances of collective action in adapting to drought by small and marginal farmers and rural communities in vulnerable ecosystem are traditional realities, which has not been emphasized much in mainstream drought management characterized by relief by external institutions. This is still happening to a great extent, while different forms of collective action like micro-credit groups, self help groups (SHG), Farmers' Field School (FFS), area/user groups (in watershed projects), Farmers' Interest Group (FIG), Farmers' club, farmers' cooperative, producer companies etc. are being able to achieve the desired development objective with mainstream and alternate development mechanism support.

These collective action initiatives, apart from involvement of farmers has the potential to also bring in other stakeholders like researchers, development specialists, extension workers, corporate and social entrepreneurs to a collaborative platform for working towards a set objective. While most of the existing initiatives¹⁰ are meant to connect small farmers with market through promotion



A RAIN WATER HARVESTING MODEL

of commercial/enterprising agriculture, collective actions in the direction of adaptive food security are limited to institutions around production (like farmers' field school, area/user groups etc.) and distribution (e.g. seed/grain banks).

Economic Trend: Increased Efficiency & Productivity at the cost of enhanced Vulnerability

With Green Revolution Technology, the costs of cultivation and risks of crop failure are so high that often the small farmers cannot recover even the money spent. Between 1990-91 and 1995-96 in India, chemical fertilizer costs increased by 113%, and pesticides by 90%, whereas the wholesale price of wheat went up only by 58%¹¹. Sharp rise in international cereal prices of late (2007-08) had also a profound impact on the food security and increased vulnerabilities of the poor in South Asian countries¹².

Increased focus on economic efficiency and productivity enhancement of food and cash crops, at the cost of feed reduction¹³, diversity loss, soil and water degradation, had led to food-surplus and commercialized agriculture –economy with substantial compromise on resilience. A mechanistic paradigm of industrial agriculture converts diversity to monocultures by focusing on external inputs of chemicals as well as on uniform monoculture commodities as outputs. Chemical-intensive monocultures produce less food per acre than biodiverse, ecological farms when all outputs are taken into account. (Shiva, 2016)

Most of these economic gains of present-agriculture sector are being calculated discounting environmental and social cost they come with and future vulnerability they are inherently linked to. While this approach leads to achievement of overall national food security and appreciable agriculture growth, issues of equity and sustainability of farm production, local food and nutritional secu-

riety often get compromised. In spite of this, growth and development, quite ironically, Indian economy, still succumbs during a poor monsoon, which shows the weakness in the present agricultural paradigm and the vulnerability it exposes the millions of poor farmers to.

Cultural Trend: Searching local identity in a globalized market

Traditional cultural practices and food systems have evolved in adaptation to the regional ecosystems and are positively related and mutually supportive. Biodiversity, food diversity, and cultural diversity go hand in hand. Tribals in the heartland of India evolved two hundred thousand rice varieties from one wild grass: the *Oryza sativa*. (Shiva, 2016) ¹⁴

Our culture is linked to and has evolved around agriculture and therefore a culturally relevant agriculture and agriculture contexted around local culture is fundamental for food security, sustainable livelihoods and wellbeing. Many traditional societies have been found to adapt to food and water scarcity during drought by relying on local alternate systems, including forest food and cultural water endowments.

However, development interventions, as well as global trends of expansion of industrialized agriculture, monocultures, and the market economy have negative and, in some cases, devastating impacts on the traditional food systems, subsistence-based economies and agro-ecological systems upon which Indigenous Peoples depend for survival ¹⁵.

Political Trends: Losing Local Control

An increased and intensified patronage of green-revolution areas and farmers, also lead to lesser focus on rainfed areas and small farmers. With funding for agriculture research, shifting from public to private research,

interest has grown in biotechnology. This change is reportedly disadvantageous to small farmers because private research companies lack incentives to address small farmers' concerns (Pingali and Traxler, 2002). An analysis of establishments and outcomes of agriculture research in India reveals lack of public-research and extension support to these rainfed small farms in the areas of their crops (viz. millets, tubers, vegetables etc.), agro biodiversity (viz. indigenous varieties and landraces of paddy) and cropping practices. The brown revolution aimed at increasing productivity of dryland areas in India, was always treated as being subservient to the big brother Green Revolution and Irrigation promotion. The result can be seen in the extension of the Green revolution to Eastern India (BGREI), even after the documented limitations of the same in Punjab.

