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Abbreviations/Acronyms

AIKS: All India Kisan Sabha
AP Govt: Government of Andhra Pradesh
APCBTMP: Andhra Pradesh Community-Based Tank Management Project
APPI: Azim Premji Philanthropic Initiatives
BMGF: Bill and Melinda Gates Foundation
BNPP: BNP Paribas
C-AGG: Coalition on Agricultural Greenhouse Gases
C-STEP : Centre for Study of Science, Technology and Policy
CESS: Centre for Economic Social Studies
CII: Confederation of Indian Industry
CIRAD: French Agricultural Research Centre for International Development
CMSA: Community Managed Sustainable Agriculture
CRZBNF: Climate Resilient Zero Budget Natural Farming
FPO: Farmer Producer Organisations
GAFF: Global Alliance for the Future of Food
GEAC: Genetic Engineering Approval Committee
IASRI: Indian Agricultural Statistical Research Institute
IFAD: International Fund for Agricultural Development
JICA: Japan International Cooperation Agency
PIM: Participatory Irrigation Management
RySS: Rythu Sadhikara Samstha (Farmers Empowerment Corporation)
SIFF: Sustainable India Finance Facility
TUG: Tank Users Group
UNEP: United Nations Environment Programme
USAID: United States Agency for International Development
WAC-ICRAF: World Agroforestry Centre (also known as ICRAF)
WB: World Bank
WBCSD: World Business Council for Sustainable Development
WUA: Water Users Association
WWF: World Wide Fund for Nature
ZBNF: Zero Budget Natural Farming

Abstract

In the last several years, the Indian State of Andhra Pradesh has devoted considerable portions of its developmental plans to the endorsement of extensive agricultural reform. Most cogently originating in the celebrated Community Managed Sustainable Agriculture (CMSA) initiative, the State has had a fairly propitious history of involvement with sustainable and organic farming methods. In 2015-2016, the government of Andhra Pradesh announced its decision to replace the CMSA initiative with a new, more comprehensive agricultural reform program dubbed, Climate Resilient Zero-Budget Natural Farming (CRZBNF).

Proactively promoted, the program quickly gathered considerable media attention both domestically, in India, as well as internationally with organs of the United Nations and global financial institutions heaping praise upon the initiative. In the years since it was announced, the program has also secured commitments by major players in global finance as well as by philanthropic initiatives for considerable amounts of funding.

The author's motivation to critically examine the program originated from two observations. First, the program was being promoted as a kind of miraculous solution to the numerous issues of Indian agriculture as well as to the unchecked deterioration of the quality of life of Indian farmers. When things appear to be good to be true, they usually are. As the following examination of this program shall show, CRZBNF is riddled with inconsistencies that would leave any well wisher of its objectives reasonably concerned. Second, for a program in whose very name the phrase 'Zero-budget' alludes to the low cost of investment required by the farming ideology being propounded, the thousands of crores of rupees being raised for its implementation deserve some justification as well as transparent and accountable utilization.

Thus far however, the program's functioning and objectives have remained remarkably opaque. Beyond its advertised benefits and successes, little information is available on the public domain. Until recently, even less than is currently available existed. The change reflects the efforts and pressures exerted by concerned individuals and organisations through formal inquiries about the massive public undertaking. Responses have so far not been as forthcoming as would be appropriate. As shall be shown, the proponents of the program –barring a few individuals- have by and large been exceedingly reluctant to engage with relevant sections of civil society and public opinion.

Such behavior in the implementation of public projects is demonstrably undemocratic and, at times, in direct violation of our constitutional commitment to due process and accountability. Furthermore, policies and undertakings that have been similarly imposed upon the public in the past have often been seen to fail to provide the promised deliverables. When deliverables have been achieved in the short term, longer-term repercussions often emerge that in many ways outweigh the achieved benefits. A readily available instance would be the so-called Green Revolution that has had such an adverse impact on the health and productivity of our nation's farmland.

It is the hope of the Author of this paper that this attempt to draw attention to the issues within CRZBNF not be construed as a politically or otherwise motivated instance of vindictiveness. Rather, it is hoped that this analysis may alert all those concerned with the success of the project to a few of the ways in which it could be better ensured. Certainly, our farmers shall bear the brunt of our haste's repercussions.

1. Introduction

The Government of Andhra Pradesh (AP Govt.) has made global headlines with its decision to transform all farming in the State to Zero Budget Natural Farming (ZBNF) by the year 2022. Work is underway to encourage all of the state's 60 lakh (6 million) farming households to adopt Climate Resilient Zero Budget Natural Farming (CRZBNF) as the programme is officially called. This effort is inspired by Subash Palekar, a recipient of the Padma Shri and a prominent proponent of ZBNF.¹ Rythu Sadhikara Samstha (RySS - Farmer's Empowerment Corporation), a non-profit company constituted by Andhra Pradesh State, working on the implementation of the programme, advocates CRZBNF as "a farming practice that believes in natural growth of crops without adding any fertilizers and pesticides or any other foreign elements. The phrase Zero Budget refers to the zero net cost of production of all crops (inter crops, border crops, multi crops). The inputs used for seed treatments and other inoculations are locally available in the form of cow dung and cow urine."²

Azim Premji Philanthropic Initiatives (APPI) has supported this unprecedented effort by extending a grant in 2017 of Rs. 100 crores RySS. In addition, the United Nations Environment Programme (UNEP) has stepped in to mobilise global support for the programme by cobbling together a partnership with Paris based BNP Paribas bank and Nairobi based World Agroforestry Centre (WAC, also known as ICRAF) to launch the Sustainable India Finance Facility (SIFF). World Business Council for Sustainable Development (WBCSD) and World Wildlife Fund (WWF) have backed this collaboration. Together, this global financing arrangement and partnership will work with RySS, by extending credit to farmers and Farmer Producer Organisations (FPOs) across Andhra Pradesh and assist their transition away from chemicalised farming to ZBNF over the next five years. BNP Paribas alone has committed to investing \$ 2.3 billion (Rs. 17,000 crores at current rates) in support of the AP Govt. efforts and SIFF has announced plans to raise up to \$ 10 billions (Rs. 70,000 crores) over the next decade in lending to similar climate friendly projects across India.³

AP Govt. has established RySS such that it can function without interference from any state agency and under the direct authority of the Chief Minister, who is Chairman of this enterprise. The Vice Chairman of RySS is the Agriculture Minister and the Co-Vice Chairman is T Vijay Kumar, a former senior bureaucrat of the AP Govt. who now advises the state on CRZBNF. During his tenure in government, Vijay Kumar helped propagate Community Managed Sustainable Agriculture (CMSA) across the undivided state of Andhra Pradesh⁴. It mainly involved propagation of organic farming. This experience is now considered as a primer for CRZBNF⁵.

RySS is empowered to solicit support and participation of private foundations, bilateral and multilateral agencies, foreign direct investors, United Nations bodies, and a variety of international research and lobbying organisations, in promoting CRZBNF and any other agriculture extension activity.

¹ The high civilian prize, Padmashri, was awarded to Mr. Palekar by the President of India in 2016.

² See introductory banners on the website of *Rythu Sadhikara Samstha* (RySS), accessible at: <http://apzmf.in>

³ United Nations Environment Programme Press Release: *Andhra Pradesh to become India's first Zero Budget Natural Farming state*, 2nd June 2018, accessible at: <https://www.unenvironment.org/news-and-stories/press-release/andhra-pradesh-become-indias-first-zero-budget-natural-farming-state>

⁴ Following a long and contentious campaign, Telangana state was carved out as the 29th state of India in 2014 from the north-western part of undivided Andhra Pradesh. The eastern part of the state continues to be Andhra Pradesh and is headed by Chief Minister N. Chandrababu Naidu.

⁵ The RySS website explains "Community Managed Sustainable Agriculture (is) a programme that was primer to ZBNF implemented by Government of AP".

In launching and scaling up of the CRZBNF programme, a variety of consultations and conferences have been held. APPI has played a key role in organizing collaborations with international networks such as the Coalition on Agricultural Greenhouse Gases (C-AGG)⁶, Global Alliance for the Future of Food (GAFF)⁷, etc., in promoting CRZBNF. However, APPI has not initiated similar dialogues with agricultural, environmental and farming focused networks and organisations, even though these organisations are in the forefront of research, advocacy and policy formulation relating to concerns of farmers, food security and the environment. Engagement with journalists and researchers who have over decades exposed the structural injustices and exploitative conditions endemic to Indian farming, has also been neglected in the course of building CRZBNF.

This discussion is an attempt to draw attention to the nature and unprecedented scale of Andhra Pradesh's CRZBNF effort. The motivation behind writing this paper is to highlight the critical need for a deeper, exhaustive and involved public debate on the ongoing transition in AP. as well as to encourage key proponents of the programme to critically engage with certain concerns that have emerged about CRZBNF. It is also written with the intention of encouraging key proponents to be transparent and accountable to both the general public and the impacted populations, by ensuring that information foundational to the programme is shared, and not only through explanatory notes. This is essential as CRZBNF is now being promoted as a model for adoption nation-wide by Niti Aayog, and globally by UNEP. Efforts to move away from chemicalised and genetically engineered farming to natural farming must ensure the reclaiming of sovereign control over food production and consumption without subordinating the interests of the farm and consumer to financialisation, commodification, consumerism or any such mechanisms of international finance and agribusiness corporations. This paper, it is hoped, would draw attention to the paramount importance of producing food and other agricultural products in humane, healthy, ecologically sensible, economically viable, non-exploitative ways.



1Mr. Subhash Palekar receiving the 2016 Padmashri Award from then President of India Mr. Pranab Mukherjee

Information cited in this paper is almost entirely sourced from publicly available documents. Some critical information, such as MOUs and Agreements signed by RySS with various partners, is not in the public domain. This is because certain clauses of the Right to Information Act, 2005, which allow secrecy to be invoked to protect trade secrets or intellectual property, has been invoked in these agreements. Well-placed sources in Andhra Pradesh who are concerned about the grave implications of such secrecy, provided access to some of these documents. The implications of such secrecy to farming, food, economic and ecological security is discussed here.

⁶ See, C-AGG Partners with Azim Premji Philanthropic Initiatives and the Government of Andhra Pradesh to Host Agricultural GHG High Level Meetings and Technical Workshops in India, accessible at: <https://www.c-agg.org/projects-and-programs/india/>

⁷ See, *Global Alliance Welcomes New Member Azim Premji Philanthropic Initiatives*, June 2018, accessible at: <https://Futureoffood.Org/Global-Alliance-Welcomes-New-Member-Azim-Premji-Philanthropic-Initiatives/>

2. Rationale for promoting CRZBNF in Andhra Pradesh

In its 2nd June 2018 Press Release⁸, UNEP announced to the world its support for, and involvement in, the “unprecedented transformation towards sustainable agriculture” by “Government of Andhra Pradesh (launching) a scale-out plan to transition 6 million⁹ farms/farmers to 100% chemical-free agriculture by 2024” by adopting ZBNF. The release was timed with a public event attended by over 8,000 farmers at Vijayawada, the coastal city of Andhra Pradesh, and addressed by Chief Minister N. Chandrababu Naidu, UNEP Executive Director Eric Solheim and principal representatives of other partners promoting CRZBNF. Naidu announced¹⁰ that a Memorandum of Understanding (MoU) was concluded on this occasion between AP Govt. and SIFF¹¹ - a collaboration of UNEP, ICRAF¹² and BNP Paribas (BNPP) sealing the partnership and launching the programme.¹³ In his speech, Naidu said “(w)ith this historic MoU made, I am confident that AP will not only revolutionise the Indian farming but will also stand as an inspiration to the global community.”¹⁴



2The official launch of CRZBNF in Andhra Pradesh on 2nd June 2018. (L-R: middle four) Vijay Kumar (Dy. Chairman RySS), Chandrababu Naidu (Chief Minister of AP), Eric Solheim (Exec. Dir. UNEP), Satya Tripathi (Chairman, SIFF)

Others present at the event included Sunny Verghese, Chair of WBCSD and Co-Founder and Group CEO of Olam International a global agri-business corporation. Also present was Pavan Sukhdev, President of WWF International.¹⁵ Antoine Sire, Head of Company Engagement and Member of the Executive Committee of BNP Paribas Group, who also attended the event, said “BNP Paribas is delighted to be supporting such an impressive programme that views farmers’ welfare and sustainable practices as vital for a sustainable and productive economy. As a bank which has included the UN

Sustainable Development Goals in its global corporate plan, we strive to engage in partnerships and opportunities *that do not only consider financial performance, but also positive impacts on environment and society*” (emphasis supplied).

⁸ *Ibid*, UNEP Release.

⁹ 6 million = 60 lakhs

¹⁰ As shared on the personal website of N Chandrababu Naidu. See, *Release on Zero Budget Natural Farming*, 2nd June 2018, accessible at: <https://ncbn.in/post/zbnf-june2>

¹¹ However, there is very little information shared on SIFF’s website. It appears the organisation prefers to use social media more to get its message out. See, Sustainable India Finance Facility website at: <https://siffindia.org/>.

¹² World Agroforestry Centre is a research organisation based in Nairobi, Kenya, and its website is: <http://www.worldagroforestry.org>.

¹³ BNP Paribas is a French bank that has had a presence in India for over 150 years. Its website is <http://www.bnpparibas.co.in/en/>

¹⁴ AP: *India’s First Natural Farming State*, accessible at: <https://ncbn.in/post/zbnf-june2>

¹⁵ The detailed schedule of the event is accessible at: <http://apzbnf.in/launch-of-zbnf-scale-out-2-june-2018/>

World-wide interest in CRZBNF

Expectedly, this event made global headlines. An opinion piece published in the New York Times a short time later, entitled “*Bringing Farming Back to Nature*”,¹⁶ explained the importance of this transition. “Farming the land as if nature doesn’t matter has been the model for much of the Western world’s food production system for at least the past 75 years. The results haven’t been pretty: depleted soil, chemically fouled waters, true family farms all but eliminated, a worsening of public health and more.” The opinion piece, co-authored by Daniel Moss of the AgroEcology Fund¹⁷, spoke of the need for the transition as “(m)uch of the world is waking up to the costs of the industrial approach that defines most of American agriculture, with its addiction to chemicals and monoculture”. The article highlighted that “(i)n India, the state of Andhra Pradesh, home to 50 million people, is investing \$200 million to convert its farmers to the agroecological practice known as zero budget natural farming, which uses from-the-farm nutrients to grow crops without using costly chemical fertilizers or pesticides, which can push farmers into debt. More than 100,000 farmers there are already using this method, and an estimated 500,000 farmers in 3,000 villages will have moved to this method by the end of this year, three years ahead of schedule, according to organizers. The government plans to invest \$2.3 billion to expand it to six million farmers within five years.”

Sujatha Byravan, a scientist from the Centre for Study of Science, Technology and Policy (C-STEP)¹⁸, has written eloquently of the ongoing transition to CRZBNF in Andhra Pradesh in *The Hindu*.¹⁹ According to her “(e)ven though this revolution has been in the works for several years, .. (the launch) is still a momentous occasion and highlights the way to improve the welfare of farmers, reduce the cost of farm inputs, cut toxins in food, and improve soils. With successful pilot programmes that were initiated in 2015 and partners who brought experience in different aspects needed to carry out such a transformation, Andhra Pradesh has become the first State to implement a ZBNF policy”. She further reports that “...substantial resource mobilisation for about Rs. 16,500 crore is in progress. Tenant farmers and day labourers are also being trained, to ensure that through the ZBNF, livelihoods for the rural poor will be enhanced. T. Vijay Kumar, a retired civil servant in charge of implementing the programme, views farmer-to-farmer connections as vital to its success. According to him, “*the role of the Agriculture Department is to just listen to farmers and motivate and assist them in different ways. Farmer’s collectives such as Farmer Producer Organisations need to be established and these would be critical to sustaining the programme*”. The Government of India provides funding through the Rashtriya Krishi Vikas Yojana²⁰ and Paramparagat Krishi Vikas Yojana²¹. Additional resources have been made available through various philanthropic organisations” (emphasis supplied).

Promotion of ZBNF as an alternative to chemicalised agriculture

¹⁶ Daniel Moss and Mark Bittman, *Bringing Farming Back to Nature*, New York Times, 26th June 2018, accessible at: <https://www.nytimes.com/2018/06/26/opinion/farming-organic-nature-movement.html>

¹⁷ More information about the *AgroEcology Fund* can be accessed here: <https://www.agroecologyfund.org/leadership-and-allies/>

¹⁸ Details of C-STEP, as it is popularly known, is accessible at: <http://www.cstep.in/about/policy-impact>

¹⁹ Sujatha Byravan, *The Seeds of Sustainability*, The Hindu, 21st June 2018, https://www.thehindu.com/todays-paper/tp-opinion/the-seeds-of-sustainability/article24214370.ece?utm_campaign=article_share&utm_medium=referral&utm_source=whatsapp.com

²⁰ More details about this programme that advances remunerative approach supporting agriculture and allied sectors is accessible here: <http://rkvy.nic.in/>

²¹ “*Paramparagat Krishi Vikas Yojana*” is an elaborated component of Soil Health Management (SHM) of major project National Mission of Sustainable Agriculture (NMSA). Under PKVY Organic farming is promoted through adoption of organic village by cluster approach and PGS certification. More details are accessible here: <http://vikaspedia.in/agriculture/policies-and-schemes/crops-related/krishi-unnati-yojana/paramparagat-krishi-vikas-yojana> and in the Press Information Bureau release, accessible here: <http://pib.nic.in/newsite/PrintRelease.aspx?relid=118622>

Ashlesha Khadse *et al* discuss in *Taking agroecology to scale: the Zero Budget Natural Farming peasant movement in Karnataka, India*,²² principles that shape ZBNF and how it has gained ground in southern states of India. They report that the “basic ‘toolkit’ of ZBNF methods was put together by Subhash Palekar, an agricultural scientist, (who was) disillusioned by the ill effects of the green revolution on his own family farm”. Drawing lessons from his “extensive research and observation of ecological processes and indigenous farming methods during his work as an extension officer in the 1990s”, Palekar put together a set of natural farming techniques that he termed ‘zero budget’. The aim of this approach is to “drastically cut production costs by ending dependence on all outside inputs and loans for farming. The word ‘budget’ refers to credit and expenses; *thus, the phrase ‘zero budget’ means without using any credit, and without spending any money on purchased inputs*” (emphasis supplied). And ‘Natural farming’, naturally, “means farming with Nature and without chemicals”. Khadse *et al* report that “ZBNF is positioned by its advocates as a solution to the agrarian crisis and rising trend of farmer suicides in India”. It is widely practiced in south India and “ZBNF is possibly one of the most successful agroecology movements globally, in terms of its reach. The movement’s leaders claim that millions practice ZBNF at the national level, while a rough estimation for just Karnataka puts the figure at around 100,000”. Khadse *et al* further argue that “ZBNF has attained scale in Karnataka because of a social movement dynamic created via the classic tasks carried out by social movements, such as mobilization of a range of resources both internally and from allies, charismatic leadership, effective framing and self-organized processes such as pedagogical activities”.

In an interview to *The Wire*²³, Subash Palekar lists out reasons why there is a critical need to switch to ZBNF. He says, “the Green Revolution has created many problems but agricultural universities don’t have any solution. That’s why the problems are becoming more serious day by day. If we count them, the food crisis is the big problem throughout the world. Second, global warming and climate change. Third, farmer suicides. Fourth, the migration of youth from rural to urban areas. And fifth, the destruction of natural resources.” Palekar also speaks of the need for India to double its food production by 2060 from 25²⁴ crore metric tonnes now, and this has to happen on the available 35 crores acres of farmland, the condition of which is fast deteriorating. He explains yields from green revolution led technologies are stagnating, even as they have caused extensive soil and water pollution and consequent health impacts. But, since “we can’t increase production at any cost”, Palekar asserts “(i)f we want to double the production and income, cow-based natural farming is the only alternative”. The cow being central to ZBNF, Palekar advocates against cow slaughter, which he says must be stopped 100%, as “(n)o farmer will need to sell a cow if he follows my method”.²⁵

Unclear reasons for moving away from CMSA to CRZBNF:

Andhra Pradesh has been a pioneering state in promoting organic farming and other non-chemicalised farming interventions. This is based on community and non-corporate initiatives, broadly categorised as Community Managed Sustainable Agriculture (CMSA). In a 2009 Learning Note issued by World Bank, entitled *Ecologically Sound, Economically Viable – Community Managed*

²² Ashlesha Khadse, Peter Michael Rosset, Helda Morales & Bruce G. Ferguson (2018) *Taking agroecology to scale: the Zero Budget Natural Farming peasant movement in Karnataka, India*, *The Journal of Peasant Studies*, 45:1, 192-219, DOI: 10.1080/03066150.2016.1276450 . This paper is accessible online at: <https://doi.org/10.1080/03066150.2016.1276450>

²³ Manas Roshan, *Interview: Subhash Palekar and the Holy Cows of Natural Farming*, *The Wire*, 22 July 2017, accessible at: <https://thewire.in/agriculture/subhash-palekar-natural-farming-gau-raksha>

²⁴ 1 crore = 10 million

²⁵ More details about ZBNF promoted by Subash Palekar can be accessed at: <http://palekarzerobudgetspiritualfarming.org/zbnf.aspx> and <http://www.zbnfonline.org>. Palekar’s views on why the cow must be revered in farming, have often been employed by the right wing, such as by the beef ban campaign activist Bandataty Karadkar. See an YouTube video (in Marathi) at: <https://youtu.be/prz8UPEmlyw>

Sustainable Agriculture in Andhra Pradesh,²⁶ authored by Vijay Kumar and others, it is reported that “over 300,000 farmers have adopted CMSA in Andhra Pradesh alone, covering 1.36 million acres of farmland—5.1 per cent of the net cropped area in the state—in just over four years”. It is assessed in the note that “there is a potential of scaling up this approach to the whole of India as CMSA is showing trends of being economically viable and ecologically friendly”. The note reports that “Andhra Pradesh (has) the highest consumption of pesticides in the country at 0.82kgs/hectare as against the national average of 0.3kgs/hectare. This results in not only a monetary burden for the farmer, but it does not always result in higher yields either. It also threatens human and livestock health and, the environment”. The note also raises grave concerns over “farmers livelihoods inextricably tied to inputs supplied by unregulated markets and the costs associated with such transactions” and that “those who failed to meet the costs were left with few options”. As a result a major “crisis” resulted in the late nineties and caused a “spate of farmers suicide in the state”.

The note suggests that this dire state is a clear indication that “(c)onventional agriculture was becoming unviable as a means of livelihood” and “this reality strengthened the need for a paradigm shift in agriculture”. It is argued that “(s)mall (farm) holders have no chance of creating the demand side stimulus for sustainable agriculture if they do not aggregate their voice, capacity, and leadership”. CMSA, as an approach, was about extending to all farmers, who chose sustainable non-chemicalised farming “a complete package of ‘end-to-end’ services through linking up farmers with SHG federations (providing) farmers access to a complete package of options – from credit, insurance and inputs, to procurement, value addition and marketing of produce”. This is to ensure that “farmers are not only able to produce at low cost but are also able to maximise returns”.

CMSA has been considered a primer to the launch of CRZBNF in Andhra Pradesh. The RySS website reports that strategies similar to those advocated now by CRZBNF were employed in the past as part of the Society for Elimination of Rural Poverty (SERP) initiative in undivided Andhra Pradesh. CMSA was a part of this process and was implemented with the intention of “facilitating poverty reduction through social mobilization and improvement of livelihoods of rural poor in Andhra Pradesh”. Having noted that “(o)ne of the critical problemsin agriculture (being) use of fertilizers and pesticides”, attempts were made to combat the issue through a series of community driven programmes such as the Integrated Pest Management program, Non-Pesticide Management (NPM) programme and the Community Managed Sustainable Agriculture (CMSA). This CMSA was also replicated nation-wide through Mahila Kisan Sasakthikaran Pariyojana (MKSP).²⁷ However, these initiatives did not deliver, according to reports by RySS, as “SERP was involved with women Self Help Groups (and) all the interventions, including the latest CMSA, was focussed on women, while the farming decision was predominantly taken by men”. Besides, “early



3 A pictorial representation of CMSA used in training farmers

of the critical problemsin agriculture (being) use of fertilizers and pesticides”, attempts were made to combat the issue through a series of community driven programmes such as the Integrated Pest Management program, Non-Pesticide Management (NPM) programme and the Community Managed Sustainable Agriculture (CMSA). This CMSA was also replicated nation-wide through Mahila Kisan Sasakthikaran Pariyojana (MKSP).²⁷ However, these initiatives did not deliver, according to reports by RySS, as “SERP was involved with women Self Help Groups (and) all the interventions, including the latest CMSA, was focussed on women, while the farming decision was predominantly taken by men”. Besides, “early

²⁶ T. Vijay Kumar, et al., *Ecologically Sound, Economically Viable – Community Managed Sustainable Agriculture in Andhra Pradesh, India*, The World Bank, 2009, accessible at: <http://documents.worldbank.org/curated/en/805101468267916659/Ecologically-sound-economically-viable-community-managed-sustainable-agriculture-in-Andhra-Pradesh-India>

²⁷ More about MKSP is accessible here: http://www.greenfoundation.in/mksp/?page_id=1100

programs did not focus on saturation of a given village or gram panchayat or entire state. As a result, success stories were only in few pockets and not in entire state”. Finally, “(t)here was no ownership from [the] Agriculture department”.

Despite these setbacks, CMSA was a programme that was in a highly advanced stage of implementation. But for reasons that are unclear, Andhra Pradesh government decided to adopt ZBNF. The CRZBNF programme was thus launched taking into account “lessons learnt from the previous programs”. It was decided, therefore, to move forward with approaches that include:

1. “Men and women, instead of women only approach
2. Full saturation approach covering entire Gram Panchayat
3. Making sure Agriculture Department owns the project
4. Government’s full commitment was another big corner stone.”

Beyond such broad statements of aspirations, there is not much material that is available on RySS website, or with the Andhra Pradesh Agriculture department, to justify why this massive transition is being undertaken now to turn the state into a natural farming region, instead of continuing with the transition to organic farming and agroecological systems of food production, as was the approach in CMSA. This particularly when it is admitted that there is much to learn yet about the viability of ZBNF. There are also no explanations offered why the choice was made to support only the ZBNF techniques, which is but one of the several agro-ecological farming options. Others being organic farming, biodynamic farming, permaculture, etc.

The Four Wheels ("chakras") of Zero Budget Natural Farming	Jeevamrutham: a fermented microbial culture derived primarily from cow dung and urine, jaggery, pulse flour and uncontaminated soil	Benefits: Stimulate microbial activity to make nutrients plant-available; protect against pathogens; increase soil carbon.
	Beejamrutham: microbial coating of seed/seedlings, is based on cow dung and urine and lime.	Benefits: protects young roots from fungus and seed-borne or soil-borne diseases.
	Acchadana - Mulching: the process of covering the top soil with cover crops and crop residues	Benefits: produces "humus", conserves topsoil, increase water retention, encourage soil fauna and supply the soil with essential nutrients, control weeds.
	Whaphasa: soil aeration, a result of jivamrita and acchadana - represents the changes in water management brought about by improved soil structure and humus content	Benefits: increase water availability, water use efficiency; increase resilience to droughts.

4 The Four Wheels of ZBNF. Source: RySS website

The report of a workshop on “Building Perspectives and Capacity to Measure Climate Change Impacts due to Changes in Agricultural Practices”²⁸ organised by RySS, APPI, and the Coalition on

²⁸ Report of International Meeting and Workshop on *Building Perspectives and Capacity to Measure Climate Change Impacts Due to Changes in Agriculture Practices*, organised by RySS, APPI, Government of Andhra Pradesh and Coalition on Agricultural Greenhouse Gases, 31 October – 4th November 2017, in Vijayawada, Andhra Pradesh. The report is accessible at: https://www.c-agg.org/wp-content/uploads/APPI_C-AGG_Report_AP.pdf

Agricultural Greenhouse Gases (C-AGG) in Vijayawada, and held during November 2017, confirms that there is still a “need to measure, report, and verify (MRV) changes in greenhouse gases (GHG) associated and improved climate adaptation and resiliency with the conversion” to CRZBNF. In that sense, the claim made that it is climate resilient, is admittedly untested yet. The same report also documents the many unknowns about the CRZBNF approach. In a broad sense, it is explained that CRZBNF “replaces chemical inputs with indigenous, organic fertilizers from cow manure and urine and other natural resources and has been observed to increase productivity and yield compared to conventional practices which use chemical inputs, while enhancing soil health, tilth, and fertility”. The report thus propositions that CRZBNF led techniques were adopted as it promotes “[the use of] natural compounds [to] act as microbial inoculants to stimulate and enhance nutrient cycling” and the success is determined by “(p)re-treatment of seeds”, so that there is an assurance of “increased productivity within this system”.

It is claimed in the report, that “(f)ertilizer use has fallen in AP since conversion to CRZBNF” which “has begun to spread” and that “reduced use is associated with direct and indirect reductions in nitrous oxide and other GHG associated with production, transport, and utilization of chemical fertilizers”, however, such claims find no backing by empirical evidence. It is further clarified that the ongoing transition is largely on the basis of “(f)armer success stories (which) highlight... CRZBNF farms (have) improved resilience compared to non-CRZBNF farms during both drought and heavy precipitation incidents”. It is claimed that “CRZBNF farming reduced water requirements by as much as 25% compared to nearby non- CRZBNF farms and contributed to farmers surviving heavy monsoon rains when their neighbors did not”. This Workshop report provides possibly the best detail on the ongoing CRZBNF effort, when all information of the programme available in public domain is reviewed.

Why CMSA was not persisted with -given that it was advocated for almost two decades, and supported by World Bank loans- is not clear. There is, in general, a dearth of literature reviewing the CMSA approach and addressing why it could not succeed in scaling out to cover the entire state of Andhra Pradesh. Instead, we find that the Andhra Pradesh Government decided to promote CRZBNF about three years ago, and this coincides with the interest generated by foundations and financial institutions in the farming technique promoted by Subhash Palekar.