Out of 138.35 million of operational holdings in India, with an average size of 1.15 hectares, 85 per cent are in marginal and small farm categories of less than 2 hectares. As per India's Agriculture Minister ¹⁶ "These small farms, though operating only on 44 per cent of land under cultivation, are the main providers of food and nutritional security to the nation, but have limited access to technology, inputs, credit, capital and markets," The fact that, most of the small and marginal farmers are concealed sharecroppers and tenants, with unrecorded rights, their access to formal credit, insurance and compensation continue to be denied increasing their vulnerabilities. Lack of a formal contract also disincentivises the tenants to invest in farmland resilience, while it also restricts accessing the support price market. The land record management system with archaic and un-updated record, also handicap farmers from accessing support services. Small and marginal farmers also bear the burnt of land acquisition, land-use change, loss of commons to the maximum.



Curtailed access to forest and common food systems, in the wake of their increased privatization, has reduced the availability of natural and wider food baskets on which communities are dependent on, compelling them to depend more and more on purchased foods to meet their minimum survival needs. During drought, these communities get affected most, with loss of their field crops and with limited ability to purchase costlier food.

Conclusion

Limited voice and gradual marginalization of small farms have not been able to influence the decision makers, researchers and extension agents about the need for appreciation of the small farm ecosystem in entirety. Instead of appreciating their eco-friendly, biodiverse food production and sourcing systems which has low-foot print/ net handprint and high energy efficiency, present policy paradigm terms them as inefficient farmers, who must be pushed out of agriculture to contribute to urban and industrial development. While lack of appreciation and promotion of their 'ecosystem' make them harder hit by droughts, impact of drought make them further sunk into the vicious downward spiral of poverty and get them

expelled as cheap labour to serve the mainstream development paradigm. They lose the battle either way.

There is a compelling need to have a relook at the present paradigm of agriculture development and its implication on small farmers, in the context of increasing drought vulnerabilities, through multidimensional human-angle lens like this 'Ecosystem' framework. Further delay may be too costly; we may lose the opportunity to save the small farmers and small-farm agriculture, with all its ecological, social, cultural, economic and political advantage.

REFERENCES: [\[1\]](#) [\[2\]](#) [\[3\]](#) [\[4\]](#) [\[5\]](#) [\[6\]](#) [\[7\]](#) [\[8\]](#) [\[9\]](#) [\[10\]](#) [\[11\]](#) [\[12\]](#)

[13] As a result of changed straw to grain ratio and increased replacement of coarse cereals in arid ecosystems

[14] Shiva V (2016) Who Really Feeds the World?: The Failures of Agribusiness and the Promise of Agroecology, North Atlantic Books, Pages 208

[\[15\]](#) [\[16\]](#)