3. How CRZBNF works

In a presentation made to Niti Aayog,²⁹ Vijay Kumar explained the rationale and operational frameworks that support CRZBNF. This programme, he says, is promoted to “reduce cost of cultivation, reduce risks, enhance soil fertility, and protect from uncertainties of climate change”. He explains that it based on an “Agroecological framework” of farming which is comprehensively available in “Zero Budget Natural Farming”. Emphasising that securing the interest of the poorest farmers, who constitute 30% of the farming population (about 15 lakhs), is the core focus of this programme, Kumar explains that they intend to extend financial and other forms of support over 5 years so that farmers are able to “attain sustainable and viable livelihoods”. To reach this stage, a “strong grassroots institutions of farmers” is being built involving a 3 tier structure – “farmer SHGs, village federation of farmers and farmers producer organisation”. Based on this structure, credit would be extended and risks managed through the process of “aggregation, mediation and facilitation”. This way, the programme would “enhance farmers’ share of consumer rupee” and the risk of investors would be secured by state guarantees.

Strategies employed to ensure success of this programme would include elimination of chemical pesticides, an attempt to “reduce, minimise usage of chemical fertilisers” and the building of “village seed banks for seed sovereignty”. Vijay Kumar informs in this presentation that each farm holding would be “treated as a watershed” based on “participatory groundwater management” and “diversified crop models in each holding”. At the farmer end, the objective is to secure monthly income, and at least Rs. 50,000/- annual income for every half acre, by innovating. This innovation would include “vertical harvesting of sunlight” by growing vegetable creepers, for instance. There would also be support to build “farm mechanisation” through “custom hiring centres” to assist timely agricultural operations, and reduce cost and drudgery. In this manner, CRZBNF would cover all villages of Andhra Pradesh by 2019-20, and all farmers by 2022.



5 Social media has been used extensively to propagate CRZBNF, including with frequent tweets from AP CM Chandrababu Naidu. Source: Twitter

In an interview Vijay Kumar gave to HMTV, a local TV channel of Andhra Pradesh, in January 2018,³⁰ he explains in great detail how CRZBNF is being advocated in Andhra Pradesh. He says, “what we are telling farmers is that they should produce for their self-consumption because the food we grow is healthy for you. Give the produce to others in your own village. Then, you think about marketing to those outside the village. And then we should think from consumers side also. Since

shortages are not permanent, premiums may not last long. Farmers should not hope that there will be abnormal profits. We tell farmers that their investments should decrease, the yield should

²⁹ T. VijayKumar, A.P – a plan for sustained wellbeing and prosperity of all farmers in the state, probably 2017, presentation accessible on Niti Ayog at: http://niti.gov.in/writereaddata/files/AndhraPradesh_Presentation_0.pdf

³⁰ The Transcript (in English) of the interview by HMTV with Vijay Kumar in a programme entitled *Nela Thalli Karyakramam*, telecast on 5th January 2018, is accessible on the RySS website at: <http://apzbnf.in/2018/01/05/hmtv-exclusive-interview-mr-vijay-kumar-advisor-govt-ap/>. The video link is at: <https://youtu.be/ogAIViUQ474>

increase, quality of the produce should increase and more importantly protect their land so that they handover a sustainable land to their future generations. If one takes good care of their land, the land will take good care of them. This is how we are motivating farmers. Having said that, if there is a demand for exports, we will definitely support the farmers.”

Vijay Kumar says the vision of Andhra Pradesh Chief Minister Naidu “is to transform all villages in Andhra Pradesh to Natural Farming. This will happen in several phases. In the next year, at least one Gram Panchayat in each of the Mandals will be transformed into a ZBNF gram panchayat. This is by 2018-19. By 2021-22, programme will begin in every Panchayat. There are 12,924 Panchayats in Andhra Pradesh. By 2024, we have plans to transform all farmers in Andhra Pradesh. There is a plan in place for this. To this effect, resource mobilization work is in progress. The idea is not to stop with just the existing 2000 villages.”

The Rs. 100 crores grant from APPI, it is explained, will go “towards Technical Support that helps us engage good professionals at State and District level and also get scientific institutions from international-level to establish the science behind ZBNF”. This support would also be “used to develop Master Farmers who will train the farmers” and it is further claimed that over “the next 5 years, we aim to develop 30,000 Master Farmers”. These Master Farmers, who will be supported by RySS, will then be engaged in converting all farmers to adopt ZBNF. According to Kumar, RySS is involved in “identifying the organizations which can develop such a large number of Master Farmers” and that “these organizations will now work on various aspects of training including curriculum development”. In addition, “APPI is also supporting in impact evaluation. Their support is also towards developing farmers institutions like farmer producer organizations”. Vijay Kumar acknowledges that “there is a good backing from Azim Premji family for this programme and we are getting very good support from them.”

The Rs. 100 crores grant from APPI, it is reported on RySS website, has also(?) been utilised in undertaking a pilot of CRZBNF “conducted in 2016 across 704 villages covering 48,565 farmers”. It is said that “the pilot was successful with around 10,000 farmers adopting ZBNF practices and the remainder adopting it partially”. It is also reported that the “practices and the benefits recorded include improved yields, lower costs and better ability to withstand climate adversities – prolonged dry spells or heavy rains”. It is further reported that “a study of 285 crop yield experiments conducted in paddy fields observed that ZBNF farm plots had an average yield of 6417 kg/ha, compared to 5816 kg/ha in non-ZBNF farm plots. Following the success of the pilot, the programme is being scaled up to 500,000 farmers based on a tripartite agreement between RySS, the Dept. of Agriculture – Govt. of AP and the Azim Premji Philanthropic Initiative (APPI). The scaling up of the programme is planned during the period 2017-2022 covering all the districts of AP”.

Debate results in transparency on certain operational details of CRZBNF

An earlier version of this discussion paper was shared and circulated in August 2018 with journalists, academicians, farmers movement leaders, Parliamentarians, key personnel of RySS and APPI, organic farmers, ZBNF votaries, etc. This resulted in an engaged discussion, for the most part. Vijay Kumar of RySS, was part of this discussion. As the discussion evolved, it was widely acknowledged that a workshop/conference would help in critically addressing various concerns that had emerged. In response, Vijay Kumar readily agreed to engage in the dialogue. In contrast, APPI and SIFF personnel refused to divulge information or engage in any debate and discussion about their involvement and support for CRZBNF. The concerns that evolved over this email discussion included why CRZBNF promoted only one of the agro-ecological techniques, and rejected all others actively. Serious concerns were also raised about the lack of transparency in sharing information *suo moto* by key proponents of this mega project. A key question asked was why such an massive loan (of Rs.

17,000 crores) was being availed for a programme that is avowedly about propagating ZBNF which requires no external input, be that in the form of credit or material input.

This debate appears to have had some impact already. In recent weeks, it has been observed that some sections of RySS website has been updated with information that seeks to address some of the concerns raised in this debate. It is in the form of an FAQ available on the RySS website. In addition, a Public Information Officer has also been appointed in consonance with the provisions of the Right to Information Act, 2005. Besides, an address of RySS has also been supplied.

CRZBNF to embrace Principles of ZBNF

The new information now supplied by RySS clarifies that the promotion of CRZBNF is about growing crops “without adding any synthetic fertilisers and pesticides, or other products/inputs from outside the farming system’ and that the “paradigm relies on self-reliance when it comes to inputs like Seed too”. The employment of the term ‘zero budget’, it is explained, is due to the fact that this model ensures “expenditure on the main crop is recovered from the income from the short duration inter crops, hence the net expenditure on the main crop is ‘zero’”. The integration of livestock is “in the form of native breed of cows” as they have an “higher adaptive capability, and even small and marginal farmers find them easy to manage”. It is also claimed that use of native cows is preferred as several studies show the urine of the native cow, as compared with hybrids imported, is more effective in preparing various anti-microbial and fertility enhancing formulations such as Beejamrutham, Jeevamrutham, etc.

Strict NO to GMOs in promoting CRZBNF as an approach of Agro-ecology

On the prevailing uncertainty of CRZBNF’s position *vis a vis* the widespread use of Genetically Modified B.t. Cotton in Andhra Pradesh, and the constant push for promoting Genetically Modified Organisms (GMOs) in food, RySS makes a categorical assertion that given that “many health and environmental dangers of the technology are well recognised”, “*transgenic seeds are shunned in this approach*³¹” (emphasis supplied). It is further stated that the “importance of traditional seeds is recognised in terms of local adaptability, nutritional superiority in many cases, self-reliance and diversity. The seed systems being promoted in ZBNF are based on concepts of self-reliance, diversity, affordability, verifiable quality, non-hazardous technologies and community control”.

Is ZBNF specific about what kinds of seeds are allowed to be used in this paradigm? +

Zero Budget Natural Farming and its standards with regard to permitted and prohibited practices and inputs have not been yet made into legal standards, as has happened in the case of Organic Farming. However, Z.B.N.F.’s “non negotiable” is the use of local seeds. There is a clear recognition of the fact that genetically modified seeds as well as hybrid seeds not only pose the requirement of higher resources for their normal performance which is often unaffordable to our farmers, but also weaken the autonomy of the farmer and the farming community.

In the case of GMOs, the many health and environmental dangers of the technology are well recognised and *therefore, transgenic seeds are shunned in this approach*. The importance of traditional seeds is recognised in terms of local adaptability, nutritional superiority in many cases, self-reliance and diversity. The seed systems being promoted in ZBNF are based on concepts of self-reliance, diversity, affordability, verifiable quality, non-hazardous technologies and community control.

6 These clarifications have been issued recently on the RySS website

What is interesting is that the CRZBNF is considered as “an approach within the broad paradigm of agro-ecology or Regenerative Agriculture....a holistic land management practice that leverages the power of photosynthesis in plants to close the carbon cycle, and build soil health, crop resilience and nutrient density”. In that sense RySS now acknowledges the existence of various other

³¹ *Supra*, in the FAQ on RySS website, under the section relating to kinds of seeds allowed to be used in CRZBNF.

agro-ecological approaches to farming, such as organic, biodynamic, permaculture, etc. There is, however, no clarity offered as to why *only* ZBNF techniques have been promoted in this state wide programme of the AP Government.

Research collaborations entered into to study efficacy and validate efforts

Finer operational details are now provided in a document entitled *Andhra Pradesh Zero-Budget Natural Farming: A Transformative Program*.³² According to this document, “RySS has been working with international scientific community including FAO, World Agroforestry Centre (ICRAF), CIRAD (French Agricultural Research Centre for International Development), Reading University (UK) etc., to establish the science behind ZBNF on various aspects from plant microbiology to soil organic carbon. ICRAF is undertaking third party Performance Evaluation. Centre for Economic Social Studies (CESS) in partnership with IASRI (Indian Agricultural Statistical Research Institute) is preparing to undertake third party Crop Cutting Experiments”.³³

The FAQ on RySS website confirms that “APPI is also extending support to commissioning independent research studies that will help in building a convincing case for ZBNF. This includes the Socio-economic impact studies, Soil and land health monitoring studies and Greenhouse Gas Emissions from ZBNF vs Non-ZBNF”.³⁴ Similarly, the ICT component of the programme involves collection and collation of farmer data, “e-tracking of progress on adoption of ZBNF practices, traceability maintenance for certification”, etc.³⁵ There is more information now supplied about comparing yields and incomes between ZBNF and non-ZBNF farms, and the relatively enhanced income gained in ZBNF. But the empirical basis for this data has not been provided.³⁶

A matter for serious consideration is that there is no specific clarification offered about whether or not these studies -which involve extensive access to and collation and documentation of local agro-biodiversity and associated knowledge systems- by national and international organisations, are being undertaken in consonance with the provisions of the Biological Diversity Act , 2002, the Convention on Biological Diversity, 1992 and the safeguards built therein.

In terms of validation of the efficacy of ZBNF as a climate resilient model, RySS relies on a variety of documentation that report favourably on the efforts undertaken by the undivided state of Andhra Pradesh in advancing CMSA, but none about CRZBNF. Studies supplied include those from 2010 by Rashtriya Krishi Vikas Yojana (RKVY) and a 2011 USAID’s report pointing to CMSA as amongst *India’s potential best practices for food and nutrition security*, that were initiated years before ZBNF was adopted as a climate resilient model for state-wide propagation.³⁷ There is no confirmation on the status of various studies commissioned with APPI grants, or for that matter any other study relating to the success of CRZBNF since its initiation in 2016.³⁸ When requested, APPI has refused to share details of the status of these studies.

Operational dimensions of CRZBNF

³² This document is accessible under the FAQ section of the RySS website at: <http://apzbnf.in/wp-content/uploads/2018/10/20th-sept-zbnf-concept-note-2.pdf>

³³ Ibid, para 25.

³⁴ *Supra*, in the FAQ on RySS website, under the section relating to current status and result of CRZBNF.

³⁵ *Supra*, in the FAQ on RySS website, under the section relating to tracking implementation of CRZBNF.

³⁶ *Supra*, in the FAQ on RySS website, under the section relating to current status and result of CRZBNF.

³⁷ USAID-India, *India’s Potential Best Practices for Food and Nutrition Security: Food, Agriculture and Rural Markets Systems (FARMS) Project*, September 2011, accessible at: http://65.19.149.141/cmsa/othermodules/CmsaHome/food-security_usaid.pdf

³⁸ *Supra*, in the FAQ on RySS website, under the section relating to “scientific establishment validated this climate resilient ZBNF approach?”.

The RySS now asserts that the “ ZBNF programme is not a model of contract farming”. The operational dimensions of the programme, fundamentally, is about organising “participating farmers into Self-help Groups, and Village level and Cluster level Federations and/or Farmer Producer Organisations (FPOs)” with a particular emphasis on securing the participation of women farmers. The focus of these institutions, initially, is to “disseminate knowledge and support farmer members to convert into ZBNF farmers”, with the emphasis being on cultivation of “diversity of crops and multiple crops”. Gradually this will transition towards facilitating “local collective action for inputs, convergence, value-addition, local consumption, linkages etc.” and to encourage farmers to “look at markets for the surplus produce that they have”. In order that this mechanism will achieve stability of “economies of scale” and to secure “negotiation/bargaining power in the market place”, FPOs will be supported with “basic infrastructure for better storage, value-addition, transport and marketing”. It is specifically clarified that “F.P.O s are autonomous institutions”, and that “farmers are being empowered to enjoy full autonomy to create markets for themselves as well as sell their produce, including value-added produce, in the most remunerative manner”.³⁹

Legal compliances

It is unclear if CRZBNF has been evolved in consonance with the Constitutional 73rd Amendment (Panchayat Raj) Act, 1992 and its conforming legislation in Andhra Pradesh, or for the matter, Panchayat (Extension to Scheduled Areas) Act, 1996 and Forest Rights Act, 2006, as also Article 243ZD of the Constitution relating to District Planning Committee. In the implementation of such programmes, such statutory and constitutional bodies are to be fundamentally involved. However, there is no clarity if their due, prior and informed consent has been obtained in the launching of, financialisation and operation of this programme, or for that matter of the impacted communities, farmers, through statutorily mandated procedures. In addition, it is not clear who the FPOs are accountable to; the Panchayats or the RySS.

Phasing of Implementation

Year	GPs	Cumulative GPs
2016-22	691	691
2017-23	267	958
2018-24	1917	2,875
2019-25	2000	4,875
2020-26	3000	7,875
2021-27	5049	12,924
Total	12924	(in about 2585 Clusters)

Finance required for scaling up state-wide and what happens with the money

There is now more detail provided about the costs of scaling up of CRZBNF and of budgetary allocations to the programme. The basic unit of planning and calculation of costs is the Gram Panchayat, which is assumed to have, on an average, 465 families. The cost over five years for converting each family to ZBNF is estimated to be Rs. 25,500 (see Table below). This includes costs of capacity building, institution building, funds to farmers institutions’, subsidies, certification, marketing and technical support.

³⁹ *Supra*, in the FAQ on RySS website, under the section relating to corporate contract farming.

It is assumed by RySS that CRZBNF would convert at least 86% of the farmers in every panchayat, i.e. 400 families, to natural farming over the next five years. In this manner, Andhra Pradesh's 12,924 Gram Panchayats would be led by FPOs to convert 60 lakhs farmers cultivating 80 lakh hectares to transition to natural farming by 2022. The overall cost for this is projected at Rs. 16,452 crores.

The following is the estimated cost per Gram Panchayat and per farmer household over 5 years as shown on RySS Website

#	Categories	GP costs (in Rs)	%	Cost for converting one farmer household (in Rs)
1	Capacity building	50,80,000	50%	12700
2	Institution building and funds to farmers' institutions	26,20,000	26%	6550
3	One-time Subsidy/Support for access to inputs, tools etc., to Farmers and Farmers' Institutions	4,00,000	4%	1000
4	PGS Certification, Quality Assurance, Tracking and Monitoring	11,60,000	11%	2900
5	Marketing Capacity Building and Marketing Support	5,60,000	5%	1400
6	Technical Support and Overall Programme Management beyond the Cluster	4,00,000	4%	1000
	Total	1,02,20,000		25,550

It appears that this fund is not a direct payment to the farmer. Instead, it is the cost incurred in convincing farmers in a Panchayat to transition to natural farming. The question of how the farming family will manage the transition, given the expected slump in agricultural production in the initial years of the transition away from conventional chemical and hybrid based farming, along with associated economic losses, is not clarified. Also not addressed is whether this will have an impact on the capacity of farmer to transition i.e., if it would result in returning to conventional farming methods, or worse, abandonment of farming due to the need to sustain the family's living costs, which might potentially result in adopting other livelihood options and migration. Such risk factors, it appears, have not been weighted against the perceived benefits of embracing CRZBNF.

But the numbers don't add up

Besides, the numbers don't add up. If the cost per Gram Panchayat (Rs. 1,02,20,000) is projected to the entire state, which is to cover 12,924 Gram Panchayats, then the financial cost would be Rs. 13,000 crores (approx.), not Rs. 16452 crores as stated. How the additional Rs. 3,000 crores would be utilised is not clarified. In any case, it is claimed that the benefit of this investment will be 13 times, i.e., Rs. 118,400 crores over time. With such large numbers projected as costs, it would be imperative that the rationale of costing is provided in comparison with equivalent efforts. However, such details are not available on the RySS website.

The year wise funds requirement for CRZBNF as listed on RySS website

Year	Yearly fund requirement (in Rs. Crore)	Cumulative fund requirement (in Rs. Crore)
2018-19	216	216
2019-20	778	994
2020-21	1,648	2,642
2021-22	3,581	6,223
2022-23	3,769	9,992
2023-24	3,488	13,480
2024-25	2,218	15,698
2025-26	754	16,452
Total	16,452	

Where the money comes from and who repays

According to RySS, the "State Government is looking at multiple sources of funds: from the schemes of the Ministry of Agriculture, Govt of India, from multilateral/bi-lateral agencies like World Bank, IFAD, JICA, KfW, etc., from NABARD; and from both domestic and international markets". It is clarified that such "funding will be on terms and conditions most favourable to the State Govt" and that it "will be for a farming paradigm of the kind that ZBNF represents (not based on external inputs that are sold to farmers) and not by compromising on the self-reliance to be built in the natural farming paradigm". It is categorically stated that "**repayment will not be done by individual farmers but by the state government of Andhra Pradesh**" (emphasis in original). Who then is the direct beneficiary of this financing? This question remains unanswered, and it may be safe to assume that the funds procured will be disbursed to FPOs, who will also be responsible for ensuring repayment. The mechanistics of this financial arrangement is not clarified. This is worrying because with the exception of Rs. 100 crores grant extended by APPI, the rest of the funding for the programme is to be raised on commercial terms as loans and through climate bonds in the market. Due diligence in raising foreign direct investment for farming *via* volatile global markets, appears to not have been undertaken yet. However, the programme is well into the implementation phase.

Naidu and Solheim championing CRZBNF as a globally replicable model

Andhra Pradesh Chief Minister Chandrababu Naidu spoke at the United Nations Headquarters in New York on the sidelines of the 73rd UN General Assembly on the theme '*Financing Sustainable*

Agriculture Landscapes - Global Challenges and Opportunities'.⁴⁰ Attended by representatives from various countries, international agencies, global financial institutions and funds, and chaired by Erik Solheim and Satya Tripathi of UNEP, Naidu's message was that the programme is well underway and that it is essentially about marrying agriculture with latest technology. He spoke of how he had initiated various technological reforms, and made Andhra Pradesh a leading IT state in India due to which, he was able to demonstrably turn streetlights on and off even in remote villages in his State, from New York. Seemingly, in much the same way, technology would be deployed to assist farmers to shift to natural farming. "You can know the history of the food; which land it has come (from); what are the ingredients; what are the soil properties; that is the biggest advantage" Naidu said. "I have a dash board to measure (performance of CRZBNF) against SDG achievements", he exclaimed. "Everything will be online. And there will be no corruption". He travelled to New York, Naidu said, in search of collaboration and to seek "finance, philanthropy, market sharing", so that the ZBNF concept could be taken "on a fast track to a global community".



In his letter inviting Chandrababu Naidu to give this speech, Erik Solheim wrote that "it is widely recognised that public funding will not be enough to tackle some of the most defining challenges our planet is facing: produce more food, stimulate economic growth and jobs, and reduce deforestation and tackle climate change". He continued, "we need a different paradigm of land use, especially for agricultural commodity, production and the role that private finance institutions can" (The sentence is incomplete in the letter, and one assumes it could be the role these institutions play). He continues that UN Environment, UN Women, BNP Paribas SA, World Agroforestry Centre and several other international organisation and financial institutions have hosted this event on the sidelines of the

⁴⁰ The full speech delivered by N Chandrababu Naidu on 24th September 2018 at the UN headquarters is accessible on YouTube at: <https://youtu.be/hZ94bkBU7m8>

73rd UN General Assembly to “highlight how blended financial models can support countries in achieving inclusive growth and emissions reductions goals”.⁴¹

It is evident from this letter that UNEP is clearly promoting commodification and financialisation of agriculture and agricultural landscapes, and that it is doing this by encouraging private capital flows from global financial institutions into local farming. The extensive political and economic implications of such models of investment, for instance, the concern in developing countries that this could result in re-colonisation of farming and farm lands, appears to be lost on Solheim. He also appears to have assumed that his listing of global challenges is all there is to be considered as rationale for a shift in a paradigm allowing private financial institutions to enter the food and farming sector. From this letter, it appears UNEP is not pausing to consider if this model would end up promoting consumerism, which, it is widely recognised, is the root cause of climate change. All things considered, this letter is an extraordinary revelation of the poverty of imagination at the highest levels of the UNEP. It also draws attention to why Erik Solheim is always keen on partnering with BNP Paribas and World Agroforestry Centre in promoting such highly financialised and commoditised methods for financing climate projects, based on his unsubstantiated claim that public funding is not a viable route to tackle the climate crisis.

Natural farming produce as part of the global supply chain

On returning from New York, Naidu spoke with the media and is reported to have said that his “participation in the U.N. event had grabbed the global attention and many countries were enquiring about the success stories Andhra Pradesh had to showcase”. He promised to sell the ZBNF products abroad as ‘a good marketing manager’ and stressed the need for certification of the products for value addition.⁴² The confirmation that CRZBNF is being promoted as part of the global supply chain of natural foods, raises new concerns. Such a model belies common understanding of the importance of consuming food that is grown locally, so that it has the least carbon footprint, particularly due to fossil fuel consumed in transport. According to journalist and sustainable-agriculture guru Michael Pollan, and author of *In Defense of Food*, eating ethically and well means: “Eat food. Not too much. Mostly plants. Mostly what's in season and grown not too far away.”⁴³ In stark contrast UNEP appears to be aggressively supporting a natural food production programme whose success hinges on exporting as a climate resilient model. The irony is that this model is now being propagated around the globe by the world’s foremost environmental agency.

This model is finding support in the new agriculture export policy. Online news portal Newslick reports the policy has received the assent of Prime Minister Narendra Modi and is likely to be adopted by the Indian Cabinet soon. Concerns have been raised that this new policy would move “towards a liberal agricultural exports regime”. If implemented, this policy “will be a critical shift away from past policies because the country will have to keep a certain level of farm exports going even when the supplies are low, for example during drought. India in the past had curbed farm exports to ensure that the domestic prices were in check. The new policy will mark a departure from this approach, leaving many on the ground uncertain about the results it will bring.” This situation, according to Jaswinder Singh of All India Kisan Sabha (AIKS) “is only going to deepen the agricultural crisis in the country”. Jaswinder Singh further asserts that, “farmers will not be given the complete benefits and will merely become pawns in the name of globalising the nature of Indian agriculture.

⁴¹ Invitation letter from Erik Solheim, Executive Director, UNEP, to N. Chandrababu Naidu, Chief Minister, AP Government, dated 23rd August 2018.

⁴² *A.P. should become Zero-Budget Natural Farming State by 2024: CM*, The Hindu, 5th October 2018, accessible at:

<https://www.thehindu.com/todays-paper/ap-should-become-zero-budget-natural-farming-state-by-2024-cm/article25127975.ece>

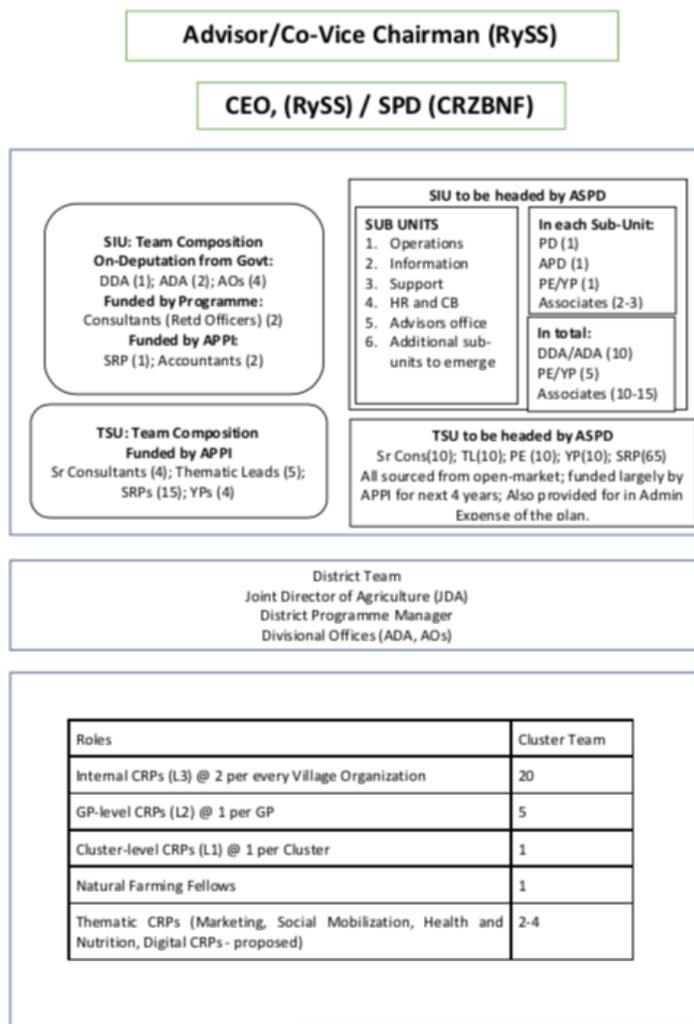
⁴³ Sarah DeWeerd, *Is Local Food Better?*, Worldwatch Institute, published in World Watch Magazine, May/Jun, Volume 22, No. 3, accessible at: <http://www.worldwatch.org/node/6064>. See also, Elisabeth Rosenthal, *Environmental Cost of Shipping Groceries Around the World*, New York Times, 26th April 2008, accessible at: <https://www.nytimes.com/2008/04/26/business/worldbusiness/26food.html>

As Newsclick analyses, the “new agriculture export policy is likely to free up most commodities other than staples from frequent export bans, meaning that processed *as well as organic food* will now be totally deregulated and will be made conveniently exportable” (emphasis supplied). Such a policy if implemented “would mean that the farmers will have to be made aware of international prices and demands, burdening them further in a system that is crumbling on their heads” warns Newsclick.⁴⁴

Are Parastatals sidestepping Local Governments in governing CRZBNF?

The FPOs would essentially be the node of activity at the Panchayat level in implementing CRZBNF. While there is no specific clarification, by conjecture it may be assumed that funds would be disbursed to these functional units by RySS based on loans that it avails. Questions of ensuring accountability and fiscal discipline at this level remain, as FPOs are not under the direct oversight of Panchayat Raj institutions. They function, instead, as adjunct bodies working with farmers to advocate for adoption of ZBNF. The role of elected Gram Panchayat and other Panchayat Raj and Agriculture department institutions in propagating CRZNF is not clear: be this in the formal development of the programme, disbursement of funds, or in the review and recovery of the loans extended. FPOs are thus set up as parastatals and they would be directly administered by RySS, another parastatal. The risk of side-stepping Panchayat Raj institutions and other statutory bodies is likely to adversely affect overall effort to decentralise administration and devolve power to local bodies, which was the objective of the Constitutional 73rd Amendment (Panchayat Raj) Act, 1992. While it could be argued that these parastatals are an attempt in themselves to decentralise, it is imperative to remember that neither its membership or its leadership is democratically elected from the general population- a crucial criterion for any democratic institution.

⁴⁴ Sumedha Pal, *PMO gives Go-ahead to Anti-Farmer Agriculture Export Policy*, 5th October 2018, accessible at: <https://www.newsclick.in/pmo-gives-go-ahead-anti-farmer-agriculture-export-policy>



7 As illustrated on RySS website

Past experience with two public programmes (on rehabilitation of watersheds and irrigation tanks) in Andhra Pradesh and Karnataka, suggests that such models, where parastatal agencies are created to administer programmes which Panchayats must naturally administer, creates avoidable tensions. In addition, they are unlikely to succeed as shall be made evident from our description of them below.

Water Users Association (also called as Tank Users Group) was created to rehabilitate over 3000 tanks across Karnataka as part of the Karnataka Community-based Tank Management Project financed with World Bank loans during the late 1990s and early 2000s. The project failed, with less than 50% success reported, which, in World Bank language, was described as ‘moderately successful’. As the World Bank held in its review,⁴⁵ “(t)he main social risk is the reported failure of most TUGs to be sustainable. In general after the handover of rehabilitated tanks few Tank User Committees were still operational and most TUGs report financial problems, with less than 25% of members paying their membership fees. Without this income, TUGs will not be able to undertake tank operation and maintenance operations in future. The failure of members pay their fees is attributed to the failure of the project to result in significant increases in crop production and farmer income. It is not clear whether this was due to internal project shortfalls in farmer training, or exogenous factors, such as

⁴⁵ ICR Review, Independent Evaluation Group, World Bank, 30th June 2015, Report Number: ICRR14618, accessible at: <http://documents.worldbank.org/curated/en/942041468189548351/pdf/ICRR14618-P071033-Box393183B-PUBLIC.pdf>

falling commodity prices or inflation of input prices that have discouraged farmers from intensifying production.”

A similar programme⁴⁶, the Andhra Pradesh Community-Based Tank Management Project (APCBTMP), was focused on the rehabilitation of 3,000 tank systems in eleven districts of the (undivided) state. It was found that when such programmes are led by parastatals, “reality seems to be that participation is rarely holistic, several members of the community are left out from the process; and there is a poor collaboration with Panchayat Raj Institutions (PRIs) and Department officials; and inadequate support to ensure project sustainability”. It was also observed that “one of the most pressing issues that have been observed almost everywhere that PIM (Participatory Irrigation Management) has been implemented is that of low rates of participation of certain members of the village community, especially women, the landless, and the scheduled castes/scheduled tribes”. In addition, as reported in this study, various studies reveal that “it is the large landholders and those belonging to upper-castes” who assume leadership of such associations, as they are not bound by the constitutional safeguards of affirmative action/reservation that would be mandatory in any Panchayat Raj institution. This even when “marginalized members are well-represented in the general body of the association”.

Such “elite capture” is the outcome of “big farmers (who) view (such parastatals, as FPOs are) as a stepping-stone to gain more power and political clout”, the study assesses. It reports that it has been widely observed that even when there are “legal norms ..to facilitate greater participation of women in local body elections, men from the elite community continue their hegemony”. With a few notable expectations, it has been found that “little effort [has been made] to build local institutions [...] characterized by equity.” In fact, it has also been widely observed that when parastatals such as FPOs and Panchayat Raj Institutions are not “working in tandem”, it is “largely due to passive or indifferent attitudes of the PRIs” which is in large part a reaction to not formally being integrated into a programme directly relating to a subject that PRIs are meant to administer as per the Constitution.

“Agriculture, including Agriculture Extension” is the first of 29 subjects listed in the 11th Schedule of the Constitution of India as functions that need to be performed by Panchayat Raj Institutions. In stark contrast, however, Andhra Pradesh has outsourced these functions to parastatals such as RySS and FPOs in implementing CRZBNF.⁴⁷ At once, the CRZBNF model comes across as working outside the framework of the Constitution and potentially sidestepping constitutional guarantees which are meant to secure due representation of various vulnerable communities, particularly those from backward communities, Dalits and tribals. It is plausible that the programme could significantly advantage upper and dominant caste groups, especially in the way FPOs are constituted, and thus result in an aggregation of agency and resources in the hands of such vested interests. Nothing in what RySS and key proponents of the project have shared thus far, be it APPI, SIFF or UNEP, assuage these serious concerns about the nature of CRZBNF.

⁴⁶ *Andhra Pradesh Community Based Tank Management Project - Institutional and Financial Assessment*, Thinksoft Consultants, Hyderabad December 2006, accessible at: <http://www.apmitanks.in/templates/files/Reports/Institutional%20Study%20Report%20-%20Thinksoft.pdf>

⁴⁷ See, the 11th Schedule of the Constitution of India at: <http://constitution.org/cons/india/shed11.htm>

¹[ELEVENTH SCHEDULE

(Article 243G)

1. Agriculture, including agricultural extension.
2. Land improvement, implementation of land reforms, land consolidation and soil conservation.
3. Minor irrigation, water management and watershed development.
4. Animal husbandry, dairying and poultry.
5. Fisheries.
6. Social forestry and farm forestry.
7. Minor forest produce.
8. Small scale industries, including food processing industries.
9. Khadi, village and cottage industries.
10. Rural housing.
11. Drinking water.
12. Fuel and fodder.
13. Roads, culverts, bridges, ferries, waterways and other means of communication.
14. Rural electrification, including distribution of electricity.
15. Non-conventional energy sources.
16. Poverty alleviation programme.
17. Education, including primary and secondary schools.
18. Technical training and vocational education.
19. Adult and non-formal education.
20. Libraries.
21. Cultural activities.

¹Added by the Constitution (Seventy-third Amendment) Act, 1992, s. 4 (w.e.f. 24-4-1993).

4. Key proponents of CRZBNF

Rythu Sadhikara Samstha

RySS was set up by an October 2014 order⁴⁸ of the AP Govt. as a Sec. 8 (non-profit) company under the Companies Act 2012. It was established as a “one-stop-shop for all farmer development, welfare and empowerment activities”. As the order explains, this decision was taken “after careful and thorough consideration of all possible options” and thus it was “decided to establish an integrated institutional mechanism for all programmes, schemes and activities intended for farmer’s empowerment, encompassing welfare, development, capacity enhancement, credit flow, financial support and allied empowerment activities”. In effect, this order makes RySS, a para-statal organisation accountable directly to the Chief Minister, and the sole interlocutor and implementation agency of all issues and concerns relating to farmers and farming in Andhra Pradesh state.

The Government Order details the main objective of RySS as:

- a) To provide an integrated empowered institution that would be responsible for planning, implementation, and monitoring of welfare, development, capacity enhancement, and other activities that would empower the farmers of the Andhra Pradesh State to achieve higher productivity and value addition to the farming sector.
- b) To take up various measures and activities, including but not limited to, financial support, technical assistance, technology transfer, agricultural debt redemption, and such other interventions that would empower the farmers of Andhra Pradesh State in diversification and intensification of agriculture, horticulture, sericulture, livestock, fisheries, forestry, food-processing and allied sectors contributing to value-addition and productivity enhancement.
- c) To support, assist, guide, promote and empower the farmers’ groups, associations, societies, etc., and extend financial, technical or other support as may be needed to meet the demands of farming development in Andhra Pradesh State.
- d) To assist, advise, and provide inputs to the Government for formulation of effective policies for the empowerment of farmers and for accelerated development of farming sector in Andhra Pradesh
- e) To receive funds from the governmental and other agencies, as grant, subsidy, cess, levy, other receipts or by whatever name called for achieving the above objectives and to raise resources from any source duly adhering to the prudential norms defined by the Government.
- f) To mobilise resources from Banks, Financial Institutions, Funds, Public or Government by way of loans, bonds, debentures, monetary value certificates, etc., to realise the above objects.”

The order further states that “corporations, societies and other parastatal entities functioning under the Agriculture and Cooperation Department should be incrementally integrated with the Rythu Sadhikara Samstha”. The order grants permission to the company “to borrow and/or receive funds or any other financial instrument from Banks/financial institutions and the government for the purpose of farmer’s empowerment, including the necessity to meet the debt obligations”. By this order, “Rythu Sadhikara Samstha would be the principal agency of the Andhra Pradesh Government to manage the Farm-sector Debt Redemption Policies and Programmes of the Government”. In

⁴⁸ Finance (R&E) Department, Government of Andhra Pradesh Order relating to *Farmers’ Empowerment Programme – Establishment of Rythu Sadhikara Samstha*, G.O.Ms No.197, dated 04-10-2014 accessible at: <https://www.ap.gov.in/wp-content/uploads/2015/11/Rythu-Sadhikara-Samstha.pdf> The company was set up on 11th October 2014.

effect, RySS is made into a powerful entity, which takes over core functions that are traditionally handled only by the Agriculture Department.

In November 2016, the Agriculture and Cooperation Department of Andhra Pradesh passed another order, appointing an Advisory Board for RySS constituted by Agriculture Minister as Chairperson, T Vijay Kumar as Co-Vice Chairperson, and representatives of various departments linked to farming and food production including “2-3 representatives of Civil Society, 2-3 representatives of natural farming farmers”, and a “Representative of APPI”. This order states that on the basis of “results from the 291 cluster project in terms of sustainably improving farmers welfare, this effort will be gradually scaled-up through the upcoming three Externally Aided Projects funded by IFAD⁴⁹, JICA⁵⁰ and World Bank⁵¹. In addition, and based on results, it is proposed to seek funding from other sources also so that by 2024 this effort will be taken up in all the 5000 odd clusters of the State benefiting all the land-owning and tenant farm families”.

INCORPORATED UNDER THE COMPANIES ACT, 2013
(NO. 18 OF 2013)

COMPANY LIMITED BY SHARES
(formed under Sec 8 of the Companies Act 2013)

MEMORANDUM OF ASSOCIATION
OF
RYTHU SADHIKARA SAMSTHA
(Pursuant to rule 19(2) of Companies (Incorporation) Rules, 2014)

Preamble: This organization is set up pursuant to the vide G.O.Ms.No.197 Finance (R&E) Department dated 4 Oct 2014 issued by State of Andhra Pradesh as not for profit entity under Sec 8 of the Companies Act 2013 to create integrated institutional mechanism for all programmes, schemes and activities intended for farmer's empowerment, encompassing welfare, development, capacity enhancement, credit flow, financial support and allied empowerment activities.

I. The name of the company is "Rythu Sadhikara Samstha".

II. The registered office of the company will be situated in the State of Andhra Pradesh

III. (a). The objects to be pursued by the company on its incorporation are: –

- 1) To provide an integrated empowered institution that would be responsible for planning, implementation, and monitoring of welfare, development, capacity enhancement, and other activities that would empower the farmers of Andhra Pradesh State to achieve higher productivity and value addition to the farming sector.
- 2) To take up various measures and activities, including but not limited to, financial support, technical assistance, technology transfer, agricultural debt redemption, and such other interventions that would empower the farmers of Andhra Pradesh State in diversification and intensification of agriculture, horticulture, sericulture, livestock, fisheries, forestry, food –processing and allied sectors contributing to value addition and productivity enhancement.
- 3) To support, assist, guide, promote and empower including but not limited to the farmer's groups, associations, societies and extend financial, technical or other support as may be needed to meet the demands of farming development in Andhra Pradesh.
- 4) To assist, advise and provide inputs to the Government for formulation of effective policies for the empowerment of farmers and for accelerated development of farming sector in Andhra Pradesh.

This order acknowledges that APPI has “seen the initial results of the efforts in the 131 clusters, the implementation arrangements for the 291 clusters, the built in flexibility for improvement, the focus on landless, marginal and small farm families, and importantly its scaling-up potential for the whole state, and has found this as a fit case for extending their support. Their support is proposed to be in four broad areas – Strengthening Implementation Architecture and Capacity; Strengthening Technical Support Unit of the Govt.; Strengthening Civil Society involved; and Partnering with Technical Organizations”.⁵² In effect, by this order APPI becomes core to strategizing and developing CRZBNF and also other farming related aspects of Andhra Pradesh, and as an agency key to developing wide-ranging relationships with civil society and technical organisations in advocating and propagating CRZBNF.

⁴⁹ The International Fund for Agricultural Development (IFAD), is a specialized agency of the United Nations, and its creation was one of the major outcomes of the 1974 World Food Conference. The IFAD website does not have any details about its support to Andhra Pradesh's CRZBNF. The most recent activity of IFAD in India is about raising goats, an initiative undertaken in collaboration with Bill and Melinda Gates Foundation. The justification for this programme is: “Raising goats is an income-generating activity that has enormous potential to increase incomes and improve nutrition for resource poor households especially in remote, tribal and ecologically vulnerable areas. It is an activity that requires a low investment and input costs. Goats are prolific breeders and have a good survival rate in drought prone areas”. More details of IFAD's April 2018 National Conference on *Building a Vibrant Goat Sector in India* is accessible at: <https://www.ifad.org/ifad-event-calendar-portal/AddCalendarService?uuiid=b0d7f672-671e-41e5-a402-ecel1d2ec6cd0&groupId=38714174>

⁵⁰ Japan International Cooperation Agency (JICA) primarily supports urban infrastructure development projects in India, like the Metro. There is also support for a variety of agricultural, agroforestry and afforestation activity. A search through the JICA website did not reveal any direct engagement with Andhra Pradesh CRZBNF, as yet. The JICA website is accessible at: <https://www.jica.go.jp/english/index.html>

⁵¹ The World Bank has approved in June 2016, a \$290 million International Development Assistance credit in favour of the *Bihar Transformative Development Project “Jeevika II”*, which includes support for ZBNF activities. The loan agreement document dated 1st June 2016, Report No: PAD1892 is accessible at: <http://documents.worldbank.org/curated/en/595731467305650771/pdf/PAD1892-PAD-P159576-OUO-9-IDA-R2016-0145-1-Box396265B.pdf>

⁵² Agriculture & Cooperation Dept., Government of Andhra Pradesh, Order relating to *Allocation of subjects to Rythu Sadhikara Samstha*, Order No.G.O.RT No. 764, dated 10th November 2016.

In a subsequent order of January 2018⁵³, RySS is re-organised as a company headed by the Chief Minister of Andhra Pradesh as Chairman, the Agriculture and the Cooperation Minister as Vice

8 Memorandum of Association of RySS.

Source: RySS website

Chairman. T. Vijay Kumar, IAS (Retd.) has been taken on as “Advisor to Government for Agriculture & Cooperation Dept., and Co-Vice Chairman of Rythu Sadhikara Samstha, Member

in Governing Body of Primary Sector Mission and also incharge of implementation of Natural Farming in the State in the rank of Chief Secretary to Government, Govt. of Andhra Pradesh for a period of two years”. By this order, National/International Experts in various subjects are made members of the Board. Civil Society representatives, Natural Farming farmers and APPI representatives have been dropped from the Board.

These three orders, together, effectively establish RySS as the main instrument of the Government of Andhra Pradesh in attending to all matters connected with farming and farmers of the state.

Financing RySS

To support ongoing efforts in implementing CRZBNF, in addition to the Rs. 100 crores grant received from APPI, the Andhra Pradesh Cabinet has approved a Rs 1,000 crore mega loan to be raised by RySS from Vijaya Bank. This would be “with a monthly interest rate of 7.9 % for creating infrastructure facilities in agricultural sector”.⁵⁴ And with facilitation by SIFF, an additional Rs. 17,000 crores (\$2.3 billion at prevailing market rates) is being raised from BNP Paribas and other lenders.

⁵³ Agriculture Department, Government of Andhra Pradesh, regarding *Rythu Sadhikara Samstha – Constitution of Board under the Chairmanship of Hon'ble Chief Minister – Orders issued – Appointment of Sr. T Vijay Kumar, IAS., (Retd.) as Additional Director of the Company*”, Order No. G.O.RT.No.45, dated 29th January 2018.

⁵⁴ ₹1,000 cr. loan guarantee for Rythu Sadhikara Samstha, cloud policy, The Hindu, 20th January 2018, accessible at: <https://www.thehindu.com/news/national/andhra-pradesh/1000-cr-loan-guarantee-for-rythu-sadhikara-samstha-cloud-policy/article22482984.ece>

Company Master Data			
CIN	U01400AP2014NPL095487		
Company / LLP Name	RYTHU SADHIKARA SAMSTHA		
ROC Code	RoC-Hyderabad		
Registration Number	095487		
Company Category	Company limited by Shares		
Company SubCategory	State Govt company		
Class of Company	Public		
Authorised Capital(Rs)	10000000		
Paid up Capital(Rs)	10000000		
Number of Members(Applicable in case of company without Share Capital)	0		
Date of Incorporation	17/10/2014		
Registered Address	C/o. Assistant Director of Agriculture (Regular), D.No.40-13-3,Chandramoulipuram, Near Benz Circle, Vijayawada Srikakulam AP 520010 IN		
Email Id	rythuss@gmail.com		
Whether Listed or not	Unlisted		
Date of last AGM	19/04/2018		
Date of Balance Sheet	31/03/2016		
Company Status(for e filing)	Active		
Charges			
Assets under charge	Charge Amount	Date of Creation	Date of Modification
Immovable property or any interest therein	5000000000	30/11/2017	-
Immovable property or any interest therein	5000000000	22/12/2017	-
Book debts; Movable property (not being pledge)	10000000000	27/03/2018	-
Directors/Signatory Details			
DIN/PAN	Name	Begin date	End date
0001158511	VIJAY KUMAR THALLAM	29/01/2018	-
0001387546	GOPAL KRISHNA DWIVEDI	23/01/2018	-
0003361262	RAJSEKHAR BUDITHI	27/06/2016	-
0005352925	RAVI CHANDRA MUDDADA	31/03/2017	-
0008053753	MUDE HARI JAWAHAR LAL	03/05/2017	-
AJDPM1427D	MUDE HARI JAWAHAR LAL	13/05/2017	-
0008104038	CHIRANJIV CHOUDHARY	30/07/2015	-

Figure 9 Details of RySS Board from Registrar of Companies database

Azim Premji Philanthropic Initiatives

The APPI website briefly mentions its collaboration with RySS and its support for CRZBNF. It is stated that this collaboration is directed at “boosting the income and yields of 500,000 farm households across AP by cutting risks and cultivation costs through climate-resilient zero budget natural farming (CRZBNF)”⁵⁵. The approach, it is explained, is to turn farmers “into Community Resource Persons (who would) actively take up marketing, water and infrastructure management” for which “a Technical Support Unit has also been embedded within RySS to extend CRZBNF within and outside the state”. There are no reports shared of ongoing efforts to monitor the programme or of details of how the grant money will be invested. The report of the APPI sponsored study of CRZBNF, cited on the RySS website, is also not available on the APPI site. For any information pertaining to CRZBNF, APPI’s website points to the RySS website.⁵⁶

Byravan has reported about the foundation’s fundamental role in shaping CRZBNF, that “[t]he approach taken by APPI to monitor the improvements is vital to understanding the outcomes of large-scale changes that are under way; this is critical to expanding the ZBNF to other States”. And as part of this expansion effort, APPI has struck a variety of collaborations to advance CRZBNF in other states of India. One such is its alliance with Global Alliance for the Future of Food. This is

⁵⁵ See the brief note on RySS provided on APPI website, accessible at: <http://www.azimpremjiphilanthropicinitiatives.org/who-we-work-with#list-view>. There also are some interviews with principal officers of APPI who are engaged in the AP CRZNP programme. See, for instance, an interview with Shaik Anwar, Vice President (Small and Marginal Farmers), APPI, accessible at: <http://www.azimpremjiphilanthropicinitiatives.org/videos#impact>

⁵⁶ RySS website is <http://www.apzbnf.in>

announced in a tweet made on 6th June 2018 by RySS states: “We congratulate our partners Azim Premji Philanthropic Initiatives (APPI) to join hands with the Global Alliance @futureoffoodorg.⁵⁷ They have been a pillar of support and strength to @ApZbnf”.

Efforts to engage APPI senior leadership in a conversation over CRZBNF fail:

Senior leadership of APPI have been proactive in reaching out to a variety of international organisations to mobilise support for CRZBNF. However, this enthusiasm appears to be missing in interacting with Indian civil society and research organisations, or, for that matter, networks and movements addressing farmers rights and seed sovereignty. Efforts made to interact with APPI senior leadership and get them to engage with debates and concerns over CRZBNF in their role as key partners in a public programme, were frustrated.⁵⁸ These efforts were met with silence initially, then a suggestion was made that all information pertaining to APPIs role in the programme could be found on the RySS website, and eventually it was followed by staunch refusal to interact with Indian groups and academic networks in sharing information or in any conference and workshop about the programme. This is in stark contrast with several reports available on the internet which indicate that APPI senior leadership have actively engaged in conversations with a variety of international organisations. The complete lack of interest when it comes to interacting with Indian social and environmental action groups, farmers associations, etc is disheartening.⁵⁹

In response to requests for sharing information that formed the basis for APPI supporting CRZBNF with a Rs. 100 crores grant, Tasqeen Macchiwala, General Manager of APPI acknowledged she had received “concerns about the financialisation of farming, dispossession of farming land, and displacement of farming and pastoral communities wrt the UNEP story on the small and marginal farmers initiative in Andhra Pradesh”. The request that MOUs and Agreements signed be shared publicly and *suo moto* was deflected with “I trust you will find details of the programme at <http://apzbnf.in/> that will provide you a better understanding of the climate resilient zero budget natural farming programme in Andhra Pradesh”.⁶⁰ When it was clarified that RySS website (apzbnf.in) did not contain such information, and it would be in the wider public interest if APPI *suo moto* organised a workshop on the programme or joined a workshop organised by Indian groups and academic organisations to critically engage with concerns being raised, Zulfiquar Haider, Chief Strategy and Programme Officer of APPI responded: “APPI will not be able to support any of the costs of the workshop/consultation.”⁶¹

Further appeals to APPI to reverse this position, was met with a stern response from Ananth Padmanabhan, CEO of APPI asserting: “APPI has no views/position on your concerns vis-a-vis CRZBNF” (emphasis supplied). In this email, Padmanabhan claims that such requests for information and efforts to engage APPI in a discussion, resulted in them not feeling “treated with respect at this point of time”.⁶²

BNP Paribas

⁵⁷ More details about the Future of Food is accessible here: <https://futureoffood.org/>

⁵⁸ As this author began to investigate the basis for the 2nd June 2018 UNEP Press Release on CRZBNF, he drew several senior leaders of APPI into an email conversation along with various leading figures of environmental administration, public policy, media, farmers networks, food security and academic organisation. This conversation continues.

⁵⁹ In contrast, APPI’s involvement in supporting CRZBNF has been actively propagated by senior staff of the foundation in international forums, such as the one focusing on seed saving and farmer distress held at World Agroforestry Centre, Nairobi, Kenya on 17th July 2018, a report of which is accessible via Twitter at: <https://twitter.com/CWatsonICRAF/status/1019051842607730689>

⁶⁰ Email from Tasqeen Macchiwala to this author dated 21st June 2018. Several others who have shared their concerns about CRZBNF were copied on this email.

⁶¹ Email from Zulfiquar Haider to this author, dated 16th September 2018.

⁶² Email from Ananth Padmanabhan to this author dated 20th September 2018. This email was copied to several principal officers of APPI.

BNP Paribas is a French bank, headquartered in Paris. It has been in India for over 150 years and has operations across the country with offices in most major cities. Antoine Sire, Head of Company Engagement and Member of the Executive Committee, BNP Paribas Group, is quoted in the UNEP release as saying that the bank's role in India, in particular Andhra Pradesh, is "to engage in partnerships and opportunities that do not only consider financial performance" but would also work with "Sustainable India Finance Facility (which) will facilitate the ZBNF scale-out process, targeting investments amounting to US\$ 2.3 billion over the next 6 years". According to a LinkedIn⁶³ post by Sire, "(b)ringing long-term finance to projects like the development of **Zero Budget Natural Farming** is a challenge. Still, we know that many pension funds and other sources of private capital are looking for innovative projects that will allow them to invest people's savings in projects which have a positive impact, especially for future generations". He further states the bank has "already made 155 bn euros in loans that directly contribute to the UN SDGs" and the objective is to extend "more than 185 bn euros by 2020". Further, Sire shares that "**our biggest challenge** is to bring as much as possible of the 38 trillion dollars of assets managed by pension funds to game-changing sustainable projects". (All emphasis in original.)

In a post made on BNP Paribas website,⁶⁴ Sire explains that the reason for the bank investing in CRZBNF is that they "believe that by supporting innovative financing we can pave the way towards a more sustainable future and a healthier economy. One of the recent testimonies demonstrating BNP Paribas' "sustainability" commitment is captured in the Memorandum of Understanding (MoU) signed by the United Nations Environmental Program (UNEP) and BNP Paribas at the UNEP One Planet Summit in November 2017. This MoU created a framework to ensure that ever more progressive and innovative projects receive the support of the international community and investors". It is clarified that this MOU is the foundation of BNP Paribas' global partnership with UNEP and that it is part of a strategy of collaborating with other global financial institutions and banks.

The note further explains that "(o)ne of the first initiatives built on by this agreement" is BNP Paribas' core participation in the "launch of the Tropical Landscapes Finance Facility (TLFF), a lending innovative platform managed by ADM Capital with BNP Paribas as structuring adviser and arranger, aiming at bringing long-term finance to projects and companies that stimulate green growth. This financing leveraged BNP Paribas' trademark ability to handle complex transactions with multiple parties coming from different angles to channel large investors' capital into transformational projects for deprived and ecologically sensitive areas and population". It further claims that BNP Paribas' "ground-breaking transaction structured and launched in March 2018[in ZBNF]" through TLFF is being followed up by the bank's involvement in Sustainable India Finance Facility (SIFF) financing in India. It is stated that "(t)he first project to benefit from this agreement is the Zero Budget Natural Farming (ZBNF) aiming to bring long-term finance to projects and companies that stimulate green growth, reduce greenhouse gas emissions and improve the livelihoods of marginalised communities". It is evident from this note that the bank considers India a long term investment destination and that its experience with TLFF has given it the confidence to promote SIFF on the same pattern. While TLFF in Indonesia focused on developing rubber plantations in collaboration with Michelin Tyres, for instance, in India BNP Paribas supported SIFF is keen on investing in natural farming.

⁶³ See Antoine Sire, *A first step to change the rules of the game for farmers all over the world*, LinkedIn, 2nd June 2018, accessible at: <https://www.linkedin.com/pulse/first-step-change-rules-game-farmers-all-over-world-antoine-sire/?published=t>

⁶⁴ BNP Paribas, *Financial Innovation for Societal Transformation in Emerging Markets: Andhra Pradesh has launched an unprecedented transformation programme towards sustainable agriculture*, 5th June 2018, accessible at: https://cib.bnpparibas.com/our-news/financial-innovation-for-societal-transformation-in-emerging-markets_a-33-2134.html. See also the video produced by BNP Paribas on its involvement in CRZBNF, accessible here: <https://youtu.be/EkcM9Gz6GbU>

Pinocchio Climate Awards 2015



The [Pinocchio Awards](#) are organised by Friends of the Earth France, in partnership with the CRID and Peuples Solidaires-Action Aid France. These organizations state that these awards aim to "highlight and denounce the negative impact of multinational companies" and "the gap between their discourse and concrete activities."

10 Sourced from Friends of the Earth - France

commercial lending terms to the field level operations coordinated by FPOs. The loan has been extended state guarantees thus protecting the bank from any business and political risks. As the world's 8th largest bank, BNP Paribas's key role in SIFF is to draw in many more global investors to invest in CRZBNF, by assuring that these investments are sheltered from risks by state guarantees.⁶⁶

BNP Paribas' association with environmentally destructive projects

The image projected by UNEP, WWF, WBCSD, SIFF, etc. of BNP Paribas, is that it is a progressive bank proactively addressing various ethical and environmental concerns in all its investments. A critical evaluation of the record of its investment in India and abroad, tells a different story, however.

Banktrack, a European non-profit organisation which tracks various financial institutions and their public disclosure and social and environmental behaviour, reports BNP Paribas was awarded the "Pinocchio⁶⁷ Climate Award for its global financing of the coal industry, including huge coal-fired power plants in South Africa and India". The awardee, the report says, was selected on the basis of a "a month of public voting organised by Corporate Europe Observatory and Friends of the Earth France", and because BNP Paribas is the "French banking sector's biggest coal supporter". The award was "made at a ceremony in Paris during the COP21 international climate talks, where BNP Paribas was one of the corporate sponsors".⁶⁸

In India, BNP Paribas has co-financed the controversial and environmentally disastrous 4,000 MW coal fired Tata-Mundra Power Project at Mundra in Gujarat, along with International Finance Corporation (IFC)⁶⁹ of the World Bank, other international and national banks, and a slew of export credit agencies. There were several global calls to BNP Paribas and other investors to pull out of this socially and environmentally destructive project sited in an ecologically sensitive coastal region in Gujarat. Thousands of fisherfolk, farmers and salt makers would have been able to continue with their lives had the bank refused to finance this project. Instead, BNP Paribas ignored all such calls

⁶⁵ These interviews can be found online on Youtube at: <https://youtu.be/AjnpUYy-Gw> (IamRenew interview dated 21st June 2018);

<https://youtu.be/8dHcq3-1Gqc> (Global Landscapes Forum, 19-20 December 2017 at Bonn, Germany interview and published online on TLFF Indonesia on 1st March 2018); and <https://youtu.be/X3RNrECILEM> (Kalinga Supravat TV in Oriya, telecast on 8th August 2017)

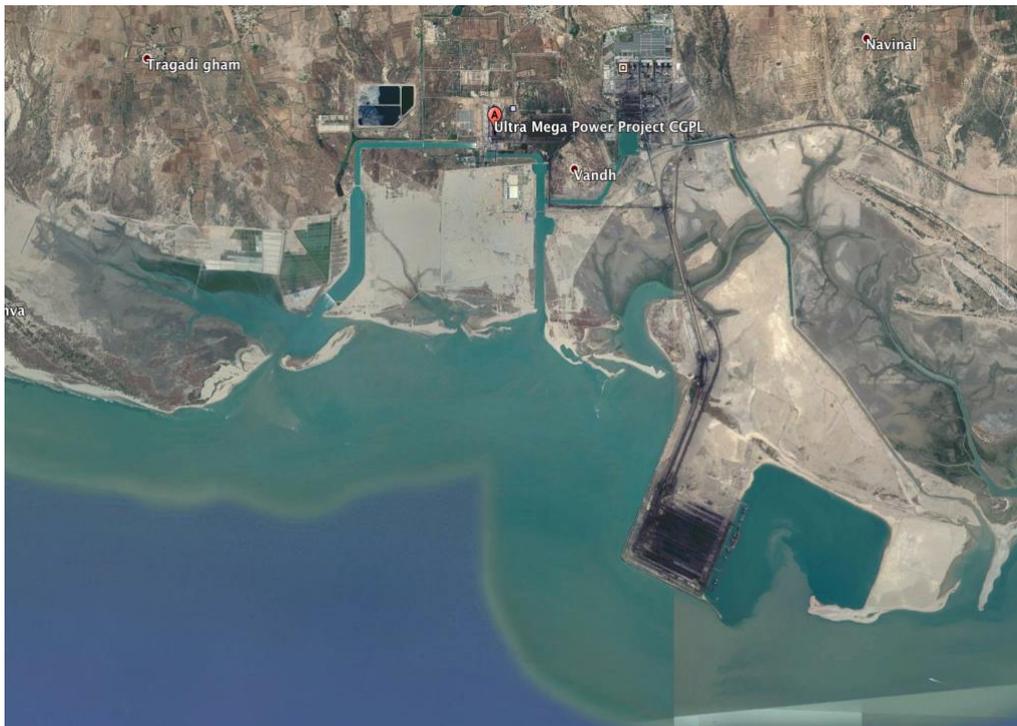
⁶⁶ According to Wikipedia, BNP Paribas's revenue in 2017 was \$43 billions and its total assets are worth \$ 2 trillions. The bank is one of the three largest in France, 8th largest in the world, and operates out of 75 countries to service over 30 million customers. See, https://en.wikipedia.org/wiki/BNP_Paribas

⁶⁷ Pinocchio is a fictional character and the protagonist of the children's novel *The Adventures of Pinocchio* (1883) by Italian writer Carlo Collodi. This character is given to lying and so the expression to be like a Pinocchio. Source: Wikipedia

⁶⁸ See, Banktrack release, *BNP Paribas coal finance impacts earn Pinocchio Climate Award from the public*, 4th December 2015, and accessible at: https://www.banktrack.org/news/bnp_paribas_coal_finance_impacts_earn_pinocchio_climate_award_from_the_public

⁶⁹ International Finance Corporation is the private sector lending arm of the World Bank.

and went on to finance the coal plant in comprehensive violation of laws governing environmental and social justice.