GAYATRI MAHAR

DROUGHT: IMPACT ON WOMEN

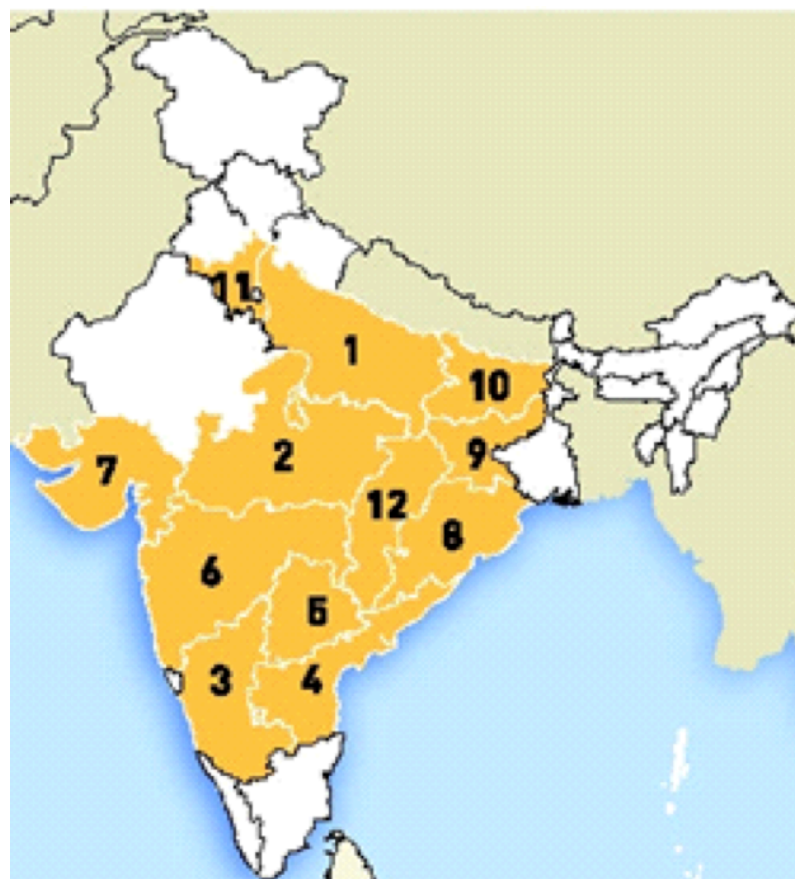
The rain-fed agriculture in India is the largest sector which contributes to around 18% of the GDP and 58% of the total employment in India. More than 70% of the Indian population depends on farming, either directly or indirectly. The

increasing variability of monsoons due to climate change is challenging the growth by leading to drought or drought like conditions. Acute water stress due to lack of rains over extended periods of time is affecting various human activities are leading to problems like widespread crop failure, un-replenished ground water resources, depletion in lakes/reservoirs, shortage of drinking water and reduced fodder availability etc. The most affected are poor and marginalized section of the society including small and marginal farmers, tenant, women (farmers) and children especially the girl child.

Over the last two years the country has received low rainfall which caused drought conditions in 12 States. The most severely affected States are Gujarat, Rajasthan and Andhra Pradesh. In 2015, 12 states were declared as drought-affected (fig 1) by the state governments. Drought conditions are not new for India - during the period from 1871- 2014, there were 25 major drought reported in India. The frequency has increased since 2000 and India has witnessed five drought years (2002, 2004, 2009, 2014 and 2015) impacting the socio-economic conditions of marginalized population. Its effect become more pronounced on women and girls because they have a weaker socio-economic status and limited capacity and access to resources especially in rural communities.

The small and marginal farmers experience wide year-to-year fluctuations in agricultural production, fluctuating incomes, resulting into high indebtedness and low human development. Repeated crop failures are leading to farm suicides. Nearly 90 lakh farmers in Maharashtra have been impacted by the drought that has devastated the kharif crop in 2015. According to Rythu Swarajya Vedika, an umbrella organization of non-governmental organization in Telangana that collects data on farm suicides, 1,753 farmers killed themselves from June 2014 till

December 2015. Suicides have also been widely reported from Odisha and Uttar Pradesh's Bundelkhand region, among other states.



Drought Affected States

**1. Uttar Pradesh, 2. Madhya Pradesh 3. Karnataka
4. Andhra Pradesh 5. Telangana 6. Maharashtra
7. Gujarat, 8. Odisha 9. Jharkhand 10. Bihar
11. Haryana 12. Chhattisgarh**

While several reports highlighted evidences of farmer suicides in the country, the distress of women cultivators is rarely recorded. As per the National Sample Survey Sample Office (NSSO) nearly 70% of rural women are engaged in agriculture but are not recognised as farmers. The female farmers are considered farmer's wives or women and are often landless or the land is not in their name. In the current agrarian crisis nearly 36 million female farmers are in crisis. At time of crop failure when the male counterparts migrate, women take overall responsibilities of managing the household and farming as well. Given the dependency of rural lives on rainfall, a negative rainfall shock in a year is likely to affect the household income due to reduction in agricultural pro-

Women Farmers who Commit Suicide Ignored

Ms. Yadamma, wife of Sangishetty Yadaiah, supervised both the farm and their home after her husband had severe TB attack 15 years back and was unable to do physical work. She made sure their three children were cared for. She also fought tough battles for bank loans, schooled herself in seeds and fertilizers, and consumed pesticide when debtors started asking her to repay loans and she felt helpless because the crop had completely failed. Her family did not receive any compensation.