11 The extensive damage done to the Mundra coastline by the BNP Paribas supported Tata Mundra Ultra Mega Power Plant is visible from space. Source: Google Earth

Machimar Adhikar Sangharsh Sangathan (MASS – Association for the Struggle for Fishworkers’ Rights), representing project impacted communities, continues to fight this project, which has caused extensive devastation of the region as predicted. This association has also raised a complaint with the Ombudsman of IFC in 2011 where the scale of the impacts are discussed:

“The Mundra block has population of 83,010 of which 70,000 is rural population (Government of India, Census data 2011) and has 59 villages. The main sources of occupation are agriculture, horticulture and fishing. With the construction of the project, the life and existence of the 10,000 (approximately) fishermen has been jeopardized. The project is located on the coast which has for centuries been the fishing ground for “Wagher fishing community”. The tragedy is the fact that we have lost our fishing ground and on top of that we have not even been recognized as the affected community. With our very existence in danger today, in this complaint we have mentioned the violations of our rights as well as the violation of the IFC’s performance standards that are applicable to the project.”

IFC claimed absolute immunity from legal liability when public examination of its controversial financing was demanded. This stand effectively sheltered co-financiers of the project, BNP Paribas included. To hold the banks accountable, Earthrights International, on behalf of MASS, advanced a legal challenge to IFC’s claim to absolute immunity. Recently, in an unprecedented and historic decision, the Justice Department of the United States Government has supported the petition and “urged the U.S. Supreme Court to reverse a lower court decision holding that the international organizations like the World Bank Group” can continue to enjoy immunity from suffering the implications of their poor decision making. The US Government brief argues such immunity is “far

greater than (what) any other person or entity receives under U.S. law”. The Government’s brief ⁷⁰ thereby argues “that such organizations should only be entitled to the same “restrictive” immunity that foreign governments have, and like foreign governments, should be subject to suit for injuries arising out of their commercial activities”.⁷¹ If the US Supreme Court supports the petition, the decision would have global repercussions for thousands of projects that are environmentally and socially destructive. However, until then, communities have no recourse to corrective action and compensation due to the ‘absolute immunity’ enjoyed.⁷²

Does BNP Paribas’ association with UNEP potentially shield the bank from legal liability?

This legal development in US Supreme Court is evidence of growing global concern, including now within US administration, about the impunity with which banks and global financial institutions irresponsibly invest in mega projects that have massive environmental and social impacts, and associated political risks. In effect, the argument is that no global or national institution, be it private, public or international, must be shielded with such absolution of liability for its actions. This is in stark contrast with the US Government’s staunch defence of the World Bank group from any legal liability since the bank’s inception in 1945. This protective shield has also been enjoyed by UN officials.

Peter Gallo, a former UN Inspector turned whistle-blower on corruption within the UN system, has strong views over the enjoyment of ‘global immunity’. He is reported⁷³ to have said: ““It is getting harder and harder for moderate, middle-of-the-road people — who believe there is a need for an international organization to address world problems and yet believe in the sovereignty of their own country — to accept that the UN is actually doing the job it was set up to do. There have always been conspiracy theorists who have said the UN is a covert attempt to form a world government; and it is getting harder and harder to deny that. It is very clear that the UN considers itself ABOVE the law, and above the importance of the governments of any of the member states. How does anyone now argue against the aphorism that ‘Power corrupts, and absolute power corrupts absolutely?’” (Emphasis in original)

Banks like BNP Paribas often ally with global institutions such as IFC and UNEP in advancing loans to mega projects which aren’t sufficiently appraised for their environmental and social impacts, and associated political risks. And when such projects turn controversial, or cause damage, organisations like IFC and UNEP claim “absolute immunity”. This in effect shelters the entire portfolio of investors from liability. As a consequence, adversely impacted communities are left in the lurch, loan recipient states absorb the burden, and in the end, it’s the tax payers who suffer. The world is littered with horrific examples of such environmentally and economically destructive investments. The Narmada dam is a cardinal example, from which project the World Bank was forced to withdraw its investment on social impact and environmental grounds.

⁷⁰ Brief for the United States as Amicus Curiae supporting Reversal In *Budha Ismail Jam, Et Al., Petitioners V. International Finance Corporation* before The Supreme Court Of The United States in Writ of Certiorari to the United States Court Of Appeals for the District Of Columbia Circuit, in Case No. Appeal No. 17-1011, accessible at: https://earthrights.org/wp-content/uploads/20180731204649177_17-1011tsacUnited-States-REVISED-1.pdf.

⁷¹ Earthrights International’s documentation of ongoing legal efforts to bring justice to the people of Mundra is accessible at: <https://earthrights.org/tata-mundra-coal-power-plant/>. Comprehensive details of this ongoing matter may be accessed on the Centre for Financial Accountability website, at: <http://www.cenfa.org/international-finance/international-finance-corporation/>

⁷² But there already appears to be a strong pushback from former US Secretaries who have rallied together for IFC to continue enjoying ‘absolute immunity’. See, Tiffany Hu, *Former US Secretaries Back IFC Immunity In High Court Case*, Law 360, 18th September 2018, accessible at: <https://www.law360.com/articles/1083661/former-us-secretaries-back-ifc-immunity-in-high-court-case>

⁷³ See Alex Newman, *Globalists Seek Absolute Immunity from Law; U.S. Fights Back*, The New American, 8th August 2018, accessible at: <https://www.thenewamerican.com/world-news/north-america/item/29747-globalists-seek-absolute-immunity-from-law-us-fights-back>

In the case of CRZBNF, it appears BNP Paribas is claiming the advantage of immunity through its association with UNEP. And the UN organisation appears untroubled by the fact that it has consistently been in partnership with only BNP Paribas, be it in Indonesia (via TLFF), or India (via SIFF). Key UN personnel involved in advancing BNP Paribas profile, particularly to both these partnerships, are Erik Solheim⁷⁴, Executive Director of UNEP, and Satya Sundar Tripathi, Asst. Secretary General of UNEP (NY office), Chairman of SIFF and CEO of TLFF.

A question that arises is if UNEP is oblivious to BNP Paribas' socially discredited status, and its popular identification in Europe as a climate destructive investor. Clearly, with such a poor public record, and that too in regard to climate unfriendly investments, it appears specious a claim to promote the bank as a climate friendly investor, as has been the case with CRZBNF. Multiple calls to BNP Paribas to withdraw its support for the Tata Mundra project have failed to elicit any response, a stand that appears consistent in the banks' exposure to other such environmentally destructive projects globally.⁷⁵ As Banktrack has held, the "longer BNP Paribas drags its heels and keeps mum on Tata Mundra, the more the questions about this controversial coal investment continue to mount – and the more affected local communities are left hung out to dry".⁷⁶

BNP Paribas has a CSR policy guiding its investments in Agriculture⁷⁷. There are several progressive features in this policy, including the requirement that the bank will "(a)void and minimize the potential adverse impacts on local subsistence agriculture when developing a new farming project (by the introduction of new crops or the replacement of existing local crops, for biofuel production or any other type of non- subsistence farming activity)". It is not evident from the Bank's website if this policy has been applied in its decision to invest in CRZBNF. In the likelihood this policy is applied to CRZBNF, it would be antithetical to the principles of ZBNF which aggressively rejects any introduction of exotic species, even hybrids. There is very little information available about what BNP Paribas' role would be in Andhra Pradesh, though it appears to be a bank with deep access into the structures of power in the state, given the bonhomie shared very publicly by its senior functionaries with Chief Minister Chandrababu Naidu.

UNEP and Sustainable India Finance Facility:

Sustainable India Finance Facility's website presents the organisation's role as "as an innovative partnership facilitated by the United Nations Environment Programme, World Agroforestry Centre and BNP Paribas". The website reports that this partnership has been cobbled together to bring "long-term finance to projects and companies that stimulate green growth, increase reliance, reduce greenhouse gas emissions and improve rural livelihoods".

⁷⁴ Erik Solheim was forced back to UNEP Hq. in Nairobi while attending events surrounding the 73rd UN General Assembly in New York during September 2018, over allegations of abuse of power, possible nepotism and also excessive air travel globally. These allegations result from an internal audit of the UN. Reports relating to these allegations are accessible at: Damian Carrington, *Under-fire UN environment chief forced back to HQ*, The Guardian, dated 27th September 2018, accessible at: <https://www.theguardian.com/environment/2018/sep/27/under-fire-un-environment-chief-forced-back-to-hq-erik-solheim>. See also, Damian Carrington, *UN environment chief criticised by UN over frequent flying*, The Guardian, dated 21st September 2018, accessible at: <https://www.theguardian.com/environment/2018/sep/21/un-environment-chief-criticised-by-un-over-frequent-flying-eric-solheim>

⁷⁵ See release by Bank Information Centre, *Over 100 Organizations demand World Bank withdrawal from Tata Mundra*, 4th November 2013, accessible at: <http://www.bankinformationcenter.org/over-100-organizations-demand-world-bank-withdrawal-from-tata-mundra/>

⁷⁶ Greig Aitken & Yann Louvel, BankTrack *BNP Paribas keeps mum over Tata Mundra mega coal plant, as impacts and questions continue to mount*, 10th April 2015, accessible at: https://www.banktrack.org/blog/bnp_paribas_keeps_mum_over_tata_mundra_mega_coal_plant_as_impacts_and_questions_continue_to_mount

⁷⁷ See, BNP Paribas Fortis, Corporate Social Responsibility – Sector Policy -Agriculture (undated), accessible at: [https://www.bnpparibasfortis.com/docs/default-source/pdf-\(en\)/csr--sector-policies/csr-sp-010-en-agriculture.pdf?sfvrsn=4](https://www.bnpparibasfortis.com/docs/default-source/pdf-(en)/csr--sector-policies/csr-sp-010-en-agriculture.pdf?sfvrsn=4)

In an *Youtube* video shared by SIFF and RySS,⁷⁸ Andhra Pradesh Chief Minister Chandrababu Naidu is seen making a power-point presentation to a group of investors during the Davos summit in January 2018 appealing to them to invest in CRZBNF. Satya Sundar Tripathi is seen welcoming Naidu to the meeting and speaks very highly of the Chief Minister's support for CRZBNF. Tripathi says: "When I met him (Naidu) a few months ago, I said, 'Sir, this *will have enemies of the kind we haven't seen because the kind of projects*, the kind of planetary breakthroughs we are trying to achieve in your province in terms of turning the entire province of almost 54 million people green in 8 million hectares .. that is 80,000sq kms.' And he said, 'Leave that to me, leave the politics to me, you guys support us and make it happen.'" (Emphasis supplied.)

It is not clear what Tripathi means here by CRZBNF "*will have enemies of the kind we haven't seen*". However, Tripathi's welcome speech clarifies that his role as Chairman of SIFF is to encourage various investors from around the world to support a variety of environmentally benign projects in India, beginning with CRZBNF. This is a role Tripathi has played before as Executive Secretary of TLFF in Indonesia, as he explains in an interview that he has given at the Global Landscape Forum.⁷⁹ In this interview Tripathi explains how TLFF is raising over a billion dollars and why investors find such facilities attractive:

"If you ask me, I think it is profitable and that's why they're doing it. This is not charity. This is profitable but it is a combination of capital guarantees, which helps reduce the cost of the loan and it is very long-term – 15 years. So .. because when you want to invest in forests and the landscape it takes a long time for returns to be generated. You can't do it with a 3 year or a 5 year loan, it doesn't work. And that is why the key features are that these are long-term loans and at very reasonable costs of capital. That's what makes it ... just to give you an example .. Let's say you are borrowing 200 million dollars for ten years, for example. So if you're borrowing it at 6% and you're borrowing it at 10%, just to give you a difference. So the 4% difference amounts to 80 million dollars over 10 years, and that's what makes the project not viable, not feasible. But the moment you are able to lend at, let's say for example 6% then it becomes feasible because then the cost that you have to bear to get the finance is in keeping with the project's return framework, and that's how it works."

In the same interview Tripathi also explains the role of BNP Paribas in SIFF:

"With BNP Paribas it's a little different because they are already a partner in Indonesia, where we are hoping to get to a billion dollars by 2019. They are going to be a partner in India where we are about to set up the Sustainable India Finance facility. The first investment there that we are working on is a landscapes investment of 2.5 billion dollars. So if you add up that billion and 2.5 it is already up to 3.5 billion dollars. So BNP Paribas is already a big part of the partnership. So they thought that okay we are already doing all these things, let's scale it up to 10 billion. So that's a global MOU. So that commitment would also come in very handy if you want to set up something .. let's say an Africa Sustainability Facility or something in Latin America and other parts of the world. So it's more of a global arrangement and not specific to any country. But if you look at what's already happening in Indonesia or in India, it's a very credible commitment because they are already up to 3.5 billion dollars by the end of 2018 early 2019. So 10 billion is not an imaginary figure, we'll get there very quickly."

⁷⁸ RySS which has shared the video on *Youtube* describes the event as "Shri Nara Chandra Babu Naidu, Chief Minister of Andhra Pradesh launching ZBNF at a luncheon hosted by United Nations Environment Programme (UNEP) at Davos in World Economic Forum on 25 Jan 2018. Shri T Vijay Kumar, IAS (Retd), Advisor to Government of AP, Department of Agriculture was also present during the presentation of the Chief Minister". The video is accessible at: <https://youtu.be/SOShDr10dmQ>

⁷⁹ The videotaped conversation on *The Role of Finance in Sustainable Land Use* between Leona Liu (Communications Lead, Global Landscape Forum) and Satya Tripathi (Executive Secretary, Tropical Landscapes Finance Facility) was held during the Global Landscapes Forum held 19-20 December 2017 at Bonn, Germany, and is accessible at: <https://youtu.be/w-cgs2BAs3E>

SIFF as a protective mechanism covering risks of global investors

In a more recent interview given to *Investing in Regenerative Agriculture*, on “How do you turn a whole Indian region to zero budget natural farming using Climate Bonds?”,⁸⁰ Satya Tripathi lays out the financial architecture of this unprecedented global investment in CRZBNF being coordinated by SIFF. The interviewer, Koen V, is perplexed at how a well-established \$20 billion fertiliser industry in India can be convinced that it is in its interest to allow an entire region to shift to natural farming. To which Tripathi responds, somewhat haltingly, that much of India’s fertiliser is imported and is a huge drain on forex reserves. Therefore, a shift to CRZBNF would be to India’s benefit, and the chemical industry would find ways to shift their assets to more productive natural farming investments. The interviewer’s question remains unanswered.



12 The mission statement of SIFF as described on its website

SIFF is actively gathering the attention of investors from across the world to invest in CRZBNF. The “target is to get to the market around June 2019 when the funds are required”, says Tripathi in this interview to *Investing in Regenerative Agriculture*. This is because there is a “potential risk that the political champion may not be around”, referring to the likelihood that Chief Minister Chandrababu Naidu, who is the ‘political champion’ of CRZBNF, may not be re-elected to office in May 2019. This indicates that much of the success of CRZBNF, based on global financial flows, is predicated on the leadership of Naidu continuing beyond 2019. Tripathi, however, exudes confidence that Naidu is a popular leader and able administrator and will be re-elected given his “excellent” administrative track record. Once Naidu is reelected, “we are intervening”, says Tripathi about SIFF’s plans. While Andhra Pradesh is reaching out to half a million farmers currently “with its own resources”, the plan is that SIFF will be “raising the money in three different tranches”, to on-lend to the State. This is out and out a commercial investment in natural farming, Tripathi says, for there “are technically no subsidies. There is a lot of cost for the roll out and of ensuring there is no roll back”. To ensure stability and success of the CRZBNF transition, “farmers are continually helped through the process, not just in the first crop cycle, but in the 5th, 6th, 7th, even the 10th crop cycle. So that farmers become champions in their own right. It is a farmer to farmer extension.”

It is not clear from this interview if the loans extended will be direct to farmers, or through support facilities such as the FPOs. RySS reports these loans are for support functions in advocating CRZBNF, such as the costs of training of trainers, dissemination of information, etc., in order to help

⁸⁰ Episode 39 is on *Investing in Regenerative Agriculture*, and is accessible at: <https://www.stitcher.com/podcast/investing-in-regenerative-agriculture/e/55947131>

convert all farmers of Andhra Pradesh to ZBNF practices in five years. However, the need for such a high volume of foreign direct investment in CRZBNF, unprecedented in the history of India, has not been explained by Tripathi or any of the principal officers of institutions promoting the programme. Tripathi asserts there is “very little risk” of the project failing and this is “because it is a quasi-sovereign that is borrowing. It is not like giving money to a corporate entity, which would turn out to be a fly-by-night operator. Or somebody who is very articulate in saying everything you want to hear but in not delivering the goods”. Tripathi here is referring to RySS as a “a potential client that has shown its intent and integrity. Put its money where its mouth is. Who has taken the programme already to a gigantic scale with over 500,000 households, by March 2019”.

Tripathi substantiates this confidence in CRZBNF saying that “it is not (like) things (are) happening in a vacuum. These are things happening on a solid platform. Of performance, of genuine achievement, that’s in the public domain for anyone to go and see and inspect. It is the government that is borrowing, a government with a very impressive track record”. In effect, he is confirming that the entire financing model is based on the sovereign guarantees extended by Andhra Pradesh state to financiers so that their investments are secure even if the programme fails to deliver as intended.

About scepticism that remains about the ecological feasibility of the transition, Tripathi says “this is not some lab test that you hear (of) a lot. Then suddenly five years later you find out that all those wonderful scientific papers were based on dodgy data. Here, that is not the case. This is about people. It is out in the open. Everybody can go and have a look as to what transformation is happening across the landscape. This should give potential investors a great degree of confidence”. Tripathi believes this project will be an attractive investment destination for high-net-worth investors from across the world. They would include pension funds and insurance funds “who have a long term view on these matters”. He claims, “philanthropies who have their own investment arms, will also invest”. Thus dismissing the interviewer’s worry of a fundamental ethical tension between the investment arm of a corporation and its philanthropy being related to, and investing in, CRZBNF. To clear the air of any unethical collaboration, Tripathi uses the example of Sunny Verghese, Chairman of WBCSD, and Co-founder and CEO Chairman of Olam International, who was at the launch of CRZBNF because Verghese sees the programme as a potential investment destination for his company. Tripathi confirms that SIFF is in talks with Olam to secure its buy-in into CRZBNF: “We are looking forward to collaborate with them. The excitement is mutual.”

SIFF’s unwillingness to be transparent about its dealings

Satya Tripathi was contacted via email requesting access to the MOUs and Agreements that have been concluded by SIFF with RySS, UNEP, BNP Paribas and World Agroforestry Centre. He responded immediately by saying:

“Not sure why you need a copy of our MoU with AP ZBNF, as it is not clear from your mail below. As you would appreciate, SIFF is a finance facility, and we don't share our MoUs with partners/clients publicly as they are subject to non-disclosure clauses. If you need any specific information pertaining to our work, do let me know and I will be happy to share the relevant information.”⁸¹

Another email was sent clarifying that “partners involved in promoting any initiative relating to the fundamental needs and rights of the people - such as food security, housing security, farming, seed sovereignty, etc. - ought to share the documents relating to such initiatives *suo moto*.” That it is hoped that “I had hoped that UNEP sponsored SIFF would share *suo moto* the documents

⁸¹ Email from Satya Tripathi to this author, dated 17th August 2018.

pertaining to APZBNF, in consonance with Principle 10 of the Rio Declaration, CBD, etc., as it is a public programme and documents relating to it ought to be in the public domain, especially when concluded with public agencies.”⁸² There has been no response till date.

On 27th August 2018, Satya Tripathi has been appointed as the Assistant Secretary-General and Head of the New York Office of UNEP.⁸³ It is not clear from SIFF website who will replace Tripathy as Chairman of SIFF. This appointment has expectedly drawn widespread appreciation and congratulatory messages, and Chief Minister Chandrababu Naidu has tweeted:

“Hearty Congratulations @satyatripathi for your new role as Asst. Secretary-General & Head of New York office @UNEnvironment. Your support to AP in scaling-up ZBNF @apzbnf is highly commendable. Let us strengthen our collaboration to ensure welfare of 6 million farmers in AP.”⁸⁴

Is SIFF greenwashing BNP Paribas?

The Facebook page of SIFF speaks about being wary of investors who have low credibility, and against “astroturf lobbying”, which is the “the practice of using fake grass-roots groups to influence public opinion”. To highlight the risks from such dubious investors spoiling an ethical investment opportunity, SIFF shares an article from *The Conversation*, *When corporations take credit for green deeds their lobbying may tell another story*.⁸⁵ Tom Lyon and Magali Delmas, who co-authored this article, address about “corporate hypocrisy”, and of the need to be wary of dubious investors, particularly those with low credibility as they could spoil an ethical investment opportunity. The authors of the article, who are past and present Presidents of the [Alliance for Research on Corporate Sustainability](#), warn against “greenwashing, in which companies trumpet their good deeds while hiding their efforts to block progress”. They say “it is easy to get away with greenwashing in part because it’s hard to detect what companies lobby for in the U.S., as there is no requirement to disclose the positions they espouse”.

Clearly, SIFF in sharing this article on social media, is advocating the need for transparency and accountability in CRZBNF, and of an order far higher that that is practised now by various corporations and foundations. With UNEP as its partner, and investing in a public programme such as CRZBNF, SIFF has an opportunity to set high standards for transparency and accountability. However, the denial of information relating to SIFF’s engagements with various governmental, non-governmental and financial institutions, both Indian and international, appears to wash against its claim of being proactive on transparency. Critically, SIFF, like UNEP, has no clarification to offer why it has chosen BNP Paribas alone as its financial partner in advancing global investments in CRZBNF, as it also does not clarify the basis for partnership with World Agroforestry Centre, be it in India (through SIFF for natural farming) or in Indonesia (through TLFF for landscape forestry). What is consistent is that Erik Solheim, Satya Tripathi and Antoine Sire are seen as leaders of their respective institutions promoting a range of global partnerships in which UNEP, BNP Paribas and WAC/ICRAF are consistent partners. This when BNP Paribas’ has been called out again and again for its terrible record in consistently supporting a variety of mega climate destructive projects.

⁸² This email was sent in response to Tripathi’s email, the same day.

⁸³ United Nations General Secretary Office Release, Mr. Satya S. Tripathi of India - Assistant Secretary-General and Head of the New York Office of the United Nations Environment Programme (UNEP), 27th August 2018, accessible at:

<https://www.un.org/sg/en/content/sg/personnel-appointments/2018-08-27/mr-satya-s-tripathi-india-assistant-secretary-general>

⁸⁴ The tweet on 1st September 2018 is accessible at: <https://twitter.com/ncbn/status/1035844836522258432>

⁸⁵ Tom Lyon and Magali Delmas, *When corporations take credit for green deeds their lobbying may tell another story*, *The Conversation*, 17th July 2018, accessible at: <https://theconversation.com/when-corporations-take-credit-for-green-deeds-their-lobbying-may-tell-another-story-98988>

Role of Bill and Melinda Gates Foundation in CRZBNF

During November 15-17, 2017, the Government of Andhra Pradesh collaborated with Bill & Melinda Gates Foundation (BMGF)⁸⁶, Confederation of Indian Industry⁸⁷, a global social entrepreneurship consulting firm Dalberg⁸⁸, and various media outlets, in organising the *AP AgTech Summit 2017* at Vishakapatnam⁸⁹. In his speech⁹⁰ at the summit, Bill Gates advocated a “shift – from agriculture based merely on subsistence – to agriculture that is run like a business to be efficient, and profitable, and that (which) meets the needs of producers and consumers”. Committing his Foundation’s support to the ongoing transformation in Andhra Pradesh’s agriculture, he said the focus would have to be on “increasing the productivity of smallholder farms and farmers and connecting them to markets so that they can prosper from their hard work”. However, he said, “many smallholder farmers in India still use seed varieties that are decades-old, so they are not realizing the benefits of newer, higher-yielding and more resilient seeds”. He highlighted how “(m)odern plant breeding techniques, including DNA analysis, can double or even triple the annual increase in crop yields and lead to hardier varieties”. He called upon Andhra Pradesh to “leverage local expertise in GIS and its world-class IT sector – along with low-cost commercial software and DNA testing services – to develop better varieties more quickly”.



13 Bill and Melinda Gates Foundation has pledged support in building a Mega Seed Park in Andhra Pradesh.
Source: Seed Science Centre, Iowa State University

⁸⁶ Bill and Melinda Gates Foundation is the largest private foundation in the world (\$40 billion endowment), and is run by Microsoft Bill Gates and his wife Melinda Gates. More detail of the foundation and its activities are accessible here: <https://www.gatesfoundation.org/>

⁸⁷ Confederation of Indian Industry is a leading forum for advancing industry and corporate interests in India. More details are accessible here: <https://www.cii.in/>

⁸⁸ An overview of Dalberg and its mission is accessible here: <https://dalberg.com/who-we-are>. The company specializes in organizing innovative finance directly to small farmers and a range of other Direct-to-Farmer Innovation strategies. See, its playbook on direct financing to small farmers at: <https://dalberg.com/index.php/our-experience/direct-farmer-finance-innovation-spaces-playbook>

⁸⁹ AP AgTech Summit details are accessible here: <http://www.apagtechsummit2017.in/>

⁹⁰ The text Bill Gates speech on *Smallholder-led Agricultural Transformation summit*, delivered on 17th November 2017 at the AP AgTech Summit is accessible here: <https://www.gatesfoundation.org/Media-Center/Speeches/2017/11/Bill-Gates-Smallholderled-Agricultural-Transformation-Summit>

In this context, Bill Gates referred to the Mega Seed Park⁹¹ being developed in Andhra Pradesh and said it will “drive innovation – not only for higher-yielding hybrids, but also for varieties of regional importance, including more nutritious and resilient non-cereal crops like pulses”. He then asked the audience to “(i)magine what could happen if every farmer in AP was growing the latest varieties bred for today’s environment and production system. A data feedback loop could help AP bridge the gap between innovation happening in its public breeding programs and the products farmers need to boost productivity”. For all such transformations, he said “digital financial services are key, because smallholders need to save and borrow money to buy seeds, fertilizer and veterinary care. In the ‘old’ cash economy, saving was insecure and borrowing was extremely expensive for most people”.

Bill Gates then proceeds to explain how Andhra Pradesh would be a model for “digital financial inclusion”. He advocates that the “combination of a world-class biometric ID system, investments in public infrastructure like the NPCI’s Unified Payments Interface, the recent launch of payment banks, and a deep government commitment to leverage digital technology, is producing changes that were unthinkable just a few years ago”. He called for a cautious approach on adoption of such technologies as “we have to be sure these advances (will) help solve the challenges smallholder farmers face”.

Gates expressed happiness that Andhra Pradesh was “taking the first steps to fix these problems by delivering the fertilizer subsidy through digital transfers” and said that “once farmers are biometrically verified through Aadhaar, they receive recommendations for the right amount of fertiliser for their crop depending on the quality of their soil and the size of their land. This helps farmers balance nutrients to revitalise their soil... increases crop productivity ... and ..reduces widespread misuse of fertilizer”. To Gates “Direct transfer of fertilizer subsidies” will not only “help government minimize leakages”, but importantly, it “will bring farmers into the formal economy. Once farmers are linked to India’s digital financial system, they’ll be able to receive social welfare and subsidy payments directly and save their harvest proceeds in secure, interest-bearing accounts, making it easier for them to buy seeds and fertilizer in the planting season. And, they’ll be able to send and receive money simply and safely, with the click of a button”.

With the AP’s Soil Health Card Scheme⁹² Bill Gates says that with such “new data about soil and other information, it is also possible to give farmers better advise about what crops to grow, when to harvest, and where to sell for the best price”. Referring to CRZBNF, Gates highlights the need to energise ongoing efforts at creating Farmer Producer Organisations which are starting to “aggregate produce from small farms more efficiently and in a way that is ultimately controlled by the farmers themselves”. Gates perceives this to be “a pivotal moment in India’s history and in the future of Andhra Pradesh”. He suggests that by “making smart investments in the right things and by leveraging Indian talent and ingenuity... it is possible to increase farmers’ productivity and incomes at a speed and scale that rivals or exceeds Asia’s agricultural transformation”.

Reconciling with partners who support GMO, Gene Editing and ZBNF at once

The involvement of BMGF in CRZBNF is problematic in more ways than one. This is because the Foundation is a staunch supporter of the introduction of transgenics (Genetically Modified Organisms, GMOs) in agriculture, which ZBNF principles staunchly oppose. In its 2011 strategy paper

⁹¹ According to a release by Iowa State University, Seed Science Center, “Iowa State University is partnering with the Andhra Pradesh State Government, Acharya N. G. Ranga Agricultural University, and other state agencies to construct a seed research center and Mega Seed Park located in the Kurnool district of Andhra Pradesh”. See (undated) release accessible at: <https://www.seeds.iastate.edu/news/gates-says-mega-seed-park-will-drive-innovation>. The website also provides video links to the speeches made by Bill Gates and Chandrababu Naidu at the summit.

⁹² This is part of a national scheme advanced by the Ministry of Agriculture and Farmers Welfare, and more details are accessible at: <https://www.pradhanmantrivojana.org/2016/07/21/soil-health-card-scheme/>

on *Agricultural Development: Strategy Overview*,⁹³ BMGF defends its decision to support transgenics in the following way:

“We understand there are concerns about funding research into genetically modified crops, and we understand these concerns. We are resolute in our long-term commitment to working with grantees, governments, and farmers to ensure these new varieties effectively deliver the benefits intended and are safe for farmers, consumers, and the environment. Here are six reasons we fund research in this area.

- Transgenic approaches offer unique and promising solutions to farmers facing difficult growing conditions.
- These approaches could help improve the health of millions.
- New varieties will be affordable to small farmers in the developing world.
- Scientific research shows no confirmed cases of harm to human health or the environment.
- These crops offer direct benefits to people and the environment.
- Local involvement and farmer choice are project cornerstones.”

The Guardian's 2010 report highlights global concerns over BMGF purchasing “500,000 Monsanto shares worth around \$23m”.⁹⁴ More recently, it has been reported that the Foundation has controversially worked with Monsanto and the United States Government to pressurise Kenya to reverse its GMO ban.⁹⁵ Such disconcerting contradictions in policies and praxis of partners promoting CRZBNF does not appear to have been discussed as a cause for serious concern in any forum in Andhra Pradesh, and elsewhere.

Details about the scale of financial support extended by BMGF to CRZBNF, the MoU, and any other details about this collaboration is not shared on the websites of RySS, on BMGF or on those of any of the other collaborating agencies. No explanation is also provided on the consistency of BMGF's role in promoting natural farming when it is avowedly involved in support of introduction of GMOs in agriculture, it believes very strongly in supporting the advancement of research and spread of Gene edited high yielding varieties and it's massive investments in various agribusinesses (Monsanto/Bayer included) who have an avowed commercial interest in promoting agriculture based on GMOs, chemical farming and gene editing.

According to Vijay Kumar⁹⁶, BMGF is extending support to CRZBNF in establishing a “digital extension system by way of video production and dissemination through Digital Green Foundation”.⁹⁷ He confirms that “BMGF, Government of AP and Digital Green Foundation have entered into a tripartite MoU recently. Through this, we are producing video films on various aspects of ZBNF for training farmers. This support is coming from BMGF.”

Access to agro-biodiversity information by two foreign entities, one a foundation – BMGF and the other an international research and media consortium – Digital Green, without securing statutory clearances from the National Biodiversity Authority, constitutes blatant violation of the Biodiversity Act, 2002. Enquiries with the National Biodiversity Authority revealed that no application for permission has been made by any proponent of CRZBNF to access information on Andhra Pradesh's agrobiodiversity and associated traditional knowledge. It is thus plausible that this collaboration of RySS with BMGF and Digital Green is illegal, and in violation of the Convention on Biological Diversity.

⁹³ Bill and Melinda Gates Foundation, *Agricultural Development: Strategy Overview*, 2011, accessible at: <https://docs.gatesfoundation.org/Documents/agricultural-development-strategy-overview.pdf>

⁹⁴ John Vidal, *Why is the Gates foundation investing in GM giant Monsanto?*, *The Guardian*, 29th September 2010, accessible at: <https://www.theguardian.com/global-development/poverty-matters/2010/sep/29/gates-foundation-gm-monsanto>

⁹⁵ See, Monsanto, US, & Gates Foundation pressure Kenya to reverse GMO ban, 5th January 2016, accessible at: <https://www.rt.com/news/328014-kenya-gmo-us-gates-monsanto/>

⁹⁶ *Supra*, in interview given to HMTV.

⁹⁷ See more details about Digital Green's activities in India at: <http://www.digitalgreen.org/india/>

Gates' belief that Gene Editing is Good, the money flow and how that works with CRZBNF

In *Gene Editing for Good: How CRISPR could transform global development*, an essay by Bill Gates published in *Foreign Affairs*, he argues that massive investments are necessary to support gene editing for “accelerating research that could help end extreme poverty by enabling millions of farmers in the developing world to grow crops and raise livestock that are more productive, more nutritious, and hardier”. Responding to growing criticism over promotion of commodified, patented and proprietary production of seeds, now through gene editing, the health and environmental consequences of which are yet to be appreciated, Gates says, in this essay, “New technologies are often met with skepticism. But if the world is to continue the remarkable progress of the past few decades, it is vital that scientists, subject to safety and ethics guidelines, be encouraged to continue taking advantage of such promising tools as CRISPR”.⁹⁸

According to Jon Cohen of *Science* magazine, “Biologists hone their tools for deleting, replacing or otherwise editing DNA and a strategy called CRISPR has become one of the most popular ways to do genome engineering”. This technology utilises “a modified bacterial protein and a RNA that guides it to a specific DNA sequence”, and so “the CRISPR system provides unprecedented control over genes in many species, including perhaps humans. This control has allowed many new types of experiments, but also raised questions about what CRISPR can enable”. Given aggressive support for this technology from major agri-business corporations, “CRISPR is making it much easier to generate genetically modified animals and plants, creating new regulatory issues that scientists, agencies, politicians, and, ultimately, society must address”.⁹⁹ Gene editing is genetic modification, only that it does not involve transfer of genes across the species barrier.

This is a technology that directly concerns India, which is a growing consumer of imported foods, particularly from the United States. There has been widespread concern that such foods, such as corn flakes which is increasingly becoming staple diet in a growing proportion of metros, is a product of genetically modified corn, and that this is a backdoor entry of food GMOs in violation of a moratorium imposed by the Indian Environment Ministry. Currently, there are contentious debates over how the Food Safety and Standards Authority of India's (FSSAI) unwillingness to take a clear stand against such imports, instead arguing for merely labelling such foods as based on genetically modified organisms. In fact, Indian scientists have produced the country's first CRISPR based genetically edited banana, earlier this year. There are many unknowns about the health and environmental risks of this technology, and yet, genetically edited foods are already reaching the market. This is in large part due to the United States Department of Agriculture's position, according to Qrius, “that as long as any type of genetic alteration can be bred in a plant, it need not require any regulation. The recent order may just have opened up the floodgates for genome editing in India as well”.¹⁰⁰

Gates has invested heavily in CRISPR, as he very strongly believes that it can be employed as a mosquito-killing technology. In 2016, BMGF doubled its support for CRISPR based Target Malaria project bringing Gate's total investment to \$75 million, “the largest sum ever spent on gene-drive technology”, according to Genetic Literacy Project.¹⁰¹ While the United States is lax about

⁹⁸ Bill Gates, *Gene Editing for Good: How CRISPR Could Transform Global Development*, *Foreign Affairs*, May/June 2018 issue, accessible at: <https://www.foreignaffairs.com/articles/2018-04-10/gene-editing-good>. More information about CRISPR is available in Wikipedia at: <https://en.wikipedia.org/wiki/CRISPR>

⁹⁹ Jon Cohen, *CRISPR*, *Science*, <http://www.sciencemag.org/topic/crispr>

¹⁰⁰ Elton Gomes, *Genetically modified CRISPR'd food is now a reality; what does this mean for India?*, Qrius, 4th April 2018, accessible at: <https://qrius.com/genetically-modified-crispr-d-food-will-soon-be-sold-in-the-us/>

¹⁰¹ Antonio Regalado, *Rewriting Life: Bill Gates Doubles His Bet on Wiping Out Mosquitoes with Gene Editing. But the technology for extinguishing species is dividing conservationists*, MIT Technology Review, 6th September 2016, accessible at: <https://www.technologyreview.com/s/602304/bill-gates-doubles-his-bet-on-wiping-out-mosquitoes-with-gene-editing/>

regulating this technology with the same standards as are applicable to transgenic technology, the Court of Justice of the European Union ruled on 25th July 2018 that “gene-editing techniques are subject to regulations governing genetically modified crops. The ruling will limit gene-editing in Europe to research and make it illegal to grow commercial crops”. The German food industry, led by Bayer, is understandably unhappy with this decision. However, in the United States, markets are almost ready to receive the first gene edited food, High Oleic Soybean produced by Minnesota based start-up Calyxt.¹⁰² This new venture has been a pioneer in genetically edited food, which, it claims, is as good as natural food. The claim to being natural is not necessarily naïve or incidental; it is part of an overarching strategy to find niche markets and respond to growing consumer demands to eat healthy foods, safe foods and also diverse foods. Calyxt in its presentation¹⁰³ promotes genetically edited foods as an economically viable option as well, as it takes half the time (6 years) and cost to develop such foods when compared with bringing GMOs to the market which takes approximately 13 years and about \$130 million investment. The advantage for the company in promoting such products is that it “(w)ill have an exclusive worldwide license agreement .. in the field of researching, developing and commercializing seeds and food ingredients (excluding animals) for agriculture, feed and food applications”. This way the company claims it will contribute to the acceleration of traditional breeding with gene editing precision.

Warren Buffet’s Berkshire Hathaway Inc. is a major shareholder in the Bill and Melinda Gates Foundation. Buffet is also on the Board of BMGF¹⁰⁴, in addition to being close friends with Gates. Buffet’s investment firm is a major investor in Wells Fargo, which in turn has invested in Calyxt. Such cross-holdings are a typical feature in how global agri-business corporations expand their horizons for investment and profit. But how this matters to India is in Bill Gates’ acute interest in promoting “(m)odern plant breeding techniques, including DNA analysis” which he has said in the AP AgTech Summit “can double or even triple the annual increase in crop yields and lead to hardier varieties”. He is also a major votary of digitising data about agro-biodiversity, and BMGF has already financed with a grant Digital Green which is undertaking the task as part of CRZBNF. Gates has called upon Andhra Pradesh to “leverage local expertise in GIS and its world-class IT sector – along with low-cost commercial software and DNA testing services – to develop better varieties more quickly”.

The key question that arises is why Andhra Pradesh would promote ZBNF state-wide on an unprecedented scale, claim that this programme will have nothing to do with GMOs, when it is actively soliciting help and support from Bill Gates and BMGF who have made no bones of their support for transgenic and genetically edited GMOs - entirely proprietary and patented products. Bill Gates is keen to see the Mega Seed Park at Guntur take off, and is likely major to be a major investor in this project. For a state that wants to turn comprehensively to natural farming, gene edited foods and Mega Seed Parks should be big no. Contradictions apart, such policies promoted by Chandrababu Naidu Government come across as duplicitous. It appears to be a case of having a cake and eating it too.

¹⁰² [Adam Belz](http://www.startribune.com/roseville-gene-editing-firm-calyxt-announces-deal-with-soybean-processor/494629061/), *Roseville gene-editing firm Calyxt announces deal with soybean processor: The high-tech soybeans have been stripped of the gene that creates trans fats*. Star Tribune, 28th September 2018, accessible at: <http://www.startribune.com/roseville-gene-editing-firm-calyxt-announces-deal-with-soybean-processor/494629061/>

¹⁰³ *Making the Food you Love a Healthier Choice*, Calyxt Presentation, January 2018, accessible at: <http://www.calyxt.com/wp-content/uploads/2018/01/Calyxt-Investor-Presentation-January-2018.pdf>

¹⁰⁴ John Edwards, *This is What Bill Gates's Portfolio Looks Like*, Investopedia, 20th August 2018, accessible at: <https://www.investopedia.com/articles/markets/101215/what-bill-gatess-portfolio-looks.asp>

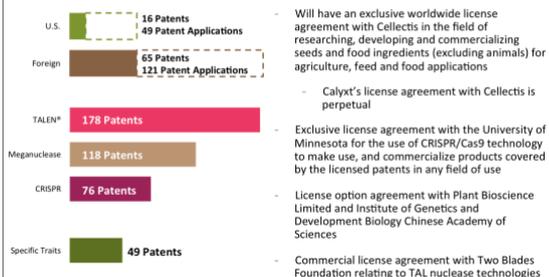
Gene Editing is a Paradigm Shift
Our Technology Allows Us to Address Both Consumer and Farmer Needs



14 Sourced from Calyxt presentation in 'Making the Food you Love a Healthier Choice'

Intellectual Property Overview

Broad patent protection in multiple technologies



- Will have an exclusive worldwide license agreement with Collectis in the field of researching, developing and commercializing seeds and food ingredients (excluding animals) for agriculture, feed and food applications
 - Calyxt's license agreement with Collectis is perpetual
- Exclusive license agreement with the University of Minnesota for the use of CRISPR/Cas9 technology to make use, and commercialize products covered by the licensed patents in any field of use
- License option agreement with Plant Bioscience Limited and Institute of Genetics and Development Biology Chinese Academy of Sciences
- Commercial license agreement with Two Blades Foundation relating to TAL nuclease technologies

5. Disconcerting secrecy and centralised decision making shapes CRZBNF

When scouring through reams of records such as in government orders, budget speeches, corporate reports, conference reports, reviewing tens of articles, releases, Twitter feeds and Facebook posts, and watching videos of speeches made by various promoters of this project, one gets the feeling that that so much is being said about CRZBNF, yet so little is actually communicated. Typically, such mega transitions should be undertaken following due diligence, studies relating to socio-economic feasibility and environmental impacts. From a review of the public records, none of these appear to have been undertaken.

Further, a deeply worrying aspect of this public programme is that Agreements and Memorandums of Understanding backing CRZBNF, including loan, grant, research and collaborative agreements, are barred from public review. In fact, in the particular instance of APPI-RySS MoU/Agreement, Sec 8 of the Right to Information Act, 2005 has been invoked to bar disclosure of information to the public at large. It is difficult to comprehend why such secrecy shrouds a public programme - which is about securing the interests of farmers and consumers anywhere.

Contrast this with Niti Aayog which has, in fact, placed a copy of all the MOUs it has entered into, and *suo moto* on its website¹⁰⁵. Besides, several state and central agencies, as also certain wings of the Judiciary which interface with the public in public programmes (such as Legal Services Authority), have *suo moto* shared Contracts and MOUs as part of their good governance process. Similarly, institutions like the World Bank, and various UN agencies, consider it a norm to place such documents in the public domain, as and when they are final. The United Nations Human Rights Council in 2011 endorsed the United Nations Guiding Principles on Business and Human Rights, and this makes it binding for UNEP to ensure that its documents supporting SIFF and CRZBNF are shared publicly once they are final.¹⁰⁶

¹⁰⁵ The MOUs entered into by Niti Aayog are accessible at: <http://niti.gov.in/mou>

¹⁰⁶ For a detailed discussion on the nature and implications of these Principles, see Wikipedia, accessible at: https://en.wikipedia.org/wiki/United_Nations_Guiding_Principles_on_Business_and_Human_Rights

European financial institutions who have adopted the Equator Principles¹⁰⁷ are required to proactively share a variety of information and reports in accordance with public disclosure and environmental and social review standards of the voluntary accord. BNP Paribas is a party to the Equator principles, and would need to adhere to voluntary disclosure standards of the Equator Principles.¹⁰⁸ The bank too has not shared its MoU with SIFF or any other proponent of CRZBNF.

When CRZBNF has become a model for replication nation-wide, it is disconcerting that this massive scaling up is being undertaken along with information blockades about the terms on which the transition will be affected. In particular, there is not much to suggest whether the State Legislature and Local Governments, particularly with the District Planning Committee¹⁰⁹, have been consulted and taken into confidence, as is mandated by the Constitution. Besides, studies conducted into the *modus operandi* of CRZBNF have been not been shared. For the most part, RySS website provides anecdotal evidence of success. It is difficult to imagine how the risks and insurance cover for this programme can be extended on the basis of such evidence.

In addition, there are various statutory norms that apply to such a programme. These are in the nature of the Right to Information Act, 2005¹¹⁰, Biological Diversity Act, 2002¹¹¹, Panchayats (Extension of Scheduled Areas) Act, 1996¹¹², Forest Rights Act, 2006¹¹³, Panchayat Raj Act, 1992¹¹⁴, and various laws relating to food and farming such as the Protection of Plant Varieties and Farmers' Rights Act, 2001¹¹⁵, Seeds Act, 1966¹¹⁶, and other related national and international laws.

Climate funding demands transparency

It is considered good governance practice to share MoU's/Agreements on climate financing with the public and to do so voluntarily. Standard procedure and statutory norms also require such documents to be placed in the public domain *suo moto*, in all public programmes. When there is hesitation or resistance to sharing such information, it has resulted in avoidable conflicts, and also avoidable controversies.

A 2018 study by Transparency International on *Safeguarding Climate Finance Procurement – National level procurement of the Green Climate Fund*¹¹⁷ states that “transparency and accountability in public contracting is essential to the effective delivery of climate change mitigation and adaptation projects, and in achieving long-term sustainable and transformational impact”. This especially when “globally, governments spend an estimated US\$9.5 trillion on contracts, with developing countries on average spending significantly higher proportions of their budgets than the global average

¹⁰⁷ Details of the Equator Principles, its working mechanisms and its details of its membership are accessible here: <http://equator-principles.com/about/>

¹⁰⁸ BNP Paribas' 2015 report on its compliance with Equator Principles is accessible here:

https://group.bnpparibas/uploads/file/2016_05_equator_principles_reporting_for_the_year_2015.pdf

¹⁰⁹ Brought into effect by the Constitutional 74th Amendment Nagarpalika Act in 1992, the District Planning Committee, composed of representation from Panchayats and Nagarpalikas in each district, is Constitutionally mandated for District Planning which, according to a Planning Commission Guidelines issues in 2006, is the process of “preparing an integrated plan for the local government sector in a district taking into account the resources (natural, human and financial) available and covering the sectoral activities and schemes assigned to the district level and below and those implemented through local governments in a state”. For more details see, *Guidelines for District Plans in the Eleventh Five Year Plan*, issued on 25th August 2006 by the Planning Commission of India, accessible at:

http://www.planningcommission.nic.in/plans/stateplan/sp_guideDP.pdf

¹¹⁰ Right to Information Act, 2005, is accessible here: <http://rti.gov.in/rti-act.pdf>

¹¹¹ Biological Diversity Act, 2002, is accessible here: <http://nbaindia.org/content/25/19/1/act.html>

¹¹² Panchayats (Extension of Scheduled Areas) Act, 1996, is accessible here: http://pesadarpan.gov.in/en_US/legislations

¹¹³ Forest Rights Act, 2006, is accessible here: <https://www.tribal.nic.in/FRA/data/FRARulesBook.pdf>

¹¹⁴ The Constitutional 73rd Amendment (Panchayat Raj Act), 1992 is accessible here:

http://www.ncrdp.org/file_upload/73rd%20and%2074th%20Constitution%20Amendment%20Act.pdf

¹¹⁵ Protection of Plant Varieties and Farmers' Rights Act, 2001 is accessible here:

<https://indiacode.nic.in/bitstream/123456789/1909/1/200153.pdf>

¹¹⁶ Seeds Act, 1966, is accessible here: <https://nsai.co.in/resource-seed-rules>

¹¹⁷ *Safeguarding Climate Finance Procurement – National level procurement of the Green Climate Fund*, Transparency International, 29th June 2018, accessible at: https://www.transparency.org/whatwedo/publication/National-level_GCF_procurement

through contracts with businesses for the delivery of basic goods and services”. The study finds that “in many cases, how these contracts are prepared and executed is, to a large extent, hidden from the public eye, allowing room for poor management and sub-standard delivery. Not only does this practice lead to corruption in the system but it also undermines the benefits that citizens should be deriving from such huge investment”.

In stark contrast to such expectations of voluntary disclosures that is statutorily mandated, partners in CRZBNF, be they agencies of the State of Andhra Pradesh, UN Agencies, international banks and financial institutions, transnational corporations, private foundations, etc., have not volunteered information about the fundamental nature of the programme and of ongoing efforts *suo moto*. As some secret documents that were accessed reveal, CRZBNF needs to fundamentally reorganise to ensure transparency and accountability are the pillars on which the programme is built and implemented.

Confidentiality clause bars information sharing

Through well-placed sources in Andhra Pradesh, a copy of the MoU and Agreement signed between APPI, Agriculture Department of Andhra Pradesh, and RySS was accessed and studied. A clause in the MoU, which was entered into on 8th February 2017¹¹⁸, states:

“All Parties agree that any confidential information received from the other Party will not be used otherwise than for the purposes of the Programme under this MoU or for the purpose of fulfilling a statutory, legal or regulatory obligation. In terms of section 8 (1) (d) of the Right to Information Act, 2005, RySS will keep confidential all information in the nature of commercial confidential information, trade secrets and intellectual property belonging to APPI and deployed in the Programme”.

The “Non-Publicity” clause in the MoU requires that:

“Neither Party shall divulge any information relating to the existence of this MoU and the Programme, furnish any details of thereof, advertise, issue any press release or use the other Party’s name in any format or make any other public announcement related to this MoU and the Programme, to any other person or entity, written or oral, without the prior written consent of the other Party”. (Emphasis supplied.)

The claim of “commercial confidential information” in a programme relating to natural farming is deeply disconcerting at multiple levels, particularly when read with clauses seeking sweeping exemptions from public disclosure of basic documents that shape CRZBNF. The explicit bar on divulgence of “trade secrets and intellectual property belong to APPI and deployed in the Programme”, brings to question how such rights can be claimed in a natural farming system where all information is intrinsically and implicitly *open source* and the system is based on sharing knowledge and material without any proprietary and patent claims whatsoever. This raises the question of whether or not hidden agendas were involved in including these clauses, as even the divulgence of the very “existence of this MoU and the Programme” by RySS, a government held public entity, is subject to approval from APPI, a privately owned company.

This secrecy is not only unnecessary but opposed to public policy as MoUs and Agreements entered into for promoting any public programme are intrinsically public documents. The MoU in fact states that “DoA, RySS and APPI are determined to improve the well-being of farm families by tackling the serious issues of low returns and high risks of the farmer cultivators. They are keen to

¹¹⁸ Memorandum of Understanding made in Guntur, Andhra Pradesh on 8th February 2017 between Department of Agriculture, Government of Andhra Pradesh; Rythu Sadhikara Samstha and Azim Premji Philanthropic Initiatives.

promote such initiatives that help farmer cultivators to reduce the cost of cultivation, to reduce risks, to increase their yields and to increase their price realisation". Which means and implies that the integral participation of farmers and consumers in shaping such programmes is fundamental to its success. Secrecy works to destroy such possibilities, as it only breeds suspicion, contempt, indifference and also resistance to the initiative.

In that context, it is difficult to comprehend how APPI could have laid a claim to "trade secrets and intellectual property", and considered CRZBNF information as "property" that belongs "to APPI". This when all information is about farmers and farming, their resources and their knowledge systems. In any case, this is information that statutorily needs to be protected and shared as per protocols evolved under relevant laws governing biodiversity and plant varieties, and also those protecting farmers rights and the right of tribals and forest dwelling communities. In any case, such claims are in stark contradiction to the cultural praxis of traditional farming in India, which is deeply vested in the sharing information of farming and also seeds, without attaching any monetary value.

APPI-RySS Agreement antithetical to the principles of ZBNF and RTI Act

The nature of the relationship between APPI and RySS is defined in an Agreement signed on 25th July 2017¹¹⁹. By this Agreement, both APPI and RySS are considered "principals in their endeavour to implement the Programme". The grantee RySS is required to constitute an Advisory Board to which "APPI will be invited to participate", and further, "APPI will be part of planning of the entire programme as well as its constituent elements, notwithstanding any part of the programme was funded by third party source". This would mean APPI plays a foundational role in overseeing all aspects of the CRZBNF programme, including those relating to its financing by international banks and transnational corporations, and interface with the public. In that sense, APPI accepts for itself a role of a public authority as per the RTI Act, 2005.

The Agreement acknowledges that wide ranging information will become available as a part of this Programme and that such "data will be available to APPI as well as the Grantee (RySS) in a range of platforms including digital platforms. The Grantee will ensure that APPI has viewing rights to all digital platforms that have been created as a part of the programme. Where APPI is required to have editing and administrative rights to these platforms, the Grantee will ensure that it is provided to the person authorised by APPI". In effect, what this clause suggests is that such information is privileged and is not in the public domain. Why would information about farmers and natural farming be enclosed in privileged information silos?

Another clause in the Agreement states that such information has been considered as a proprietary product and that "APPI shall have the right to make and disseminate additional copies of any such product (i.e. as explained earlier in the clause, any publication, audio or video, film or other media product produced by the Grantee), service or methodology developed or produced by the Grantee under this Grant". That any "product, service or methodology developed or produced by the Grantee" is termed as a proprietary product appears to be an obvious contradiction in the context of promoting ZBNF.

Such a claim to proprietary ownership of information, which is innately public in nature, becomes even more problematic when read with clauses in the Agreement relating to Intellectual Property. This is defined as "(a) All intellectual property made, developed, conceived, first reduced to practice, fixed in any tangible medium of expression or created by the Grantee or its Personnel (including, but not limited to, reports, data and design) during the term of this Agreement, must be

¹¹⁹ Agreement between APPI and RySS, dated 25th July 2017, concluded in Bangalore, and effective from 1st May 2017.

promptly disclosed to APPI (“Intellectual Property”). Having so defined Intellectual Property, the section proceeds to define ownership of this information as “(a)ll Intellectual Property developed by the Grantee, using the Grant Funds, will be jointly owned by the Grantee and APPI and the entire right, title and interest are hereby assigned jointly, to the Grantee and APPI, and both Parties may enjoy all rights and privileges accorded with the ownership of such joint property”. Having so established ownership of the information, the section proceeds to state that the “Grantee or its Personnel shall not publish, disclose or divulge the Intellectual Property produced in this Programme without prior written approval of APPI”.

It is not clear if Subhash Palekar is aware of the existence of such MoU’s and Agreements, and if he has consented to proprietary control of ZBNF, be they by public authorities or private agencies. This is important as his association with CRZBNF is projected on websites, publicity literature, press releases and in public events. It also calls to question if APPI or RySS can at all claim knowledge relating to food, farming and associated livelihoods, which is being actively collated by them and also other project partners, especially foreign entities such as BMGF, WAC, Digital Green, etc., as privileged and proprietary as part of the CRZBNF process. Needless to state, such MoUs and Agreements are unprecedented, and come across as a shocking contradiction to all that is being attempted. A crucial mandate of the CRZBNF was after all to free farms and farmers, and food production and consumers, from the vicious cycles of secrecy and proprietary controls which, it has been widely acknowledged, is at the root of destroying traditional and natural, food and farming cultures.

Is APPI a ‘public authority’ per the Right to Information Act?

Section 2 (h) of the Right to Information Act, 2005 defines ‘public authority’ as:

- “(h) “public authority” means any authority or body or institution of self- government established or constituted-
- (a) by or under the Constitution;
 - (b) by any other law made by Parliament;
 - (c) by any other law made by State Legislature;
 - (d) by notification issued or order made by the appropriate Government, and includes any-
 - (i) body owned, controlled or substantially financed;
 - (ii) non-Government organisation substantially financed, directly or indirectly by funds provided by the appropriate Government;”

Sec. 4 of the Right to Information Act demands *suo moto* disclosure by ‘public authorities’ of a variety of information pertaining to a public programme. While there is no doubt that RySS is a public authority, the question arises if APPI, as a grant giving agency to a public programme, and not as an agency that has received grants from the Government, is a ‘public authority’ under the RTI Act.

In *M.P. Varghese vs The Mahatma Gandhi University*, the Kerala High Court has held that held that “the applicability of the Act is not confined to bodies answering the definition of "State" under Article 12 of the Constitution of India” and thus it is not “necessary to advert to the Ajay Hasia’ case (supra) which lays down the tests to determine which authorities would fall within the ambit of "State" under Article 12 of the Constitution of India. Further, when the Act makes the same applicable to 'public authorities' as defined therein there is no need to give a restricted meaning to the expression 'public authorities' strait-jacketing the same within the four corners of 'State' as defined in Article 12 of the Constitution, especially keeping in mind the objective behind the Act. The definition of 'public authority' has a much wider meaning than that of 'State' under Article 12. Further, the definition of 'State' under Article 12 is primarily in relation to enforcement of fundamental rights through courts, whereas the Act is intended at achieving the object of providing an effective framework for effectuating the right to information recognised under Article 19 of the Constitution of India”.¹²⁰ The Chief Information Commissioner and various Courts have since expanded on the notion and meaning of ‘public authority’ since.¹²¹

In the RySS-APPI MoU/Agreement, the former has extended to the latter, and the latter has accepted, the right of ownership of information pertaining to CRZBNF, and also the right of acting as an Appellate authority in deciding on sharing of information with the public, and in a role that cannot be anything but as a ‘public authority’. Notwithstanding the possibility that such subordination by a public agency of its Constitutional obligations to act as a public authority to a private foundation is illegal, the fact remains that the intent of this contract is that APPI would be held as a public authority in its appellate role, per the MoU/Agreement and decide accordingly. It is in terms of this understanding and reading of the law that APPI was approached to divulge information about CRZBNF, which has been denied on the claim that “*APPI has no views/position on your concerns vis-a-vis CRZBNF*”.¹²²

Can APPI decide what RySS can divulge per the RTI Act?

While all information (data, design, documentation) collated, developed, and shared as part of CRZBNF by millions of farmers and innovators, is considered as proprietary knowledge and owned by APPI is problematic, and in fact unprecedented, what is equally, or even more, worrying is that APPI, as a private corporate body, has assumed the role of an appellate authority over RySS, a public agency, in regard to information per the Right to Information Act. This amounts to subordination of a public agency to a private corporation, on the one hand, and attacks the very purpose of the Right to Information Act, on the other. In this context, it becomes necessary to study the prevailing jurisprudence about access to information relating to human rights and environment. This is important because CRZBNF, admittedly, is a programme bound by normative, cultural and legal dimensions protecting life, livelihoods, and nature.

In a Right to Information access case filed on behalf of Environment Support Group, information relating to impact on human rights, environment and social conditions due to the massive promotion in Challakere, Chitradurga (Karnataka) of a defence-industrial-nuclear-solar infrastructure development, was sought. This was promptly denied by various project proponents, such as Defence Research Development Organisation, Bhabha Atomic Research Centre, Indian Institute of Science, Indian Space Research Organisation, etc. On appeal, the matter finally reached the Chief Information Commissioner.

¹²⁰ *M. P. Varghese vs The Mahatma Gandhi University*, In the High Court of Kerala at Ernakulam, 4th July, 2007, in W. P. No. 4668 of 2007(E).

¹²¹ See for instance, Shreya Saxena, *Comparative Study of Coverage of Public Authorities Under RTI In Different Countries*, Vivekananda Law School, Delhi, undated, accessible at: <https://cic.gov.in/sites/default/files/Comparative%20study%20of%20Coverage%20of%20Public%20Authorities%20by%20shreya.pdf>

¹²² Supra, email response of Ananth Padmanabhan, CEO, APPI.

Speaking for the Commission, Information Commissioner Prof. M. Sridhar Acharyulu held that *“it is absolutely irrelevant and nonapplicable the claim of the respondent authority that information sought is barred from disclosure under Section 8(1) (a) stating that it would impact the strategic security installations of the nation. How can informing about implementation of environmental protection order of NGT affect the security of the country? ... The Commission records its displeasure.”* (Emphasis supplied). The Commission then directed the project proponents and other statutory and regulatory agencies to provide the information sought, and also imposed penalty.