In Drought hit Maharashtra Region, an Early Casualty: Education

Meera Jadhav, 18, from Chikalthana village in Parbhani district, secured a first division in her Class XII board exams. Her younger sister Suvarna, 16, got over 70 per cent in her Class X final results. Then, one mid-August night, as the monsoon failed, their father Madhukar Jadhav went missing. After searching all over the village, the girls found his body in the family's 5-acre field. He had consumed poison, one more farmer suicide in the arid Marathwada region, facing perhaps its worst drought ever this year. Madhukar had a loan of Rs 50,000 from State Bank of Hyderabad while his wife Kaveri had a loan of Rs. 1,50,000 from the same bank, according to details from local government officials. They also owed money to a private moneylender. Suddenly, amid the turmoil of seeking government relief, completing police formalities and totaling the family's debts, the sisters' plans for college in nearby Selu town disintegrated, and talk of finding a suitor for Meera began.

Source: News Media

duction as well as food availability which in turn may affect the maternal and fetal nutrition. This can be linked with the status of under-nutrition in India. With 40 million, the country has world's largest number of stunted children.

State	Affected Districts	Affected Crop Area (ha)
Uttar Pradesh	50 of 75	2.19 million
Madhya Pradesh	35 of 51	2.77 million
Chhattisgarh	25 of 27	3.09 million
Karnataka	27 of 30	3.27 million
Maharashtra	21 of 36	5.31 million
Odisha	21 of 30	0.88 million
Telangana	7 of 10	1.4 million

Another challenge from the trend of deficit rainfall across the country is depletion of water resources both ground and surface water (Box 1) - worsens the situation, affecting the communities and have gender differentiated impacts. Women are most often the collectors, users and managers of water in the household as well as farmland. The water deficit affects women's responsibilities like collecting drinking water and firewood and ensuring food for the family. Women and girls have to walk longer distances to fetch water. Girls are being withdrawn from school to support their mothers towards taking care of young siblings or fetching water. The National Sample Survey Office (NSSO) data 2014 shows that the households were dependent on tube wells or bore wells as principal source of drinking water. With per capita availability of water in India falling and dependence on depleting groundwater for drinking purposes in rural India is on the rise as more accessible traditional water sources are drying up. As per the report, 70% of the rural women from states such as Chhattisgarh, Manipur, Odisha and Jharkhand need to travel long distance to draw water. The daily time spent on this exercise was the highest in Jharkhand (40 minutes) followed by Bihar (33 minutes) and Rajasthan (30 minutes). It was the lowest for Assam (10 minutes) in rural areas and Delhi (six minutes) among urban parts of the country.

Lower access to clean water and nutritious food are of greater concern to women than men in low rainfall years since they are primarily responsible for carrying out the day-to-day activities of running a household. Women also suffer from greater health effects than men. They characteristically reported increased incidence of joint pains, low platelet counts and fainting due to lower nutrition intakes and being burdened with more stressful and exhausting work of fetching water (UNDP



2014). Women not only undertake household chores, but in families suffering from economic difficulties, they also search for non-agricultural or agricultural work outside their villages, which coupled with greater housework, lead to fatigue. In many instances drought and lack of alternative job opportunities also forced women into sex work. Women's increased time spent in home production activities, such as collecting water, fodder and firewood, and doing unpaid work, such as taking care of sick children, in years of low rainfall, kept them away from the labour market.