Read in this context, the case of the APPI-DoA-RySS MoU, and the associated Agreement, to not divulge information claiming it is sheltered by Sec. 8 (1) (d) of the RTI Act, is not merely tenuous, but is unnecessary, and grossly unjust. Sec 8(1)(d) of the Act reads as follows:

“(d) information including commercial confidence, trade secrets or intellectual property, the disclosure of which would harm the competitive position of a third party, unless the competent authority is satisfied that larger public interest warrants the disclosure of such information;” (emphasis supplied)

From a bare reading of this clause, it becomes clear that laying a claim to a non-disclosure right on “commercial confidence, trade secrets or intellectual property” can be made only when there is potential “harm” that can possibly be caused to the “competitive position of a third party”. The entire CRZBNF programme is based on benefiting millions of farmers and consumers by cultivating safe and healthy food, protection of farmers and farmlands from contamination and degradation, safeguarding against the consequences of climate change, building health, ecological and economic securities, by employing techniques, farming practices, seeds and the cultures from cow urine, which are open source knowledge. It is difficult to see how such aspects can at all be termed as confidential. Given that Andhra Pradesh’s efforts in promoting ZBNF is a model for emulation in Karnataka, Himachal Pradesh, the country, and the world over, such secrecy forms a deeply troubling aspect of this programme. In all likelihood, the proprietary control claimed over information that is now in the commons, could potentially destroy the very essence of Zero Budget Natural Farming.

When an earlier draft version of this paper was circulated, a not so trivial observation made was that there is no way to communicate with RySS as the organisation’s contact address was not available in public domain, including in its website. Besides, there was abject violation of Sec. 4 of the RTI Act, which requires every public authority to *suo moto* provide a variety of details of the organization: its functioning, duties, powers; directory of its offices, officers and employees; “statement of the categories of the documents that are held by it or under its control”; minutes of meetings that it has held, remunerations extended to the officers of the organization; information regarding budgetary allocations; “manner of execution of subsidy programmes, including the amounts allocated and the details of beneficiaries of such programmes”; “particulars of recipients of concessions, permits or authorisations granted”; “details in respect of the information, available to or held by it, reduced in an electronic form”; “the particulars of facilities available to citizens for obtaining information, including the working hours of a library or reading room, if maintained for public use”; and “the names, designations and other particulars of the Public Information Officers”.

Thus constrained from a lack of access to even basic information of the organization and its functioning, the following tweet was sent by this author to the RySS Twitter account, which remained at that time the only way to communicate with RySS.

“I request all information, MOUs, Agreements, Contracts, etc. relating to @ApZbnf and it’s collaborations with @SIFFIInd @UNEP_FI @UNEnvironment @BNPParibas @CMofKarnataka & any other private or public foundations be placed in the public domain. @subhash_palekar @laviacampesina”¹²³

¹²³ Tweet sent on 2nd August 2018.

Towards the end of September 2018, RySS has instituted an office of Public Information Officer, shared details about how to apply for information, and also provided an address and other contact details of the organisation. Besides, it has now put out some information on the operational details of CRZBNF and addressed some of the concerns raised. Vijay Kumar, in response to criticisms raised, has also been open to a dialogue on the programme. While the Memorandum of Association of RySS has been shared online, along with a Government Order constituting the body, it is yet to share MoUs/Agreements, Minutes of Meetings, and various other details *suo moto*, per Sec. 4 of the RTI Act.

In contrast, APPI has not shared any information or issued any clarification. However, it has been now made known in a public forum, by a non-APPI person, that these MoUs/Agreements have been amended.¹²⁴

Implications of secrecy and centralisation in decision making of CRZBNF

About the power of data gathering, historian and author Yuval Noah Harari says in an April 2018 Ted Talk¹²⁵ that, in “ancient times, land was the most important asset in the world. Politics therefore, was the struggle to control land. Now data is replacing both land and machines as the most important asset. Politics become the struggle to control the flows of data. And dictatorship now means that too much data is being concentrated in the hands of the government or of a small elite”.

When Satya Tripathi’s defence for not sharing the MoU/Agreements signed by UNEP, BNP Paribas and World Agroforestry Centre in constituting SIFF, and of SIFF entering into similar MoU/Agreement with Andhra Pradesh Government and other sub-national, national and international partners, is also considered in this context, including the fact that they are claimed to be based on “non-disclosure clauses”, it becomes essential to enquire if such claims are in conformance with applicable national and international statutes, good governance practices, and jurisprudence of the day. Most importantly, whether such a stand is consistent with the UN’s professed commitment to support deeply democratic processes based on transparency and accountability. In a programme that is about food and farming, and associated rights which are fundamental to citizenship, such questions acquire a particular significance. Equally critically, it raises serious concerns over the long term and short term implications of such highly centralised and opaque decision making relating to core financial and governance powers of the functioning of CRZBNF. There then is the question of the legality of exporting statutory appellate powers to non-statutory entities, as is the case with RySS’ subordinating its obligatory function to share information with the public, as per the RTI Act, to the appellate review of APPI, which is a private corporation.

Throwback to a colonial legacy of secrecy in public administration?

Secrecy in decision-making is antithetical to traditional farming systems of India. During the colonial period, secrecy and associated centralization of political and economic power was employed

¹²⁴ In a clarification that was offered by Kavita Kuruganti, Convenor of Alliance for Sustainable and Holistic Agriculture (ASHA), in an email to the public ASHA list, she argues in favour of APPI saying “I do think that APPI and RySS were pretty careless about the MoUs they got into and some things were avoidable in these discussions if only they were paying attention. I hear that once pointed out, the offensive and objectionable clauses have been removed in the APPI-RYSS-GoAP MoU. To me, that story is over now. I hope that RySS will put out the MoUs proactively in the public domain.” What is not clear is how Kuruganti was able to access this level of information about the amendments of the RySS-APPI MoUs/Agreements, which both parties have staunchly refused to divulge to anyone. In fact, the persistence of this author in seeking clarification from APPI about this matter resulted in his email being blocked. As a matter of fact, requests that these MoU/Agreements be made public has been consistently ignored.

¹²⁵ See Yuval Noah Harari’s Ted Talk on *Why fascism is so tempting -- and how your data could power it*, delivered via hologram in the April 2018 Ted Conference in Vancouver, accessible at: <https://youtu.be/xHHb7R3kx40>

as a very effective tool to subordinate the massive, diverse and highly productive south Asian region. Public administration tools were invented to economically monopolise and extract from south Asia's extensive resource base and extraordinary range of skills, to advance the interests of the British Raj. Shashi Tharoor explains in *An Era of Darkness*¹²⁶, that such methods of administration resulted in the brutal dismemberment of farming and artisanal traditions that flourished before the arrival of the East India Company in India. Before the company's domination of the region, India contributed over a quarter of global wealth in GDP terms. So brutal was the impact of colonial policies based on secrecy and control of information and material flows, that when India became independent, about 250 years later, her contribution to global GDP was a meager 2%.

While the country was being rebuilt during the post-independent period, transparency and accountability in public functioning were the hallmarks of administration. Much was achieved in the process, given the extraordinary fervor with which the country was guided by the phenomenal honesty and skills of the leaders who governed the nation. Decentralizing public administration and devolving power to local governments was intended, but never delivered in a functional sense, however. This resulted in the centralization of decision making especially in decisions relating to farming and food production that affected a majority of the population. Gandhian economist J. C. Kumarappa was troubled by such methods of governing the farm and the farmer. He warned in his essay on *Gandhian Economic Thought* that "the Government and the consumer together rob the rural population. That is what is happening. They actually rob it in this sense that it has no relationship to the actual production either. This thing had been done in the British regime and the same thing is going on today". In order "to protect the farmers from exploitation and ensure their needs being met" he advocated a "scheme called 'balanced cultivation'".¹²⁷

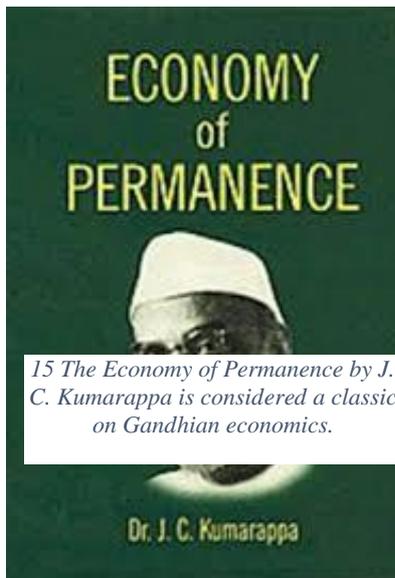
In *The Web of Freedom*, which is an exhaustive account of Kumarappa's and Gandhi's struggles for economic justice, Venu Madhav Govindu and Deepak Malghan argue that for Kumarappa, "the key modern economic crisis was the delinking of production and distribution and could only be remedied by placing 'the buyer and seller on an equal footing'. It was only if the goods produced by the masses were consumed that one could expect a better distribution of wealth in society. The money economy had resulted in a long chain of links between the producer and the consumer with most of the profits being siphoned off by intermediaries. By encouraging consumption within a local region, this problem would be addressed and this would also halt the flight of wealth out of a region. Ideally, the dominance of money could be removed if one could trade in goods, but in a complex economy such barter was impracticable. Nevertheless, the spirit of equity inherent in a barter

¹²⁶ See for instance, Shashi Tharoor, *An Era of Darkness*, Aleph Book Company, 2016.

¹²⁷ J. C. Kumarappa, *Gandhian Economic Thought*, Sarva Seva Sangh Prakashan, Varanasi (Undated), accessible at: <https://www.mk gandhi.org/ebks/Gandhian-Economic-Thought.pdf>

economy could be retained if one could 'reduce the chain of exchange and bring the producer and consumer together'.¹²⁸

ZBNF advocated by Subhash Palekar is inspired by Mahatma Gandhi and his approach to farming, food production and economics. It is not dissimilar to what Kumarappa promotes as 'balanced cultivation'. In his typical way, Palekar explains why Green Revolution, and such centralised farming methods, are antithetical to the philosophical basis and methods of what he also calls Zero Budget *Spiritual* Natural Farming (emphasis supplied). Palekar argues: "There are some persons in this world, who want to increase their wealth without fatigue. They want to see



themselves at the top. But the God has not given them creation power. It is in the hand of nature. How they will increase it, if they cannot create the wealth. That means if they want to increase their wealth then they have to rob or exploit someone. And that happened. They choose the way of exploitation to increase their wealth. But where there is creation, there only one can exploit. And the creation is in Agriculture only, not in the industries. Therefore, exploitation can be done in agriculture only. If we are seeding a grain of sesame, we get four thousand grains of sesame from that plant. If we are seeding a grain of paddy, we get thousands of grains of paddy from that plant. So here is the creation and hence exploitation. Exploitation is in agriculture only, not in the industries. Because in the industries, there is no creation but the transformation process. If you want to produce any product and for it if you are feeding hundred kilograms of raw material to the machine, then the final product from the machine will not be of 100 kilogram. It will be of 98 or 95 kilogram. So here is decrease

and where there is decrease exploitation cannot be there. Exploitation can only be of the agriculture and rural economy. Therefore, they created an exploiter system named as Green Revolution."¹²⁹

Perceived in this context, CRZBNF appears to be governed in a manner that is quite opposed to the principles of ZBNF, and the broader agro-ecological systems of farming. Course correction now would be essential if this programme is to be evolved to truly respond to the needs of farmers and consumers, in providing just production systems and also safe and healthy foods, which are also economically viable to the producer and consumer both. The methods of digitising data which could be potentially controlled by foreign organisations and could potentially be exploited for proprietary gains, is a risk that is worth attacking frontally now. Equally crucially, it is necessary to demonstrate that the programme is in compliance with all laws of the land, in particular those that protect agro-biodiversity and associated traditional knowledge, given that world over there is extensive evidence of such programmes being a mechanism for biopiracy and bio-loot, which could serve a deathly blow to the ecological, health and economic security of the nation.

¹²⁸ Venu Madhav Govindu and Deepak Malghan, *The Web of Freedom: J. C. Kumarappa and Gandhi's Struggle for Economic Justice*, Oxford University Press, 2016, p. 117.

¹²⁹ More details about ZBNF propagated by Subhash Palekar may be accessed here: <http://palekarzerobudgetspiritualfarming.org/home.aspx>

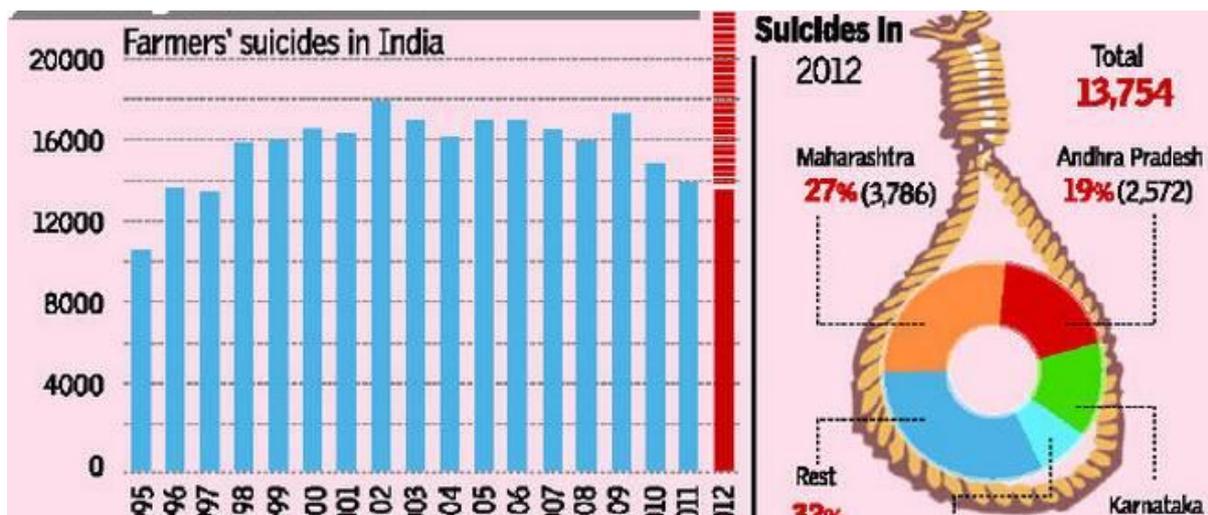
6. Learning from the mistakes of the Green and Gene Revolutions

The multiple crises of the 1960s particularly fear of shortages of food supply and famine, paved the way for the Green Revolution. This was a centrally driven programme and propagated with an industrial zeal across India. It was based on promotion of a variety of proprietary high yielding crops backed by a package of industrially produced chemical pesticides and fertilisers. In subsequent decades, India's agriculture and food production systems became aligned with governance mechanisms that backed Green Revolution. In the process, the farmer was reduced to the status of a consumer of decisions made by far removed and highly centralized agencies - a consumer without much, or any, choice at all. The Principle of Free, Prior and Informed Consent,¹³⁰ which now is widely discussed and applied as fundamental to securing agrarian justice, was not central to decision making in times when Green Revolution was conceived and propagated. In later decades, Indian agriculture came under the influence of the biotech revolution, which was also shaped by centralized decision making and secrecy for the most part.

According to Ian Scoones, centralization of decision-making was key to the transition from 'Green Revolution to Gene Revolution'¹³¹ which he says is designed to promote corporate profit from farming and control over food production. Patenting and proprietary control of products form the cornerstones of such corporatised strategies. These are often backed by complex technological support systems which enslave rather than liberate farmers. Such commodification and corporatization of food production systems are also associated with biopiracy and bio-loot of indigenous genetic wealth, and associated traditional knowledge. All this has contributed to the forfeiture of thousands of varieties of traditional seeds and farming practices, eroded seed sovereignty, as well as the compromising and/or destruction of associated traditional knowledge systems that evolved over thousands of years. The health and environmental implications of such chemicalized farming systems is now increasingly a matter of global concern, and is also a subject of consumer and class action suits world over.

¹³⁰ For a detailed discussion on the critical importance of the Principle of Free Prior and Informed Consent to agrarian justice, see, Jennifer Franco, *Reclaiming Free Prior and Informed Consent (FPIC) in the context of global land grabs*, published by Transnational Institute for Hands off the Land Alliance, 2014, accessible at: https://www.tni.org/my/file/1484/download?token=PVz89_Da

¹³¹ This phrase is also the title of a chapter in Ian Scoones, *Science, Agriculture and the Politics of Policy – The Case of Biotechnology in India*, Orient Longman, 2006, a book that discusses in details the history of the rationalization of Green Revolution in India.



16 Sourced from an article entitled "2/3rd of farm suicides take place in 4 cotton-growing states". The cotton grown in India today is overwhelmingly B.t.cotton. Source: The Hindu Business Line

Various studies by academic organisations, government appointed committees, media houses and peoples movements and networks reveal that such commodification, industrialisation and financialization of agriculture in India has made farming economically unviable, contributed substantially to indebtedness of the farming community and weakened dependence on farm based livelihoods. A direct result, it has been held, is the tsunami of farmers suicides - over 350,000 farmers have killed themselves since 1995, as per official figures, and in India alone. Journalist P. Sainath contends this figure saying it is the outcome of massaging data to keep numbers low, in effect denying even compensation to families who have lost their loved ones and breadwinners. These suicides are not an outcome of poverty, as the "bulk of those suicides (are) occurring amongst cash crop farmers", says Sainath. The causative factors are "issues of debt, rising input costs, water-use patterns, and severe price shocks and price volatility".¹³²

It is in this context that ZBNF has been heralded as a big step away from violence against nature and humanity that the prevalent forms of industrialised, commodified, financialised and chemicalized agriculture commit. To ensure that food production and consumption must remain life and livelihood enabling forever, and do not become victims to corporate takeover and profiteering, people are organizing and demanding that farming decisions must be transparent and democratically accountable. Secrecy in decision-making is thus in contradiction to any intent of promoting farmer and consumer empowerment. The lack of democratic planning and governance of CRZBNF in Andhra Pradesh, is thereby a disconcerting contrast to the expected transparent and accountable system that would allow for producer, consumer and environment friendly food production that is so desperately required the world over.

Confusing signals in scaling out of CRZBNF beyond Andhra Pradesh

Karnataka has already decided to follow in the footsteps of the Andhra Pradesh ZBNF model. Chief Minister H. D. Kumaraswamy, who also holds the Finance portfolio, announced a Rs. 50 crores budgetary allocation to propagate ZBNF.¹³³ In his special Budget speech of July 2018 Kumaraswamy provided the basis for this decision:

¹³² P Sainath, *Have India's farm suicides really declined?*, BBC News, 14th July 2014, accessible at: <https://www.bbc.com/news/world-asia-india-28205741>

¹³³ Karnataka Budget, 2018-19, presented by Chief Minister H. D. Kumaraswamy on 5th July 2018, accessible at: <http://finance.kar.nic.in/bud2018july/BudSp2018-19July-E.pdf>

“Farmers have been driven to debts because of increasing price of agriculture inputs, uncertainty



17 Karnataka Chief Minister H D Kumaraswamy receiving Vijay Kumar of RySS. Dr. Subramanya, Advisor to Kumaraswamy looks on.

of rains and fall in farm produce prices. I have been seriously thinking about how farmers can be saved from this situation. It is my desire that farming should be profitable to farmers and people should get healthy food. It is my belief that Zero Budget Natural Farming being implemented in Andhra Pradesh will be useful to farmers. Under this system, farmers do not use farm implements brought from the market. In the background, of this farming system having become successful, efforts are required to be made to adopt Zero Budget Natural Farming in Agriculture and Horticulture departments of the State. UNEP has come forward to give technical assistance through Sustainable India Finance Facility. I am allocating an amount of Rs.50 crore

for this programme.”

Karnataka has decided to take to ZBNF only after thorough investigation of the viability of this method, and its validation by a network of agricultural universities and farming networks across to the state. It has also decided to ensure that the programme is not driven by parastatals, as in the case of Andhra Pradesh. Instead, it is driven by a bottom up planning approach governed by the Agriculture Department. Towards this end, the State has initiated various steps following the Chief Minister’s budget speech promoting ZBNF, and issued an order to this effect in September 2018¹³⁴.

Niti Aayog has also promoted the AP model for adoption by all Indian states, with its Vice Chairman Rajiv Kumar describing the approach as a “paradigm shift” away from water and chemical intensive farming that substantially reduces the demand for energy and is highly productive while still being based on local seeds. He has even advocated that every state must immediately initiate steps to adopt ZBNF, so that this farming practice may become systemic to Indian agriculture in no time.¹³⁵

However, Niti Aayog is also propagating the use of gene edited and transgenic GMOs in Indian Agriculture. In a major policy statement, Niti Aayog has held that “There is some concern that GM seeds can be monopolised by multinationals, which may then exploit farmers. But this concern is readily addressed by limiting GM seeds to those varieties discovered by our own institution and companies.”¹³⁶ It appears that Niti Aayog is keen on obfuscating the issue further, as is evident in its support for the XIV Agricultural Science Congress to be held in New Delhi during February 2018,¹³⁷ of which Niti Aayog is a major sponsor. In this Congress, all major agri-business corporations, such as DuPont, Bayer, Mahyco, etc., are provided opportunities to promote their products and services, including their active roles in pushing through the release of GMO foods in India. Leaders of these companies are also listed as key speakers in the Congress. Clearly, this doublespeak by Niti Aayog,

¹³⁴ Order of the Commissioner of Agriculture, Dept of Agriculture, Government of Karnataka, dated 17th September 2018, No. UkKiNa/SaKsp/ZBNF/PaVya/2018-19

¹³⁵ See a 9th July 2018 Doordarshan report of a speech made by Rajiv Kumar, Vice Chairman of Niti Aayog, to Principal Secretaries of Agriculture Departments of all States and Union Territories, accessible at: <https://youtu.be/KdrKaVPINi8>

¹³⁶ Niti Aayog backs local GM crop policy, Reuters, 27th April 2018, accessible at: <https://in.reuters.com/article/india-gmo/niti-aayog-backs-local-gm-crop-policy-idINKBN17T0EE>

¹³⁷ See detailed programme of XIV Agricultural Science Congress: Innovations for Agricultural Transformation, 20-23 February 2019, accessible at: <http://14agricongress2019.in/technical-sessions.php>

on the one hand promoting ZBNF country-wide, and at the same time promoting the interest of global agri-business corporations and GMOs, is questionable.

Learning from the failures of ‘Green Revolution to Gene Revolution’:

When Green Revolution was launched, farmers across the country were asked to drop their centuries old traditional natural farming practices and embrace the cultivation of high yielding varieties, particularly of wheat and rice. This transition was backed by a massive propaganda exercise and given technical and administrative thrust by Indian Council for Agriculture Research (ICAR). The Green Revolution, it was claimed, involved scientifically advanced farming and further, that it would help close the demand-supply gap in food production, and assist in permanently securing India from persistent famine and food shortages. Various international agencies such as the World Bank, International Rice Research Institute (IRRI), Consultative Group on International Agricultural Research (CGIAR), Food and Agriculture Organisation (FAO), and International Fund for Agriculture and Development (IFAD), as also private foundations like the Rockefellers and Ford Foundation, invested heavily in this transition. Extension of credit, transfer of technology, development of a network of centres to produce high yielding variety seeds, a farm extension network developed to assure material and information flow between the highly centralised ICAR all the way to the Block Development Officer at a sub-district level and beyond, were all part of a package that backed farmers nation-wide.

C. Subramaniam, the Indian Agriculture Minister when the Green Revolution was introduced, during the mid 1960s, curiously articulated the vision for this transition as that which would “reduce the growth of human population and increase the density of plant population”¹³⁸¹³⁹. B. P. Pal, who then was the ICAR Director, articulated the vision in a more nuanced manner. Pal held that the “present stagnation on the agricultural front, which is primarily due to the technical backwardness of our agriculture, will be broken only through the intensification of agricultural research.” He argued that “(i)t is only through the adoption of science and technology that we would be able to transform agriculture from predominantly a traditional way of life to an industry... This is crucial to the success of agricultural plans and the growth of the national economy as a whole [and will require a] well-knit, coordinated and integrated system of agricultural research, education and extension in the country”.

Major production centres of pesticides, herbicides, fertilisers, and other agrochemicals, which were essentially petrochemical derivatives, sprung up all over the country to support the nutrient demands of high yielding varieties. The extensive coverage of farmland with chemical pesticides was of critical importance to suppress natural pests that would eat into the yields. Water demands for this form of agriculture was high and this demanded the development of massive irrigation systems to extract water from rivers and ground water aquifers. The pitch was to maintain high yields and minimise losses. To support this, farm mechanisation was also aggressively promoted backed by massive advertising and training efforts. In addition, there were various schemes introduced to direct the Indian farmer and farms to adopt ‘modern’ methods of farming. There was a clear emphasis on shifting away from reliance on livestock, and instead utilise tractors and tillers to enhance production of food grain. All of these interventions were backed heavily by subsidies and incentives, which in turn were supported by money borrowed from the World Bank and other multilateral and bilateral agencies. In addition, loans were extended by nationalised and regional banks, and also farmer cooperatives, directly to farmers. Finally, a massive network of agricultural universities and research

¹³⁸ Seshia, Shaila, and Ian Scoones. “Tracing Policy Connections: the Politics of Knowledge in the Green Revolution and Biotechnology Eras in India.” www.ids.ac.uk/files/Wp188.pdf.

¹³⁹ Ian Scoones, *Science, Agriculture and the Politics of Policy – The Case of Biotechnology in India*, Orient Longman, 2006

centres were also developed by the Government to promote Green Revolution techniques and technologies.¹⁴⁰

With such heavy investment in this transition by the government, major policy shifts took place. Substantial pressure from the World Bank, UN agencies and private foundations compelled India to open up its agricultural economy -which was largely run by the public sector- to massive investments by global transnational corporations and agribusinesses. Companies like Union Carbide, Bayer, BASF, Caterpillar, and later Monsanto and DuPont were welcomed to establish production facilities in India with policies that encouraged technology transfers and research centres. Needless to state, the profit motive of these corporations were assured in this heavily chemicalised and mechanised agriculture, based on proprietary and patented technologies. To offset the burden on the farmer, a variety of State run enterprises also emerged to meet increasing demands of agricultural pesticides, fertilisers, seeds and farm equipment. This paved the way for the emergence of Indian private sector's investment in, and expansion of, Green Revolution technologies. This network and infrastructure was to be later drafted in support of the evolution and expansion of the biotech revolution.

Green Revolution did help close the then prevailing demand-supply gap in food production. Ian Scoones¹⁴¹ reports that "(t)otal production of food ...wheat and rice increased seven and three times respectively over the period between 1960-61 and 2000-01, with major gains being realised through yield increases, doubling in rice and tripling in wheat. The low agricultural growth of the early 1960s was boosted to annual rates of increase of about 5 per cent in the period from 1970 until the mid-1980s, when gains tailed off."¹⁴² The spurt in growth was replaced with a miserable collapse in agricultural productivity, and indebtedness of the farmer, indicated in the epidemic of farm suicides.

In an early assessment of Green Revolution (1971), T. K. Oommen¹⁴³ argued that it had created a very complex situation, fuelling violent responses even. In what turns out to be a prescient observation, he suggested that one needs to look beyond the widely accepted critique of Green Revolution which "has been (that it is) mainly production-oriented and the problem of distributive justice has remained unattended to", that "the fruits of the 'green revolution' are pocketed mainly by the rich and prosperous farmers and the disparity between them and the have-nots, particularly landless labourers, has increased" and also that "the increased disparity has led to a sense of deprivation among the weaker and poorer agrarian classes and their frustrations are manifest in agrarian tensions, occasionally leading to eruption and violence". Even though historically "the economically poor in rural India were ..socially under-privileged and politically helpless, and their aspirations therefore remained frozen", Oommen argued that Green Revolution reaffirmed such structural injustices and created conditions for the "political mobilization" of farmers. At that time Naxalism had gained ground in West Bengal, and Oommen alerted that unless the State took positive action to get to the root causes of the agrarian distress, more of such violent uprising would follow.

Ernest Feder¹⁴⁴ analysing Green Revolution in 1976 found that despite massive transfers of capital and technology from the industrial nations to 'third world agriculture', it had failed its objectives. Instead, he argued, it "sharply increased concentration of land ownership, massive dispossession of small-holders, proliferation of landless workers, rural unemployment, poverty,

¹⁴⁰ A fairly comprehensive introduction to *Green Revolution*, is available on Wikipedia, and is accessible at: https://en.wikipedia.org/wiki/Green_Revolution

¹⁴¹ For a detailed discussion of the history of the rationalization of Green Revolution in India, see, Ian Scoones, *Science, Agriculture and the Politics of Policy – The Case of Biotechnology in India*, Orient Longman, 2006. The quotes of Subramanian and Pal are in the chapter on *From 'Green Revolution' to 'Gene Revolution'*, at page 25.

¹⁴² *Ibid.*, p. 26.

¹⁴³ T. K. Oommen, *Green Revolution and Agrarian Conflict*, Economic and Political Weekly, A-99, June 1971

¹⁴⁴ Ernest Feder, *McNamara's Little Green Revolution: World Bank Scheme for Self-Liquidation of Third World Peasantry*, Economic and Political Weekly, April 3, 1976, accessible at: https://www.epw.in/system/files/pdf/1976_11/14/mcnamaras_little_green_revolution.pdf

hunger, and increase in domination of the multinational concerns over production and distribution of agricultural products and inputs”. So serious were the disturbances that this transition caused, that the World Bank, under the leadership of Robert McNamara, was compelled to propose a “little green revolution” which was intended at helping the rural poor, and also as a political face saving measure. But it only succeeded in being perceived as an effort to take away attention from the “disastrous failure of the much propagandised big green revolution”.

A decade later, D. N. Dhanagare¹⁴⁵ found that “all available statistics indicate greater and greater immiseration and pauperisation as the green revolution technology package has spread in different parts of India. Studies on poverty measured by per capita expenditure and consumption of calories in India, further expose the hollowness of claims often made by planners and protagonists of the green revolution”. On this assessment he concluded that “(w)ithout some rethinking on development strategies for basic changes in the system, rural inequalities would not be reduced let alone removed”.