Dealing with the drought situation both central and state government attempted to provide relief to the affected families. The Government of India has developed a drought management manual and a comprehensive drought crisis management plan - 2015. The manual has provision of (i) providing immediate employment to drought affected people under MGNREGA, (ii) strengthening the Public Distribution System (PDS) - to provide food and fodder as a measure to sustain the rural economy (iii) to initiate action to recharge the groundwater

table by building check dams and providing irrigation facilities, (iv) either waive off or defer farmer loans and arrange crop loss compensation.

However, proper implementation of these policies is a great concern. It will require active cooperation of central and State Governments. Besides, the severity of the crises calls for immediate long term and short term actions which also need to include women as important stakeholders. Legal recognition to women farmers is needed towards ensuring the country's food security and the crop loss also need to be compensated. Special provisions for women beneficiaries need to be included as part of the Government schemes specifically with regard to the agriculture department. For instance awareness and timely information about the existing agricultural services and schemes such as crop insurance, accessing financial services, agricultural inputs, weather forecast and promotion of dry farming agriculture, water resource management, fodder development and ensuring women's involvement in decision making need to be taken up to support women in the agricultural context. .



SADANAND BAG

FARMER SUICIDES IN ODISHA - A CONSULTATION

Today, the problem of farmer suicides has assumed a serious proportion. The toll is increasing year after year. According to a report by the National Crime Records Bureau, 46 farmers commit suicide ¹ every day in India.

In 2014, 5,650 farmers committed suicide, accounting for 4.3 percent of total suicide cases in the country, of which there were 5,178 male farmers and 472 female farmers who committed suicides, accounting for 91.6 percent and 8.4 percent of the total farmers' suicides² respectively.

The year 2015 was no different. As per media reports, more than 15,000 farmer suicide cases were reported from the states of Maharashtra, Telangana, Karnataka, Andhra Pradesh and Odisha. The cases of suicide did not come down in spite of the fact that Prime Minister Shri Narendra Modi declared an increase in the compensation to 50 percent for crop damage and relaxed the eligibility criteria for relief in April 2015.

In Odisha, 134 farmers, most of them from rain-deficient western Odisha districts, killed themselves allegedly over crop failure. 123 blocks spread over 16 districts in Odisha were drought hit where crop loss was to the extent of 33 percent or more³. As per media reports, the number of affected districts had gone up to 155, in the months of September to December, 2015.

Like the Centre, the ruling Biju Janata Dal (BJD) government in Odisha also announced a Rs. 1,000 crore relief package for drought-hit farmers in 12 districts on October 14, 2015. The relief package promised cash incentive for farmers, who had suffered crop loss of 33 percent or more. The government also promised to convert short-term kharif loans to medium-term loans in areas with 50 percent and above crop damage. Apart from this, 50 percent remission in terms of cess on land revenue was announced for farmers where the crop loss was 33 per cent and more⁴. Despite this announcement by the government, the farmers' suicides continued resulting in a blame game between the ruling and the opposition parties. The BJD government went on to the extent of call-

ing the farmer suicides occurring as a result of family disputes, alcoholism and mental illness rather than due to crop failure and the inability to pay back the crop loan.

In this context, IGSSS organised a Consultation on "Farmer's Suicides in Odisha" in collaboration with Jana Kalyan Sanstha, Bhawanipatna in December 2015, in Bhubaneswar, Odisha.

The consultation focussed on the issues that compel farmers to commit suicide, to compile the views of participants on remedial measures, and to submit a Memorandum to the Government of Odisha based on the recommendations made by the speakers and participants. The participants include eminent social thinkers, researchers, social activists, journalists, farmer leaders, representatives of civil society organizations and relatives of the deceased farmers who had committed suicide.

The major recommendations of the consultation were: identification of real farmers and not the land owners, crop insurance for each individual farmer, change in the minimum support price fixation system, having a corpus fund for small and marginal farmers, social security for farmers, and development of an irrigation policy for the state.

As an outcome of the consultation, a core team was formed who met the Chief Secretary, Government of Odisha and presented a memorandum based on the recommendations made in the event and also to prepare a road map for future advocacy strategies to address the issue of farmer suicides in Odisha.