Vandana Shiva writing in *The Violence of the Green Revolution*¹⁴⁶ held that Green Revolution as an agrarian programme was “heralded as a political and technological achievement -- unprecedented in human history”. But this “supposedly nonviolent revolution has left lands ravaged by violence and ecological scarcity”. In this book she provides a close look at the “devastating effects of monoculture and commercial agriculture” that the Green Revolution spread across India. As the “invisible ecological, political and cultural costs of the Green Revolution have become visible” Shiva observes that the adverse impacts have been manifold. “At the political level, the Green Revolution has turned out to be conflict-producing instead of conflict reducing. At the material level, production of high yields of commercial grain have generated new scarcities at the ecosystem level, which in turn have generated new sources of conflict”. Shiva argues that the Punjab violence that followed should be understood taking into account “this multi-dimensional context of ecological and cultural disruption” that the Green Revolution caused. She holds such centralised, corporatised and technologised interventions as responsible for the disturbance of social order “at the level of tactical and overt violence, at the level of real and perceived conflict, and at the level of ecological and political vulnerability and insecurity”.

¹⁴⁵ D. N. Dhanagare, *Green Revolution and Social Inequalities in Rural India*, Economic and Political Weekly, Vol. XXII, Nos. 19, 20 and 21, May 1987, accessible at: [https://www.epw.in/system/files/pdf/1987_22/19-20-21/green revolution and social inequalities in rural india.pdf](https://www.epw.in/system/files/pdf/1987_22/19-20-21/green%20revolution%20and%20social%20inequalities%20in%20rural%20india.pdf)

¹⁴⁶ Vandana Shiva, *The Violence of the Green Revolution: Third World Agriculture, Ecology, and Politics*, University Press of Kentucky, 2016



*18 Farmers frustrated by the lack of effective action by the Government in addressing farming crisis, are increasingly responding with massive protest marches. This picture is from the farmers march to the Parliament organised by affiliates of Communist Party of India (Marxist) on 5th September 2018. Over 100,000 farmers participated.
Source: People's Archive of Rural India*

During colonial rule centralised decision-making was the norm and fundamental to the imperial needs of the British Empire. This public administration policy in the latter part of the 19th century came to be known as the Mayo Doctrine¹⁴⁷. However, the political circumstances for decisions advancing Green Revolution and biotechnology, and the introduction of transgenics during the 1990s, were quite different. As Shiva reports, the Green Revolution was the outcome of ‘unprecedented control of the environment facilitated by a high-level technology’; it was conceived within an “orthodox view of scarcity and violence”, in which both the Right and the Left participated. Across the political spectrum “Capital accumulation through appropriation of nature is seen ... as a source of generating material abundance, and through it, conditions of peace.” The promised peace instead has produced extensive violence, and so, Vandana Shiva suggests, there is now a fundamental need to comprehensively rethink India’s agricultural strategies.¹⁴⁸

The Green Revolution also served a devastating blow to the conservation of India’s rich and diverse farming traditions. With universities, farm extension programmes and research centres predominantly focused on promoting Green Revolution techniques, there was hardly any emphasis on conserving indigenous seeds, agrobiodiversity and knowledge associated with India’s age old farming systems. As a consequence, precious knowledge of traditional farming systems which had

¹⁴⁷ For a discussion on approaches to governance advocated by Lord Mayo in 1870 and then by Lord Ripon a decade later, both Viceroys of the British Empire to India, see, W.S. Seton-Karr, *Lord Ripon’s New India Policy*, 1 *The National Review*, 208-223 (1883); see also Benjamin Weinstein, *Liberalism, Local Government Reform, And Political Education In Great Britain And British India, 1880–1886*, 61 *The Historical Journal*, 181-203 (2018) accessible at: <https://www.cambridge.org/core/journals/historical-journal/article/liberalism-local-government-reform-and-political-education-in-great-britain-and-british-india-18801886/641525816F5D286E5A95D615209EA480>.

¹⁴⁸ Vandana Shiva, *supra*.

accumulated over centuries and had been preserved, protected and carried in local folklore, oral histories and praxis, were lost forever. Thousands of indigenous varieties of food, cash and horticultural crops, which farmers had cultivated and refined over centuries, were forfeited in a matter of decades.

The post-colonial period is marked by various efforts to conserve India's indigenous farming systems and indigenous seeds for posterity. The incredible efforts of R. H. Richaria, who collected and documented 19,000 indigenous rice varieties, and who also estimated India was home to over 2,00,000 rice varieties at one time, comes to mind. Richaria repeatedly warned against embracing foreign collaborations in India's agricultural systems, particularly when it is not guided by appropriate public review and due diligence. For taking such a stand against the tides of foreign investments in Indian agriculture that came with Green Revolution, Richaria was punished, and had to struggle to survive. In an interview that he gave in 1986 to noted journalist and organic farmer Claude Alvares, Richaria shares¹⁴⁹ details of forces who worked to break India's sovereign control over its food security, and worriedly asked "why are we not taking this seriously?"

Transnational Corporations and their impact on Regulatory systems

A key driver for the biotech integration into Indian agriculture is the Agricultural Biotechnology Support Programme (ABSP) of United States Agency for International Development (USAID), advanced during the 1990s. This phenomenal transition to an highly technologised and corporatized agriculture was based entirely on extending patented and proprietary products to farmers, as was the case with the genetically engineered B.t. Cotton of US agribusiness Monsanto. Decisions pertaining to this programme were centralized and secretive, which are typical of, and systemic to, any corporate interventions that rely on gaining competitive advantage in promoting its products and securing profits. In effect, these interventions promoted corporate control of agriculture and food production, promoted corporate profit by advancing patented and proprietary products, and financialized agriculture with massive extension of farm loans to farmers to buy into this package. In the process, these interventions also contributed to the forfeiture of sovereign control over agriculture and food production systems.

Such transnationalisation of agriculture by the mid 1990s, according to Meera Nanda,¹⁵⁰ is an outcome of globalisation of capital, trade and technology, especially in agriculture. She analyses that "(w)hile there were problems with the green revolution (particularly) during the early phases when the smaller peasants were left out, it was still a programme within the public domain and was mandated to be accessible to all. The green revolution, furthermore, was linked to developing the institutional capacity to provide for local food needs". But "(a)ll that is now changing" with biotechnology which, Nanda says, has "provided the private sector with a powerful tool to commercialise seeds. This has already led to a big move of agricultural research 'from the campus to the corporation'". When compared with Green Revolution, biotechnology certainly "is not a more democratic, more participatory agricultural policy" and is a powerful controlling agency of "impersonal, faceless corporations which span the whole world. Any sense of tradition or local community has no chance of surviving the onslaught of transnational capital which is beginning to penetrate peasant-based farming". Instead, "(t)he growth of plant biotechnology has seen big takeovers of private seed companies by giant chemical and pharmaceutical companies (which see

¹⁴⁹ Claude Alvares, *Dr. Richaria's Story – Crushed, But not Defeated*, Illustrated Weekly of India, 23 March 1986, accessible on Satavic Farms website at: <http://satavic.org/dr-richarias-story-crushed-but-not-defeated/>. See also, Claude Alvares, *The Great Gene Robbery*, Illustrated Weekly of India, 23rd March 1986, reproduced on Vijayvaani.com and accessible at: <http://www.vijayvaani.com/ArticleDisplay.aspx?aid=2137>

¹⁵⁰ Meera Nanda, *Transnationalisation of Third World State and Undoing of Green Revolution*, Economic and Political Weekly, 28th January 1995, accessible at: https://www.epw.in/system/files/pdf/1995_30/4/review_of_political_economy_transnationalisation_of_third_world_state.pdf

seeds as delivery systems for their herbicides and other chemicals) and an attempt to co-opt university scientists through offers of research grants and/or shares in biotechnology firms”.

Agricultural and biotechnology sectors were key beneficiaries of the weakening of environmental regulatory systems that took place in India during the 1990s.¹⁵¹ In order to align regulatory decision making with the interests of global agribusiness corporations, the Biotechnology Regulatory Authority Bill, 2011 (BRAI) was promoted. This Bill sought to establish biotechnology regulatory and appellate authorities, and thus revamp the highly problematic approval system of biotech sector which was then governed by the Genetic Engineering Approval Committee (later the term Approval was replaced with Appraisal), constituted under the Environment Protection Act, 1986. In so doing, the Bill promoted a highly secretive and extremely bureaucratic decision making procedure. The Bill strengthened the hands of an in-transparent bureaucracy and extended it with discretion to criminally prosecute anyone questioning or demanding transparency in biotech authority decisions! The Bill also promoted the view that biotech related decisions, in effect, involved “confidential commercial information”. Further, the processes and details of decision making were promoted as highly technical and beyond the scope and capacity of the public to appreciate and engage with.

A critique of the Bill offered by Environment Support Group¹⁵², co-authored by Bhargavi Rao and this author, found the proposed law to be attacking various fundamental rights, particularly those relating to Right to Information and Right to Life. This critique held that the Bill agitates against Constitutional guarantees which require that “State and Local Governments are principal levels for engaging with debates and decisions when it matters to peoples access to food, health, a clean environment and livelihoods in general”. Due to nation-wide protests and such criticisms, this Bill was withdrawn.

Can a ‘cunning state’ guarantee food security and seed sovereignty?

Karine Peschard writing on *Farmers’ rights and food sovereignty: critical insights from India*¹⁵³ argues that India’s leadership, at one time, was pro-active in protecting sovereign control over seeds and associated farmers’ rights. She argues this was enshrined in the *sui generis* Protection of Plant Varieties and Farmers Rights Act, 2001, which was unique, considering how the rest of the world had decided on the matter. Though well-intended, this law has failed to deliver to its objectives almost two decades into its implementation. Peschard considers that this is “due to the ambiguous role played by the Indian state, whose stance and action on the issue of farmers’ rights have been characteristic of the cunning state”. She points out evidence for this assessment is in the “government’s controversial decision to join UPOV¹⁵⁴ shortly after the PPV&FR Act was passed, (and) the fact that several pieces of legislation introduced since 2001 seem to undo the farmers’ rights provisions of the PPV&FR Act”. Such weakening in the role of the state to protect farmers’ rights and food security, she highlights, is evident in the dithering of the government in addressing “the first national case of biopiracy involving the use of local varieties of eggplants in the development of Bt

¹⁵¹ An exhaustive review and critique of this weakening, in particular with the advent of the Environment Impact Assessment Notification, 2006, which was the outcome of World Bank’s Environmental Management Capacity Building Programme, can be found in Leo F. Saldanha et al, *Green Tapism: A Review of the Environmental Impact Assessment Notification – 2006*, Environment Support Group, 2007, accessible at: <https://www.worldcat.org/title/green-tapism-a-review-of-the-environmental-impact-assessment-notification-2006/oclc/170060765>. For a more recent review of how obfuscation of logic has become systemic to environmental decision making in India, see, Leo F. Saldanha, *A critical examination of the State of Environmental Governance under Prime Minister Narendra Modi*, Vol. 6, Environmental Law and Practice Review, NALSAR University of Law, p. 67-103, 2018.

¹⁵² Leo F. Saldanha and Bhargavi S. Rao, *Creating an Undemocratic and Unaccountable Biotechnology Regulator: A Critique of the Biotechnology Regulatory Authority of India Bill, 2011*, with particular emphasis on environmental law, Environment Support Group, November 2011, accessible at: <http://www.esgindia.org/sites/default/files/campaigns/brinjal/press/brai-bill-2011-critique-esg-nov-2011.pdf>

¹⁵³ Karine Peschard, *Farmers’ rights and food sovereignty: critical insights from India*, in Critical Perspectives on Food Sovereignty, Ed. Marc Edelman, James C. Scott, Amita Baviskar, et al, Routledge, 2016, p. 174, 175, 176, 186 & 190.

¹⁵⁴ The International Union for the

Brinjal”.¹⁵⁵ Such “lack of a clear political will on the part of the Indian state to effectively enforce the legislation and protect farmers’ rights, has led to a break of trust between the state on one hand, and farmers and civil society on the other”. Peschard states that the “key fault line in the debate concerns the vexed relationship between farmers’ rights and intellectual property rights”.

In Peschard’s assessment, the government has largely worked to appear as yielding to popular demands of farmers. However, it cunningly worked internally to yield to the demands of transnational corporations. While the continuing lack of rigorous implementation of PPV&FR Act is one instance, the attempt to present the Seeds Bill, 2004 which “included provisions that undermined the rights conferred to farmers under the PPV&FR Act”, is clearly indicative of the duplicitous and cunning role of the State, she points out. In addition, “the National Food Security Act, 2013, has been interpreted as a missed opportunity to promote farmers’ rights” while the “Seeds Bill, 2004 and the BRAI Bill, 2013, are widely perceived as promoting the interests of the commercial seed industry over those of farmers”. Peschard adds that in “the absence of a clear will on the part of the government to keep genetic resources in the public sector, farmers fear that their varieties may end up in the hands of the private sector”. And for proof she cites the precedent of Syngenta (a Swiss agribusiness that has been recently acquired by China’s ChemChina) which in 2002 “entered into an agreement with a state agricultural university (*Indira Gandhi Krishi Vishwavidyalaya, IGKV*) in the Indian State of Chattisgarh to gain access to 20,000 paddy varieties in the custody of the university”. It is only due to a civil society campaign that challenged and exposed such appropriation of indigenous wealth that resulted in “the demise of the agreement”, Peschard explains.

Obfuscation as a method of business by Agribusiness Corporations

The American agribusiness corporation Monsanto has benefited immensely from weak policies, laws and regulatory systems that govern India’s food, agrobiodiversity and natural resources. Over decades Monsanto, recently bought out by German agribusiness corporation Bayer¹⁵⁶, has promoted a wide range of its proprietary and patented products in India through joint ventures and cross-holdings with Indian seed and agribusiness corporations such as Mahyco.¹⁵⁷ In addition, it has also tactically developed collaborations with research institutes like Indian Institute of Science.

Monsanto introduced Bollgard - B.t. Cotton, India’s first commercial Genetically Modified Organism, with support from USAID funded ABSP programme in 2002. So effective was the marketing of the product, that by earlier this decade, Bollgard was being cultivated in over 95% of the cotton growing region in India. It was sold on the premise that it was pest ready, and so there would not be any need for chemical pesticides to keep yields high, which hybrids needed. Monsanto says “farmers have contributed to India’s cotton revolution by doubling production choosing to plant

¹⁵⁵ This is a reference to the criminal complaint filed by Bhargavi S. Rao and this author, in their personal capacities and also as part of Environment Support Group’s efforts to expose and challenge Monsanto, Mahyco and Sathguru (a front company of USAID and Cornell University), for illegally accessing 16 local varieties of brinjal that were in the custody of University of Agricultural Sciences, Dharwar, Indian Institute of Vegetable Research, Lucknow, and Tamil Nadu Agricultural University, Coimbatore and genetically modifying them into commercial, proprietary and patented B.t. Brinjal. The criminal case is pending against the principals of all participating organisations in the Judicial First Magistrate Court, Dharwar, filed by the prosecuting agencies National Biodiversity Authority and Karnataka Biodiversity Board. A Public Interest Litigation filed by Environment Support Group raises wider concerns about biopiracy and bio-loot of India’s agrobiodiversity and genetic wealth. Details of the litigation, which is pending adjudication before the Supreme Court of India and National Green Tribunal, are accessible at: <http://esgindia.org/campaigns/biodiversity/resources/all-documents-esgs-pil-against-bt-brinjal.html>. See also, Leo F. Saldanha and Bhargavi S. Rao, [Monsanto’s Brinjal Biopiracy: A Shocking Expose Of Callous Disregard For Biodiversity Laws In India](http://indialawnews.org/2011/09/01/monsantos-brinjal-biopiracy-a-shocking-expose-of-callous-disregard-for-biodiversity-laws-in-india/), in India Law News, September 2011, accessible at: <http://indialawnews.org/2011/09/01/monsantos-brinjal-biopiracy-a-shocking-expose-of-callous-disregard-for-biodiversity-laws-in-india/>

¹⁵⁶ See Jeff Daniels, *Germany’s Bayer closes \$63 billion Monsanto takeover, plans to drop US company’s name*, CNBC Markets, 7th June 2018, accessible at: <https://www.cnbc.com/2018/06/07/germanys-bayer-closes-monsanto-deal-plans-to-drop-us-companys-name.html>

¹⁵⁷ According to Monsanto, the “Mahyco Monsanto Biotech (MMB) (is) a 50:50 joint venture between Mahyco and Monsanto Holdings Pvt. Ltd. (which) has sub-licensed the Bollgard II® and Bollgard® technologies to around 42 Indian seed companies each of whom have introduced the Bollgard® technologies into their own germplasm”. See more details at: <http://www.monsantoglobal.com/global/in/whoweare/pages/mahyco-monsanto-biotech-private-limited.aspx>

hybrid cotton seeds with in-the-seed insect-protection Bt cotton technologies on over 90 per cent of cotton acres, and adopting improved agronomic practices – to make India the world’s second largest cotton producer and exporter”.¹⁵⁸



19 Late writer Dr. U. R. Ananthamurthy and former Prime Minister H. D. Devegowda participated in the Public Consultation on B.t. Brinjal organised by Jairam Ramesh when he was India's Environment Minister. Source: Indiatogether

But these are false claims, argues Aruna Rodrigues who launched a comprehensive legal challenge to introduction of GMOs in India before the Supreme Court of India in 2005. The petition demanded a stop to the release of GMOs in India citing extensive evidence of the crop’s environmental and health impacts gathered from independent researchers worldwide. This petition found support from wide ranging organisations nationwide, several of who impleaded in the matter in support of the petitioner. The Supreme Court did not stop the field trials as prayed for in the Petition. Instead, it directed that trials be reviewed by the Genetic Engineering Approval Committee (GEAC). Acknowledging the petitioners’ weak faith in this regulatory institution, the Court subjected the outcome of GEAC decision to another review by a committee it appointed.¹⁵⁹

As this case has lingered in the Court for over a decade and more, debates over the influence and intent of agribusiness corporations continue. There is now increasing evidence that GMOs have been illegally introduced into India. Vandana Shiva has highlighted that there has been illegal introduction of herbicide tolerant GMO Round-up Ready Flex Bt cotton, and demanded, along with Swadesh Jagran Manch which is allied with the ruling Bharatiya Janata Party at the Centre, that Monsanto be banned, therefore, by the Indian Government.¹⁶⁰

¹⁵⁸ Monsanto Global, *Indian Cotton Farmers’ Weeding Challenges and the Potential Role for Technology Infusion*, 12th February 2014, accessible at: <https://www.monsantoglobal.com/global/in/newsroom/Pages/weeding-challenges-and-the-potential-for-technology-infusion.aspx>

¹⁵⁹ See 10th May 2012 interim order of Supreme Court of India in *Aruna Rodrigues & Ors vs Union Of India & Ors*, accessible at: <https://indiankanoon.org/doc/17826198/>

¹⁶⁰ Seed Freedom, *Monsanto Illegally Introduces Round Up Resistant GMO Cotton In India*, 7th April 2017, accessible at: <https://seedfreedom.info/monsanto-illegally-introduces-round-up-resistant-gmo-cotton-in-india/>

The claim of chemical free agriculture that GMO technology claimed, was exposed on another count as well – the challenge to keep productivity high due to competition from herbs that abound the Indian farmlands. To tackle which, Monsanto actively encouraged the use of Roundup, a product of Monsanto and the world's most widely used herbicide. The key ingredient Glyphosate in this pesticide is a proven carcinogen.¹⁶¹ Recently, the California Supreme Court in an unprecedented ruling directed Monsanto to pay \$ 289 million in compensation to DeWayne Johnson, who, it was established, suffered from cancer that was caused by exposure to Roundup.¹⁶² Close on the heels of the California decision, the European Supreme Court has held that “organisms obtained by mutagenesis are GMOs within the meaning of the GMO Directive”.¹⁶³

All this suggests that Courts world-over, are slowly waking up to the serious and adverse consequences to food security, health and agricultural productivity, about decisions relating to food and farming. What people cultivate, how they process what they cultivate, and what people eat, is left to undemocratic choices of opaque regulators and vested interests, and Courts are now questioning this process. Which Mike Papantonio, America's leading lawyer and talk-show host suggests, is because such decisions are an outcome of "Politics (which) is tough to overcome when you have a multi-billion-dollar corporation that gives so much money to politics...That's why we are just now learning a lot of this". Referring to Roundup's viability, he says it is marketed on "... phoned-up science, that's why it's still on the market".¹⁶⁴

‘Constructing Facts’ and ensuing Trust Deficit

Such politics of promoting ‘phoned-up’ science and policy, is entrenched in India too and has widespread media support as well. This is evident in how Sudha Ramesh claims in a recent article in *The Print* that an ‘EU study trashes anti-GM paper by French expert who Jairam Ramesh cited to ban Bt Brinjal’.¹⁶⁵ Which was rebutted by Aruna Rodrigues with extensive evidence to demonstrate Sudha Ramesh was indulging in deliberate obfuscation. The Print refused to carry Rodrigues’ rebuttal and it has since been published in Counterpunch. In this Rodrigues concludes that “Desperate and high levels of pesticide used by farmers to try and save their crop, rising farmer deaths from pesticide poisoning and suicides are the tragic and unforgiveable fallout of faulty regulatory decisions surrounding Bt cotton. Eventually, the Central Govt. in early 2016 was forced to admit in the Delhi High Court that Bt cotton was a victim of pest resistance to Bt toxins, which is a ‘natural phenomenon’”.¹⁶⁶

It is such politics of obfuscation that caused Jairam Ramesh, when he was India's Environment Minister, to subject the approval for commercial release by Genetic Engineering Approval Committee (GEAC, now renamed as Appraisal Committee) of B.t. Brinjal, India's first food GMO, to nation-wide public hearings. These hearings were held in seven locations across the country and witnessed

¹⁶¹ See, Karl Plume, *California Adds Herbicide Used By Monsanto To List Of Cancer-Causing Chemicals*, Huffington Post, 27th June 2017, accessible at: https://www.huffingtonpost.com/entry/california-glyphosate-cancer-causing-chemical-list_us_5951ed4ae4b05c37bb78fc20 See also Wikipedia discussion on Glyphosate, accessible at: <https://en.wikipedia.org/wiki/Glyphosate>

¹⁶² See details about DeWayne Johnson v. Monsanto Company, et al., Case number CGC16550128, in the County of San Francisco Superior Court of California court, accessible at: <https://www.baumhedlundlaw.com/toxic-tort-law/monsanto-roundup-lawsuit/dewayne-johnson-v-monsanto-company/>

¹⁶³ *Supra*, Court of Justice of the European Union Press Release, *Organisms obtained by mutagenesis are GMOs and are, in principle, subject to the obligations laid down by the GMO Directive*, 25th July 2018 accessible at: <https://curia.europa.eu/jcms/upload/docs/application/pdf/2018-07/cp180111en.pdf>

¹⁶⁴ RT, 'Appalling politics' & 'phony science' is why Monsanto is still afloat – lawyer suing chemical giant, 28th August 2018, accessible at: <https://www.rt.com/usa/437008-monsanto-cover-up-lawsuit/>

¹⁶⁵ Sudha Ramesh, *EU study trashes anti-GM paper by French expert who Jairam Ramesh cited to ban Bt Brinjal*, The Print, 9th June 2018, accessible at: <https://theprint.in/science/eu-study-trashes-anti-gm-paper-by-french-expert-who-jairam-ramesh-cited-to-ban-bt-brinjal/67907/>

¹⁶⁶ Colin Todhunter, *Pro-GMO Activism And Smears Masquerade As Journalism: From Seralini To Jairam Ramesh, Aruna Rodrigues Puts The Record Straight*, Counterpunch, 19th June 2018, accessible at: <https://www.counterpunch.org/2018/06/19/pro-gmo-activism-and-smears-masquerade-as-journalism-from-seralini-to-jairam-ramesh-aruna-rodrigues-puts-the-record-straight/>

massive public participation. Ramesh, who personally conducted these hearings, issued a moratorium on the release of B.t. Brinjal on 9th February 2010, and based the decision on material he had gathered during the public hearings, wide-ranging opinions from subject experts across the world, and the Precautionary Principle.¹⁶⁷ In many ways, this process set a very high standard for decision-making on agriculture, food and environment, and the formulation of just about any critical public policy.

This precedent is important because decision-making on crucial policies of public concern in India are largely made in a highly centralised and opaque manner. This is most evident in decisions relating to agriculture and food. Meena Menon and Uzamma comment about this condition in *A Frayed History*¹⁶⁸, and cite the manner in which the introduction of B.t. Cotton was justified. They say “(s)tudies on the efficacy of Bt Cotton point to higher gains and tend to dismiss the exorbitant price of seeds or the attacks by secondary pests”. And what’s worse, it was part of the overarching agenda to ensure that “(t)he introduction of hybrids in India already made sure that some traditional forms of farming would cease to exist when it came to seed reuse, saving or selection, and multiplication. Farmers would be slaves to seed companies for hybrid seeds every year, adding to their expenses”.

All this amounts to ‘constructing facts’ suggests anthropologist Glenn Davis Stone¹⁶⁹ who argues that this is typical of *Bt* narratives in India. The lack of transparent and critical review and objective risk assessments of farming interventions, has resulted in a problematic situation where “conventional seed has virtually disappeared, (and) the time for comparative impact research has passed”. The risk of uncritical decision making, Stone highlights, is evident in how “the cotton hybrid-pesticide package was rapidly and enthusiastically adopted in the 1990s, bringing not prosperity but the agricultural train wreck of the 1998-2002”.

These episodes in Indian agrarian history have important lessons that should guide CRZBNF. While there is widespread acceptance of the need to move towards agro-ecological farming methods, of which ZBNF is one technique, the transition must be made with necessary caution, transparency and democratic debate. In the case of CRZBNF, it appears these cautions have not been comprehended, and instead, it is the acceptance of assurance by global financial companies and agribusiness corporations that appears to form the basis of key decisions about the programme and its outcomes. This is more than worrying.

Overcoming the Crisis in Indian Agriculture

Economist M V Nadkarni issues an ominous warning in “*Crisis in Indian Agriculture: Can it be overcome?*”.¹⁷⁰ Nadkarni says, Indian agricultural sector, “may have done fairly well so far, but unless its unhealthy internal contradictions are resolved, it may collapse, with tragic human implications”. This is because “(t)he crisis in Indian agriculture is structural in nature and is quite basic. It is a crisis of viability itself, arising from the non-viable size of holdings, and has deepened over the last several decades. Though the crisis of viability is not a crisis of profitability *per se*, it is certainly not good for private capital formation in agriculture and its long-term profitability. What profitability we may find today might not be sustainable in the long run as agriculture is becoming increasingly non-viable.” He also suggests that “The structural weakness of Indian agriculture makes it unprepared to tackle

¹⁶⁷ See Moratorium on B.t. Brinjal, The Hindu, 9th February 2010, accessible at: <https://www.thehindu.com/news/national/Moratorium-on-Bt-brinjal/article16813609.ece>

¹⁶⁸ Meena Menon and Uzamma, *A Frayed History: The Journey of Cotton in India*, Oxford University Press, 2017.

¹⁶⁹ Glenn Davis Stone *Constructing Facts: Bt Cotton Narratives in India*, Economic and Political Weekly of India, Vol. 47, Issue No. 38, 22 Sep, 2012, accessible at: <https://www.epw.in/journal/2012/38/special-articles/constructing-facts.html>

¹⁷⁰ M V Nadkarni, *Crisis in Indian Agriculture: Can it be overcome?*, April 28, 2018, Vol LIII No, 17, Economic & Political Weekly, accessible at: https://www.epw.in/system/files/pdf/2018_53/17/PE_LIII_17_280418_MV_Nadkarni.pdf

climate change and to remain resilient. Struck by a drought, a non-viable farmer tends to sell his productive assets like bullocks because he cannot get loans for meeting consumption needs in a drought. Even when the situation returns to normal, he would still be unable to cultivate due to the loss of productive assets.”

These cautionary warnings must not be ignored. Increasing farm productivity, thus prosperity of the farmers, were key arguments in the massive waves of transitioning farmers away from traditional farming to *Green Revolution to Gene Revolution* (to borrow from Scoones again). These interventions succeeded in increasing agricultural productivity, yes. But they did so at very heavy costs, forcing a shift away from ecologically viable and socially just farming, and to merely focus on economic productivity and food security as indicators of progress. Such narrow and problematic formulation in the objectives of Green Revolution was addressed as early as in 1973 by Wolf Ladejinsky, in an article entitled “*How Green is the Indian Green Revolution*”. In this he asked if it was appropriate to term the transition away from natural farming, which agriculture mainly was then, to Green Revolution, really “revolutionary”. He wondered if it should instead have been considered as “evolutionary”. His assessment was that despite “..all the shortcomings with which the realities of the green revolution may be charged – and this goes for income polarisation as well – it is the only mechanism capable of raising the rate of productivity and income amongst a wider circle of producers”. Despite this major positive outcome of Green Revolution, Ladejinsky warned that the “real concern.. is not the enrichment of the few and not so few, but how to uplift the many by widening the scope of the new technology in size and in depth. Barring that, there is indeed the prospect of a dual economy in agriculture which may produce the requisite food supplies while leaving the rest of the economy in the customary state of low productivity and poor farmers.”

“*In India, Farmers Face a Terrifying Crisis*” writes P. Sainath in the New York Times¹⁷¹. He explains here why “(o)n March 6, about 40,000 subsistence farmers and landless peasants, many from impoverished indigenous tribes, [marched](#) to Mumbai from Nashik, a city 112 miles northeast of India’s commercial capital”. This “sea of humanity flooding the highway to Mumbai captured national attention and focused it on the problems tormenting the marchers and tens of millions of other farmers in the country’s two-decade-long agrarian crisis”. Sainath writes that “Policy-driven agrarian distress is very real”. He demonstrates the scale of the crisis by pointing to India’s last [national census](#) [which](#) is conducted every decade. It recorded in 2011 “nearly 15 million fewer farmers than there were in 1991; that’s a dropout rate of about 2,040 every 24 hours. Many fell from being farmers to being landless agricultural laborers, into the ranks of the agrarian underclass. Cultivation costs have risen manifold since the mid-1990s, but the farmers’ incomes have stagnated or declined. Seed, fertilizer and pesticides are firmly in the hands of corporations. Agricultural credit from public-sector banks increased significantly in the past two decades — benefiting agribusiness, not farmers”.