REFERENCES: [\[1\]](#) [\[2\]](#) [\[3\]](#) [\[4\]](#)



KRISHNA CHANDER SAHU

DROUGHT MITIGATION AND MANAGEMENT STRATEGIES

Drought affects all parts of our environment as well as our communities. Different types of droughts have varying economic, environmental and social impacts. Drought in India

has resulted in tens of millions of deaths over the course of the 18th, 19th, and 20th centuries.

Indian agriculture is heavily dependent on the climate of India: a favourable southwest summer monsoon is critical in securing water for irrigating Indian crops. Drought is a perennial feature in one or other part of India and 68% of the net sown area of India is prone to drought. In fact, as per the National Drought Manual, 2009, three hundred and twenty nine million hectare of land covering 103 districts and 16 states of India are chronically drought prone.. Due to high temporal and spatial variability in rainfall and wide variations in physiographic and climatic conditions in the country, droughts are experienced in varying intensities (moderate or severe) almost every year irrespective of a good monsoon in all the 15 agro-climatic zones that make India.

In the drought-affected areas, the greatest damage is to the food and agriculture sector. For example, immediate crop and livestock losses mean strained economies, hunger and malnutrition for the vulnerable communities. Long-term decline in productivity owing to diminished areas, reduced investments and slow recovery leads to poverty and chronic food insecurity. The risks associated with the complex drought-dry land problems may get worse owing to climate change.

While it is difficult to demarcate the onset and end of drought, the impacts are severe affecting the poorest and most deprived sections of the society (NRSC 2008). Drought results from long continued dry weather and/or insufficiency of rain, which causes exhaustion of soil moisture, depletion of underground water supply and reduction of stream flow.

The National Commission on Agriculture in India defines three types of droughts, namely, meteorological, agricultural and hydrological droughts. Meteorological drought

is defined as a situation when there is significant decrease from normal precipitation over an area (i.e. more than 25 %). Agricultural drought occurs when soil moisture and rainfall are inadequate during the growing season to support healthy crop growth to maturity and causes crop stress and wilting. Hydrological drought may be a result of long term meteorological droughts which result in the drying up of reservoirs, lakes, streams and rivers, and fall in groundwater level.

The impact of Drought on economy, food and agriculture is especially severe since as much as 57 % of India's agricultural land is rainfed with large portions falling in the arid and semi-arid zones. In these dryland areas, delayed or reduced precipitation with longer dry spells exacerbate the growing water shortage faced by nearly 500 million of the region's poorest inhabitants. Right now there is no clear solution in sight.

Response

The response to drought has varied within the country. On the whole, the responses may be characterized as ad-hoc, short-term and superficial ranging from immediate food and feed relief, drinking water supply, temporary employment generation to distribution of seeds and other inputs for the next crop. Such limited assistance has often being judged as too little too late. Typically, there is no strategy and long-term action plan for drought preparedness and mitigation. More often than not, drought mitigation and relief measures stop after a while and are forgotten until the next incident.

Drought Management is currently addressed through the following mechanisms and sectors:

- Emergency relief and drought response
- Policy issues, national, regional, and district level
- Agriculture and rural development infrastructure



- Input supply, marketing and farm advisory services
- Weather forecasts, early warning, vulnerability and preparedness measures
- Best practices for rainwater and soil management through linking on-station and on-farm research
- Contingency crop planning/mid season corrections
- Alternate and diversified land use systems

Emergency Relief and Drought Response

While early warning indicators for drought have a considerable degree of ambiguity associated, as they may or may not culminate in a full-blown drought, the government has in place the requisite and institutional and policy framework to address the challenges posed.

In the year 2015-2016, a circular by the disaster management division of the Union Home Ministry on April 8 has asked Chief Secretaries to compensate farmers from the State Disaster Relief Fund (SDRF) and get it reimbursed from the national fund.