¹⁷¹ P. Sainath, *In India, Farmers Face a Terrifying Crisis*, New York Times, 13th April 2018, accessible at: <https://www.nytimes.com/2018/04/13/opinion/india-farmers-crisis.html>



20 Dr. M. S. Swaminathan, considered an architect of Green Revolution, chaired the 2006 National Farmers Commission which called for fundamental rethinking in addressing farming crisis.

Source: India Today

This is the state of farming in India today. It was no different over a decade ago. The 2006 National Farmers Commission, appointed by the Ministry of Agriculture, Government of India, and headed by Dr. M. S. Swaminathan, provided a succinct and comprehensive assessment of the state of India's agriculture then. The Commission stated that "1968 marked the beginning of the Green Revolution leading to quantum jumps in the productivity and production of wheat and rice...(but) the last 10 years have witnessed a fatigue in the Green Revolution with the growth rate in food grain production falling

below population growth for the first time since then. It implies human numbers are increasing faster than our capacity to make the goal of Food for All a reality. At the same time, consumption per capita is not going up, due to inadequate purchasing power at the household level. A "famine" of jobs/ livelihoods as a result of poor growth of opportunities for employment in the rural non-farm and off-farm sectors is leading to a 'food famine' at the household level". The Commission also assessed that a technology 'fatigue' has further aggravated farmers' problems, since the smaller the farm the greater the need for sustained marketable surplus, in order to have cash income".¹⁷²

Mae Wan Ho was amongst the first to warn about the danger of relying on technological interventions in supporting food production. Writing on *Farmer Suicides and Bt Cotton Nightmare Unfolding in India*, Wan Ho cited how N. Chandrababu Naidu, when he was Opposition leader, had "claimed in a speech that he had the names and addresses of 165 farmers who ended their lives because of the distress caused by the drought". She reported that "peasant households in debt nearly doubled in the first decade of the neoliberal "economic reforms", from 26 percent of farm households to 48.6 percent, according to the National Sample Survey data. But in the worst affected states, the rate of indebtedness is far higher".¹⁷³ Thereby, besides the impacts of Green Revolution, it is evident the macro-economic policy shifts towards liberalisation have also played a significant role in worsening the crisis.

It is evident from such analysis that the process of transitioning Andhra Pradesh to the world's first natural farming region requires more extensive and democratic debates. While RySS has been proactive in reaching out to farmers, the wider policy implications require that all proponents of CRZBNF similar engage in transparent and accountable discussions, so that the outcome of this programme truly responds to the crisis in Indian farming.

Implications of financialisation of CRZBNF

The intense financialisation that backs CRZBNF needs to be rigorously examined given the risk of increasing the indebtedness of Indian farmers and in particular of Andhra Pradesh farmers who are effectively being experimented on. The conditions that caused such widespread indebtedness, it has been widely held, is a major cause for farmer suicides. The response of the State to this crisis

¹⁷² Government of India, Ministry Of Agriculture, National Commission On Farmers Serving Farmers And Saving Farming, Fifth and Final Report, 4 October 2006, accessible at: <https://Ruralindiaonline.Org/Resources/Serving-Farmers-And-Saving-Farming-Fifth-Final-Report-4-October-2006--Towards-Faster-And-More-Inclusive-Growth-Of-Farmers-Welfare/>

¹⁷³ Mae-Wan Ho, *Farmer Suicides and Bt Cotton Nightmare Unfolding in India*, Science in Society Archive, 6th January 2010, accessible at: <http://www.i-sis.org.uk/farmersSuicidesBtCottonIndia.php>

has been woeful, with banks extending loans to farmers to meet the policy objective that 18% of all loans must be farm loans. But it appears agribusiness corporations are the biggest beneficiaries of this policy and are the main beneficiaries of such loans, not farmers. The Wire in a recent investigation¹⁷⁴ has revealed that “Agricultural Loans Worth Rs 59,000 Crore Went to 615 Accounts in One Year” and that “large corporations are being given 'agricultural' loans at cheaper interest rates and with easier regulations in the name of farmers”. Thus, corporations are the beneficiaries of a public policy intended at assisting distressed farmers. Devendra Sharma expressing shock over this revelation is quoted in the article as saying: “There is just the charade of solving farmers’ problems. What kind of farmers are these who are being given Rs 100 crore in loans? This is all a show. Why is the industry being given loans in the name of farmers?”. He adds, “If the same amount were to be given to farmers, at least 200 people would be required. Banks are giving out such massive loans so that their resources are depleted less and the target of 18% can be achieved soon.” What this indicates is that public policies intended at supporting farmers is easily obfuscated to benefit large corporations, and the banking network and regulatory systems appear to not notice this major denial of economic justice that the small and marginal farmers are in critical need of. Capitalism/capitalist principles appear to hegemonise even such spaces of economic justice that are statutorily guaranteed.

Kiran Kumar Veesa, the founder of the farmers’ organisation Rythu Swarajya Vedika (Farmers Freedom Platform) in Andhra Pradesh shares with The Wire that such systems are assisting “big companies involved in agri-business (in) taking loans under the agricultural loans category. Companies like Reliance Fresh come under the agri-business company category. They engage in the buying and selling of agricultural produce, and take loans under the agricultural loans category for the construction of godowns or other such related activities.”¹⁷⁵

In *‘Like gold with yield’: evolving intersections between farmland and finance*,¹⁷⁶ Madeleine Fairbairn analyses reasons why “capital markets have acquired a newfound interest in agricultural land as a portfolio investment” since 2007. She observes that “many of the farmland investments that have been initiated since 2007 are functional agricultural projects, not just land purchases” and that “(m)any investors are drawn to farmland primarily because it is widely believed to act as an inflation hedge, preserving the value of invested capital better than most financial assets”. She analyses that “farmland’ s desirability as a store of value and inflation hedge is perhaps best illustrated by the comparisons between farmland and gold that have proliferated over the last few years. Like gold, farmland is limited in quantity, appreciates over time and benefits from the ‘flight to quality’ during economic downturns. Unlike gold, however, farmland is also a means of production”. And “due to land’s dual nature as a productive and a financial asset, it is possible to use the land productively while simultaneously speculating on financial returns from its appreciation”.

Fairbairn further analyses that “rather than a situation in which land is treated as a pure financial asset, land’s financial qualities are increasingly valued but not necessarily divorced from its productive qualities. We may be seeing the emergence of a new type of financialization for an era of growing resource scarcity – one in which farmland’ s role as a quasi-financial asset will be even more prominent”. She suggests that the “(i)ncreasing financial interest in farmland may prove to be a transient phenomenon. The farmland bubble, if indeed one exists, may soon burst or simply deflate, particularly given that the appeal of land as a financial asset is highly dependent on interest rates”. However, as she goes on to argue, if “powerful institutional investors and financial companies

¹⁷⁴ Dheeraj Mishra, *Exclusive: Agricultural Loans Worth Rs 59,000 Crore Went to 615 Accounts in One Year*, The Wire, 5th September 2018, accessible at: <https://thewire.in/agriculture/modi-govt-gave-agricultural-loans-worth-rs-59000-crore-to-615-accounts-in-one-year>

¹⁷⁵ As quoted by Dheeraj Mishra, in *Exclusive: Agricultural Loans Worth Rs 59,000 Crore Went to 615 Accounts in One Year*, The Wire, *supra*

¹⁷⁶ Madeleine Fairbairn (2014) ‘Like gold with yield’: evolving intersections between farmland and finance, *Journal of Peasant Studies*, 41:5, 777-795, DOI: 10.1080/03066150.2013.873977, accessible at: <https://doi.org/10.1080/03066150.2013.873977>

continue to embrace farmland as a financial asset, it could have lasting effects on land ownership and farming worldwide”. Such assessments of the transient relationships between farms, food production and capital have a major bearing on CRZBNF. When Rs. 16,500 crores sourced from foreign banks is to be invested in the programme, the shift is not merely away from chemicalized agriculture. It is in fact towards financialization of all relationships linked to the farm, farmer, food production, food aggregation, agricultural processing, marketing and consumption.

A good case in point is the Amravathi project, the upcoming capital city of the newly formed Andhra Pradesh state. Finance is being raised for its construction by the floating of Amravathi bonds¹⁷⁷. This is taking place even though the land aggregation for this mega project has been considered illegal and attacking the interests of the farmers and pastoralists. The project has also been criticized for its lack of conformance with legal procedures based on violence against farmers by civic administration and the police. The Amravathi project has been criticized as ““throwing good money after bad money” by IYR Krishna Rao, who worked as chief secretary under Naidu from 2014 to 2016. He argues that “a good functioning capital city can be built with Rs 5,000 crore. But Naidu wants to build a mega city for Rs 50,000 crore—that is the problem.”¹⁷⁸

Supporting Rao, former Union Expenditure Secretary EAS Sarma says such ways of managing mega financial investments could draw the state into a debt trap. For, as Sarma warns, “it is not just this Telugu Desam government, but even future governments will have to bear this burden.” This is because “Andhra government is giving a sovereign guarantee for the repayment with interest” (on such mega loans). He warns that promotion of such financing mechanisms amounts to “the people of Andhra...being used as a shield to give a higher rate of interest. World over, the experience with building new cities is not a happy one. In this case, it is a real estate-driven project, where the returns will not be constant. From where is Andhra going to get money to service the interest?”



21 Amravathi as the greenfield capital of the newly carved Andhra Pradesh state is controversially being promoted on lush farmlands along the Krishna River and expected to initially cost over Rs. 50,000 crores (\$ 6.5 billions). Source: CNN

¹⁷⁷ *Amaravati Bonds listed on Bombay Stock Exchange*, The Hindu Businessline, 28 August 2018, accessible at: <https://www.thehindubusinessline.com/markets/stock-markets/amaravati-bonds-listed-on-bombay-stock-exchange/article24792116.ece>

¹⁷⁸ T S Sudhir, *Is Chandrababu Naidu pushing Andhra Pradesh into a debt trap?*, Newslandry.com, 28th August 2018, accessible at: <https://www.newslandry.com/2018/08/28/amaravati-bond-chandrababu-naidu-andhra-pradesh-debt-trap>

As in the case of the financing of Amravati project, the methods of financialisation of CRZBNF draws concern. The extension of credit by BNP Paribas, and other such partners that SIFF may gather, is sheltered by the State's sovereign guarantee as in the case of Amravati Bonds. This effectively makes CRZBNF an investment opportunity that is not subject to normal business risks. What if the model fails due to volatility in financial markets and the financiers choose to pull out? Or move their money to other locations where the rate of returns are better? These questions are normative to investment decisions. Risks would be borne by the tax paying citizenry over time, as Sarma suggests.

Whether the implications of exposing Andhra Pradesh's farmers to the fickleness of global finance has been debated and discussed in a transparent and accountable manner is not evident in any of the material shared by the promoters of CRZBNF. This aspect of the program needs to be examined in the context of the financial and legal regulatory systems that India possesses. A question to address is if foreign direct investment, in the form of credit, can be extended to farmers directly, or even indirectly through FPOs on the basis of state guarantees?

Technology driven financialization of CRZBNF disempowering

The highly centralized data gathering of farmers, farm land and agrarian produce that is underway, employing a variety of high end information technologies including drones, provides those entities (State, corporations and foundations) that have control over this information, enormous power. The linking of this big data to Direct Benefit Transfer systems is being supported by a variety of corporations, foundations, CSR initiatives and also the State. In turn, it is linked to the controversial Aadhaar project. As a consequence, a complex architecture of financialization of farming and land data is evolving through a complex network of technologies. The farmers are not in control of these complex transactions and storage of data. This is in the control of the State and increasingly, by contract, in the control of private foundations like BMGF and APPI, or corporations such as BNP Paribas, Digital Green, etc. Such technological systems are being advocated as foundational to the success of CRZBNF by no other than the Chief Minister of Andhra Pradesh. In fact, the success of FPOs is even predicated on technology assisting in the organizing of farmers, so that they can market their produce, not merely locally, but globally as well. In all of this, there appears to be no direct role for Local Governments, either in administrative or in oversight functions.

Experiences of such financing mechanisms based on complex networking of information technologies that can be sourced by global partners, but not the public, is fraught with a variety of risks. Big data can be used in various ways, and it has often been discovered globally that it is such programmes that provide the platform for biopiracy. The consequences are long term, even inter-generational. Traditional knowledge associated with agrobiodiversity, once forfeited, demands expensive litigation to reclaim rights, as has been experienced in the cases of Basmathi, Neem, Turmeric, etc. When global capital is involved in harvesting information, it needs to be done with abundant caution and after ensuring that all statutory precautions are in place. The CRZBNF programme does not appear to have taken any of these precautions.

Farmers follow what the State promotes in good faith to a very large extent. This is all the more a reason why public programmes have to be shaped democratically, involve elected bodies, consult the wider public and secure the consent of the impacted populations. This demands an approach that does not wait for demands for transparency and accountability to arrive at the doorsteps of the programme proponents. Guided by values of transparency and accountability, programme proponents can set high standards of transparency and accountability and share information *suo moto*. Both Green Revolution and Gene Revolution are cardinal examples of programmes developed in centralized and secretive ways. Such systems have failed to deliver.

Taking all this into account, CRZBNF now has the opportunity to ensure the destiny of the farmers of Andhra Pradesh is secured in a manner that is consonant with the Principle of Inter-generational Equity and yet is alert and when uncertain, with cautious optimism adopts the Precautionary Principle. Assertions of certainty, and good faith, while empowering, could be unscientific and irrational. It is always necessary that such programmes be developed discursively and without any hegemonies of power being allowed to operate. Given the acute centralization of information systems and decision-making, and the heavy reliance on high end technologies that have been widely found to be disempowering, CRZBNF as a programme appears to be headed away from the values of good governance shaped by deep democratization and public accountability.

7. Way forward

The various pieces of the CRZBNF project don't quite come together. From the information disseminated and sourced, it appears that there have been weak efforts in ensuring Local Governments and the Andhra Pradesh Legislature is taken into confidence. How this sidestepping of constitutional authorities will impact food, ecological, economic, social and public health security of the farming populations, and the overall population of the state, is not a matter that can be left merely to assurances and opinions of those promoting CRZBNF. This particularly when all project proponents have refused to divulge base documents that form this project. For this programme to secure the trust of the public at large, and not merely the targeted farming community, there is an acute need for all proponents of CRZBNF to be transparent and accountable to the wide public. This can begin with sharing, *suo moto*, all Agreements/MoUs concluded: those relating to operational dynamics of the programme, about financing, information and technology transfers, local and global collaborations with research and advocacy networks, etc.

CRZBNF is an unprecedented mega project that intends to shift all farms of Andhra Pradesh to natural farming. It aims to become an example that can be emulated across India and the world, particularly in building food production systems that are climate resilient. This is an opportunity for Andhra Pradesh to demonstrate that such an objective can be achieved based on an holistic appraisal of various interconnected policies, issues and concerns, especially those relating to forests, biodiversity, water, commons, pastoralism, seed sovereignty, environment, etc. Besides, the program can evolve democratically based on an inter-disciplinary appreciation of the inter-generational issues of equity involved. It appears such possibilities have not been considered thus far in promoting the programme.

While there is extensive anecdotal evidence provided of farmers engaged in developing CRZBNF, there is little evidence of their involvement in statutory decision making. For the most part farmers appear to be the consumers of techniques of transitioning to ZBNF, and appear to have been denied the space to construct their own imaginations of farming, which are not limited to ZBNF. There appears to be, by design, a lack of accommodation of various other agro-ecological farming systems, such as permaculture, organic farming, biodynamic farming, etc. The particular emphasis of this programme to only promote ZBNF is against public policy. This needs immediate remedy.

There is a need to critically and transparently examine the motives of the Bill and Melinda Gates Foundation in supporting CRZBNF. This given the foundation's avowed interest in promoting GMOs and also its keen interest in promoting the Mega Seed Park at Guntur - which is more than likely to be about the production of proprietary seeds. Such contradictions in CRZBNF, which is about the embracement of nature's productive capacity with compassion, not genetic manipulation that monopolistically takes control of seeds and associated traditional knowledge, needs sorting out with due dispatch. Else, the credibility of this entire programme is at risk.

CRZBNF is promoted as a highly technologised natural farming programme. Technology can assist when employed appropriately and wisely. Technology, particularly high end information technology, such as data gathering by using drones, are highly centralized systems, invasive and violative of privacy. Data gathered through such systems do not meet the necessary statutory and ethical standards, unless they are preceded by due consent agreements. This does not seem to have been the case with CRZBNF. Such data is likely to be appropriated by the big data crunchers that agri-business corporations are by design. Given that many of the corporations that are now backing the programme are foreign entities, this may amount to violation of sovereign control of knowledge of farms and associated agro-biodiversity, and may not necessarily be in the interest of the farmer,

the consumer or the nation. It is essential that such technologies are subjected to periodic democratic and public reviews, and subordinated to systems of accountability which are strictly enforced. It is also essential that all the information that has been thus far gathered, and is to be gathered, is used in strict accordance with the Convention on Biological Diversity, Biodiversity Act, Protection of Plant Varieties and Farmers Rights Act, Information Technology Act, and other such applicable laws. It is also necessary that aggregation of such information is from the ground up, and led by Biodiversity Management Committees and Forest Rights Committees, so that Access and



22 *The risk of biopiracy and over-extraction of bioresources is high in highly financialised and commodified modes of farming.*

Benefit Sharing and rights to the produce in agro-forestry systems is secured for the benefit of farmers and tribals who have conserved this biodiversity for ages.

CRZBNF is based on a financial system that has been cobbled together by SIFF. The reliance for supply of funds by socially discredited banks such as BNP Paribas is worrisome. The intent to tap global financial markets to raise the \$2.3 billion through climate bonds, needs to be done with due diligence, which seems to have not been undertaken yet. Credibility is a critical prerequisite in raising money from the

stock markets, and it appears that is now largely based on extension of state guarantees. Projects like the Cogentrix and Enron Power Projects¹⁷⁹ that have relied on such guarantees in the past, have perished. It is plausible that the funds may not become available without such guarantees. In such a scenario, it is essential to appreciate, through deliberate public debates, the long term implications of such financing as is now being proposed to back CRZBNF factoring in potential risks to farmers in the event of a serious downturn in the markets, or decline in the stock values. Will funds be available then? Would the investors stay, or flee, as has been the case in multiple financial crises globally, in recent years and decades. All such risks need to be assessed with great objectivity and compassion as the programme is about the future of 60 lakhs farming families entrusting their faith in what now appears to be a very high stakes, high risks investment portfolio.

Major global agribusiness corporations, such as OLAM International, Walmart, etc., are keen to secure a major share of the produce, and market it globally for a profit. Their interest are aligned with the increasing demand for healthy and natural foods by consumers in Europe and North America. While the supply chain mechanisms for this may have been worked out- all the way from FPOs, through district markets, and onward through major aggregators like Walmart and Reliance into the global supply chains, the question remains how this benefits the producer, i.e. the farmer. Will farmers gain a fair share of the profits from such globalized systems of production? A concomitant concern would be if the interests of local consumers have been secured, in terms of their capacity to access the natural foods produced locally and at affordable rates. Another question that arises is how the highly technologized post-harvest processing and market systems of CRZBNF will support the livelihoods of millions of street vendors, who with their low operating costs make

¹⁷⁹ For a detailed assessment of what prevailed in the Cogentrix power project, see, Desmond Fernandes and Leo Saldanha, *Deep Politics, Liberalisation and Corruption: The Mangalore Power Company Controversy*, Law, Social Justice and Global Development Journal, 2000, accessible at: https://warwick.ac.uk/fac/soc/law/elj/ldg/2000_1/fernandes

food affordable to most consumers. These critical systems of delivery of the produce need to be evolved in transparent and democratic ways, and in coordination with Local Governments.

The governance system of CRZBNF is now entirely dependent on parastatals. This is the case with RySS, as a supra administrative agency to manage all agricultural programmes of the state, as well as in the nature of FPOs, which are seemingly unaccountable to local government systems of accountability. Various well-intended programmes have failed to deliver when they have relied on parastatals for efficiency, and sidestepped the effectiveness of representativeness that Panchayat Raj Institutions guarantee. It is crucial that such concerns be addressed frontally and with due dispatch, so that CRZBNF evolves in a deeply democratic manner and in conformance with constitutional mandates.

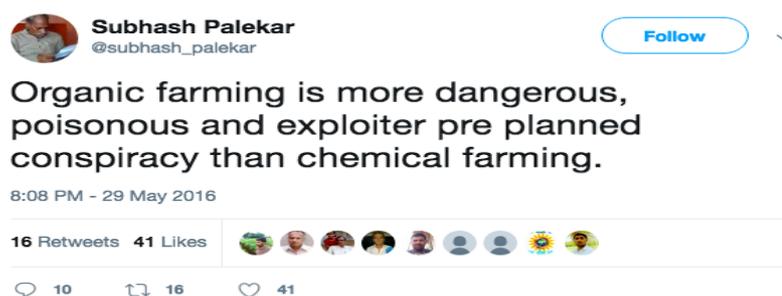
Andhra Pradesh Chief Minister Chandrababu Naidu is highly regarded by global investment portfolios, like SIFF, as an able administrator. He is projected as a Champion. This particularly given his propensity to take decisions on mega-scale investments without much delay, almost unilaterally, and to not allow for “politics” to slow them down, as Satya Tripathi says approvingly of Naidu’s administrative style in the Davos meeting. While this style of governance may be appreciated by global and local investors who are keen on a quick turnaround on their investments, it has been criticized and resisted by many in Andhra Pradesh.¹⁸⁰ There is a strong possibility that the entire programme could be mired in controversies, as the Legislature has not been taken into confidence in its advancement. A related concern that the programme appears to be based largely on the good faith that is evoked due to the leadership of Vijay Kumar, widely regarded as an able administrator and motivator of communities. While such involved, informed and motivating leadership is welcome, the success of such public programmes must be independent of reliance on individuals with charisma and leadership qualities. Strong and well-designed institutions are those that are able to function effectively even without a single/few strong leaders. A truly resilient programme will deliver and continue to deliver without such reliance on charismatic individuals.

When there are a range of foreign and Indian financial institutions involved in supporting a programme that involves access to and aggregation of a range of information relating to sovereign agrobiodiversity, seed diversity, and associated traditional knowledge, statutory procedures as per the Biodiversity Act, 2002 require that prior and informed consent of Biodiversity Management Committees and higher authorities has to be secured first and foremost. There does not appear to have been any conformance with this law. This is quite disturbing given that UNEP, a key custodian for the implementation of the Convention on Biological Diversity, is playing leading role in the advancement of this programme. There also arises questions as to why CRZBNF has not acknowledged the due role of Forest Rights Committees in administering the programme, as is required per the Forest Rights Act, 2006. Similar is the case with the apparent lack of conformance thereof with provisions of the Panchayat (Extension to Scheduled Areas) Act, 1996. There is also the fact that the District Planning Committees have not been integrally involved in evolving this programme as is mandated per Article 243ZD of the Constitution. When natural farm produce is being linked to markets across India and abroad, and data flows appear to have not been in conformance with applicable laws, concerns that the programme could encourage biopiracy and bioloot are real.

Another dimension, which has legal and financial underpinnings, is the role of FPOs in acting as a *via media* between RySS that lends and farmers who benefit. Such massive sums of money infused into propagating ZBNF, is in stark contrast to what Palekar argues about the farming systems

¹⁸⁰ See for instance, *YSRCP calls Chandrababu's bluff on Organic Farming*, GreatAndhra.com, 30th September 2018, accessible at: <https://www.greatandhra.com/politics/political-news/ysrcp-calls-chandrababus-bluff-on-organic-farming-92298.html>

he has developed. He asserts this method requires no external input, be it in the form of chemical fertilisers, organic manure even and/or loan/finance. Palekar has in fact held that “(o)ne need not invest a lot of money in zero budget natural farming. Only a cow is required for this farming pattern.”¹⁸¹ Why then is there such massive infusion of foreign capital into a natural farming programme in India? This concern must also be considered in terms of the risks latent insuring crops, and who pays for such costs. Given that the programme appears to not have been validated in a manner insurance companies require, insurance payouts could be adversely affected. This matter needs deep and critical inspection.



23 Subhash Palekar has consistently campaigned against Organic Farming. Source: Twitter

In the lack of proactive dissemination of information about CRZBNF, these are some critical concerns that remain unaddressed. If there is one major lesson to be learned from India’s turbulent experiences from *Green Revolution* to *Gene Revolution*, it is that transparent and deeply democratic decision making is truly important. Many problems that we face today can be tackled with genuinely and deeply democratic decision making, in the absence of which no quick fix remedies exist. All things considered, CRZBNF must not be coopted into building a political legacy. Instead, it could be a genuine and sincere effort to address the distressing condition of farmers and to ensure that fairly priced and healthy food reaches consumers who have thus far had to make do with the chemically contaminated food that is available in the markets. Equally deserving of our consideration are the motives and vested interests of those such as UNEP and other proponents of the programme who present CRZBNF as a successful model already, when, in fact, its journey has only begun.

¹⁸¹ See 'Adopt zero budget natural farming for better produce, profits', Times of India, 14th September 2011, accessible at: http://timesofindia.indiatimes.com/articleshow/9975290.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

8. Endnote: No more ‘Zero Budget’?

In a statement issued on his Facebook page¹⁸², Subhash Palekar has asserted that the term Zero Budget makes no sense any more. Hence, he has proposed that Zero Budget Natural Farming must henceforth be referred to as Subhash Palekar Natural Farming. He argues that this is in response to widespread concerns over the inappropriateness of employing the term ‘zero budget’ at a time when agriculture is saddled with various external inputs, citing the case of. He clarifies farmers who have invested in irrigated and wetland farming who cannot adopt ‘intercrop’ method that is foundational to ZBNF. Palekar raises concerns about “some rational Nastik Pakhandi¹⁸³ organizations those are not believing in the god, are ready to enter in our movement. But they are having one condition that I have to remove the word...spiritual ...from the name of our movement. It is totally impossible. I told them bthat at any cost I will not remove this word spiritual. We do not want to absorb this type of wrong western rational mentality in our movement.” He also claims that “Some people are misusing this words zero budget farming showing that this technology has been developed by them not taking my name as researcher in their speeches. It is very dangerous and cheating.” He suggests that “(i)n south India everybody have given the name to our movement as Subhash Palekar Krushi. All these organizatios and NGOs have suggested same name SUBHASH PALEKAR SPIRITUAL FARMING for our movement, then we have to accept this name”. Consequently, he requests, “admins and members supporters of our movement that you please remove the name zero budget natural farming from all what's groups and other banners posters and include the title Subhash Palekar Spiritual Farming”. (Emphasis in original)



Subhash Palekar

12 October at 07:33 · 9

Padmsri Dr.Subhash Palekar
Amravati, Vidarbha pradesh
9860352745 palekarsubhash@yahoo.com

To change the name zero budget natural farming in to SUBHASH PALEKAR SPIRITUAL FARMING

Friends, now our zero budget natural farming mass movement became wide spread movement reaching through out nation. But we are failed to absorb all constructive forces in social work, NGOs and farmers organizations in our movement. Up to now millions of farmers and other organizations became a active part of our movement. At the same time , there are so many farmers organizations, non government agencies (NGOs), social organizations and other organizations are strongly opposing our mass movement.Why they are opposing ? Those promoter farmers organizations were opposing only because of their ignorance about philosophy of our movement and the promoter NGOs of organic farming were opposing our movement , as they were getting millions of rupees funds from national international funding agencies to promote organic farming only, not for zero budget natural farming. But now these farmers organizations, social and spiritual organizations are ready to enter in our ZBNF movement .Because now they came to know that that organic farming is more dangerous,more exploiter and more costly than chemical farming and is responsible to destruct the fertility of soil and global warming , these my claims are proved reality. Also along with these organizations so many agricultural vice chancellors and scientists are ready to accept our movement and zbnf technology as a science. But all these are strongly opposing two words.... zero budget.... in the name of our zero budget natural farming movement. They support to their opposition by giving the clarification that small marginal dry land farmers can follow zero budget. Because they do not purchase any thing including labour from market in zero budget farming. But, as per their clarification big land owner farmers under irrigation are not having zero budget.Because they are committed to purchase motor pump, pipes, drip system, tractor , instruments, spray pump, a threshing machine and labour from the market. Then not possible to have zero budget for them. I think that it is truth.I support for their clarification.I always accept any truth. Then how I can deny their clarification ? I seriously feel that now this is the perfect time to saturate our movement by accepting the entrance of these all organizations and non government agencies in our main stream mass movement. For that purpose it is very essential to avoid these two words...zero budget...from our movement name . We will do it.

Some rational Nastik Pakhandi organizations those are not believing in the god, are ready to enter in our movement. But they are having one condition that I have to remove the word...spiritual ...from the name of our movement. It is totally impossible. I told them bthat at any cost I will not remove this word spiritual. We do not want to absorb this type of wrong western rational mentality in our movement.

Some people are misusing this words zero budget farming showing that this technology has been developed by them not taking my name as researcher in their speeches. It is very dangerous and cheating.

Since one month all these organizations are contacting me and doing long discussions with me and they are saying that they will enter in our movement if we will remove words zero budget. These people are basically good constructive cultured. By their entrance ,our movement will become prosperous and strong.

In south India everybody have given the name to our movement as Subhash Palekar Krushi. All these organizatios and NGOs have suggested same name SUBHASH PALEKAR SPIRITUAL FARMING for our movement, then we have to accept this name.

I request to all of you admins and members supporters of our movement that you please remove the name zero budget natural farming from all what's groups and other banners posters and include the title Subhash Palekar Spiritual Farming.

You all are requested to give your reactions and suggestions. Also share this post continuously and forward to all your related groups.So that there will be wide spread discussions.

Incoming days we are planning to organize one national level our gathering. You please give your valuable suggestions also. THANKS.

24 A screenshot of Palekar’s 16th October 2018 announcement of CRZBNF’s new name, on his Facebook page

¹⁸² See the Facebook post made on 12th October 2018 by Subhash Palekar, accessible at: https://m.facebook.com/story.php?story_fbid=2146531932023880&id=100000012811378 (English) and https://m.facebook.com/story.php?story_fbid=2149359931741080&id=100000012811378 (Hindi)

¹⁸³ Nastik Prakhandi = Rational outfits

About the author

Leo F. Saldanha has been associated with Environment Support Group since the organisation's inception in 1996. This discussion paper is a voluntary initiative in support of necessary critical discourses on food, farming, seed sovereignty, and as part of movements for reclaiming farmers' capacities for growing food in a healthy and just manner without being subordinated to any exploitative forces or disempowering technologies, be they from within India or abroad.

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