Farmers in rain-fed areas will be paid Rs 2,750 per acre and Rs 5,465 per acre in assured irrigation areas. The

compensation was limited to farmers having a maximum 4.9 acres of land.

Legal and Institutional Framework

While the central government plays the role of a facilitator, the primary responsibility of managing drought (or any other natural calamity) is that of the respective State government. With the enactment of the Disaster Management Act in 2005, the National Disaster Management Authority (NDMA) was set up as the apex body for Disaster Management in India, with the Prime Minister as its Chairman. Further, Disaster Management Authorities at the State and District Levels are headed by the Chief Ministers and Collectors/Zilla Parishad Chairmen respectively.

The Pradhan Mantri Fasal Bima Yojana is a new initiative in place of the National Agricultural Insurance Scheme and has been called a game changer. With high technology, to assess crop damages and direct transfer of compensation in farmers' accounts, this can give some relief to farmers. However, the infrastructure to do this isn't yet in place. Thus, we have to wait for at least another two years before it starts showing some positive gains

Policies and Programmes

In 2009, India launched its National Policy on Disaster Management with a vision to build a safe and disaster resilient India. The policy aims to develop a holistic, proactive, multi disaster oriented and technology driven strategy through a culture of prevention, mitigation, preparedness and response (Gol 2009). Some of the major government programmes intended towards mitigating the adverse impacts of drought and build resilience of people by encouraging efficient water management practices, ensuring livelihood, ensuring economic access to food and supplying fodder among other measures.

A major programme of the Gol, significant from the drought relief and management perspective, is the Mahatma Gandhi National Rural Employment Guarantee Scheme. The scheme aims to provide minimum job guarantee for 100 days in a year to the adult family members of rural households below poverty line. The assets created as drought proofing, water conservation and land development measures are very poor. The nature and quantum of works are more or less decided by the Panchayat and Block functionaries and the participation by the people is minimal. The choice is more for the large, standardised works at discreet locations, such as large ponds and roads and decentralised works such as bunding and levelling of fields and in situ water harvesting in each plot of land is less.

The other key programmes of the Gol that help build resilience of drought affected people include the National Watershed Development Project for rainfed areas, National Food Security Mission, National Horticulture Mission and Rashtriya Krishi Vikas Yojana, National Mission on Micro Irrigation. However each year the budget outlet and priority for these programme varies and the actual expense is very less due to corruption and misappropriation of funds.

Finance

The National Disaster Response Fund (NDRF) and State Disaster Response Fund (SDRF), constituted under 2005 Disaster Management Act, provide immediate drought relief to the affected people. For combating the adverse financial impacts of drought, the National Agricultural Insurance Scheme (NAIS) was introduced in 1999 and Weather Based Crop Insurance Scheme in 2007. The Gol also set-up the Agriculture Insurance Company of India (AIC) in 2003 to better serve the needs of farmers and facilitate a sustainable actuarial regime. Besides commercial, regional rural banks and the cooperative credit sector also makes financial credit available to the farmers on easy terms (Gol 2010).

However, the provision of interest subsidy on short-term credit is misused by large farmers who borrow large amounts of credit at subsidised rates and put it in fixed deposits or lend it to those who don't have access to institutional credit at higher rates. This has not addressed the rural distress of accessing capital on lower interest rates.

Research and Development

Research and development initiatives especially in areas like understanding the monsoon behaviour, agrometeorology, arid/dryland farming systems and hydrology are very limited to the universities and extension fields. Although these had developed useful technological options and drought resilient appropriate farming systems but technology adoption by small holders who constitute the bulk of stakeholders in drought-prone areas has not been to the desired extent. This deficit is not only due to inherent difficulties in developing appropriate technologies for extremely complex rainfed– drought-prone environment, but also due to the poor socio-economic conditions of the farmers and lack of adequate development

infrastructure. The early warning systems, advance planning for emergency response and better preparedness yet to be shaped to an accessible information sharing system by the small farmers.

The other technological setbacks are bias on biophysical issues – lack of appreciation of farmer's conditions, their priorities and resources. Top down extension strategy and weak institution and capacity building initiatives. Lack of on-farm research for participatory technology development (PTD) in rainwater harvesting and watershed management. Greater reliance on crops – lack of appreciation of farming system perspective and production system diversification and livelihood activities for landless and asset-less

Conclusion

Every year most parts of India are affected by drought. But the Centre and State has failed so far to diagnose the drought phenomenon and to come up with a long term solution. Presently, relief is considered to be the panacea for droughts. The main issues emerging for policy formulation and action are:

- Understanding the nature of drought,
- Modifying perception and response to drought,
- Changing the approach from relief to mitigation of drought.

The other significant issue in drought mitigation and relief policy is identification of vulnerable areas and population. The present policies and programs bypass some of the most deserving and vulnerable areas and people.

There is a need for transparent and non-political criterion for identification of vulnerable areas and population. This will help target development programmes and drought relief to most deserving population and areas.

Declaration of drought is a sensitive issue. The nature of drought is such that it does not occur in the same intensity across the Country and State and also has differential impacts. Unless this complexity is understood drought declaration will always be controversial and not transparent. The issues involved are: changing the criteria and process of drought declaration, area to be declared as drought affected, and period for which it is declared. The issue is further complicated by the source and amount of funding required after drought declaration.

Also, in the present political system, both State and Central governments are responsible for dealing with natural calamities. In addition, there have been different political parties ruling at State and Centre level with conflicting political agendas. Competition for votes in their respective constituencies affects drought mitigation and relief policies. At the State level, drought declaration is guided by the age-old famine code and political considerations. At Central government level, financing of relief work has undergone several positive changes, guided by National Disaster Management Authority (NDMA) and Finance Commission, but some element of politics always remains in releasing the allotted funds. Current policy should ensure sufficient funds are always available with a State to deal with drought of any intensity. What is required is efficiency at State level by formulating appropriate policies, programmes and processes for addressing drought, keeping in mind the existing coping strategies of rural population and status of the State's natural resources.

The impact of drought is both direct and indirect on most of the economic and social parameters. Direct impacts are easy to identify and quantify, provided there is a system to address the issue seriously. Present data generation agencies and institutions are not sensitive to re-

curing drought in the States. There is a need for consistent collection of data on livestock mortality, human migration, coping strategies, depletion of groundwater table, etc.

Prices of food grain and wages are least affected by drought mainly because of the State and Central governments economic policies of supporting prices. The impact of drought is ultimately on the livelihoods of people in terms of reduced food availability, forced migration, depletion of fixed and movable assets, health and nutrition and social marginalization.

The farm sector is more affected by drought and as the economy's dependence on non-farm sector is increasing, the overall impact of drought is less felt. However, still more than 80% of the population is dependent on agriculture; therefore most people are affected by droughts.

REFERENCES:

Bandyopadhyay S.K 2009, 'Linking future climate change with drought in development planning for preparedness and mitigation'.In: Abstract of Second India Disaster Management Congress, New Delhi. National Institute of Disaster Management, New Delhi

Gol 2012, 'Crisis Management Plan; Drought (National)'.Ministry of Agriculture, Gol.

Gol 2010, 'National Disaster Management Guidelines; Management of Drought', National Disaster Management Authority, Government of India.

National Academy of Agricultural Sciences, New Delhi, May 2011



CONTRIBUTE TO **IGSSS DROUGHT RELIEF FUND**

SEND
MESSAGE
IN A
BOTTLE



**Contribute as little as Rs. 500 to help us create
Rainwater harvesting Structures in Drought Prone
Villages in Odisha, Jharkhand, Madhya Pradesh,
Chhattisgarh and Uttar Pradesh**

**DONATE
NOW**

**IGSSS raised resources for
a four-year programme
in Madhya Pradesh, Jharkhand and
Uttar Pradesh for**

**BUILDING RESILIENCE IN
HUNGER PRONE DROUGHT
AFFECTED DISTRICTS**

**The programme aims at reducing
drought, hunger and food insecurity
of 15,000 small and marginal
farmers.**