Managing Sustainable Transitions: Institutional Innovations from India

Shambu Prasad Chebrolu * and Deborah Dutta *

Institute of Rural Management Anand, Gujarat 388001, India
* Correspondence: shambu@irma.ac.in (S.P.C.); deborah@irma.ac.in (D.D.)

Abstract: Despite the widespread disruptions of lives and livelihoods due to the COVID-19 pandemic, it could also be seen as a gamechanger. The post-pandemic recovery should address fundamental questions concerning our food systems. Is it possible to reset existing ecologically unsustainable production systems towards healthier and more connected systems of conscious consumers and ecologically oriented farmers? Based on three illustrative cases from different parts of India, we show how managing transitions towards sustainability require institutional innovations and new intermediaries that build agency, change relations, and transform structures in food systems. Lessons from three diverse geographies and commodities in India are presented: urban farming initiatives in Mumbai, conscious consumer initiatives in semi-urban Gujarat for pesticide-free mangoes, and resource-poor arid regions of Andhra Pradesh. Through these examples, we show that, beyond the technological solutions, institutional innovations such as urban community-supported farming models, Participatory Guarantee Schemes, and Farmer Producer Organisations (FPOs) can enable sustainable transitions. Sustainable lifestyles in a post COVID-19 world, as the cases show, require collective experimentation with producers that go beyond changed consumer behaviour to transform structures in food systems.

Keywords: institutional innovation; game changers; sustainable transitions; urban farming; conscious consumerism; farmer collectives

1. Introduction

The past few decades have been marked by overwhelming evidence of anthropogenic activities being a central driver of massive changes in the ecosystem. Seventy-five percent of the land has been adversely altered and land degradation has reduced productivity in 23 percent of the global area. Over 85 percent of the wetlands have been lost, and around 1 million species face extinction within decades unless urgent action is undertaken to change the course of our cumulative activities [1,2]. Amongst the various anthropogenic activities, large-scale, mechanised agriculture is a major contributor to the possible ecosystem collapse [3,4]. These impacts are not one-sided, as increasingly erratic weather due to climate change exponentially increases the risk associated with farming and food distribution systems. Extreme weather events and catastrophes such as the recent glacier burst tragedy in Uttarakhand to locust attacks, extensive floods, and three major cyclones in 2020 (in India alone) [5] point to the need for a systemic overhaul and a shift in priorities.

Environmental movements have been trying to alter human actions for several decades now [6–8], and an environmental ethic has become a part of the public discourse and imagination (popular documentaries and movies like 'Home', 'The age of the stupid', 'Planet Earth', etc., typify this trend). It is however important to relate this environmental ethic of consumers with issues that are also fundamentally linked to dimensions of social justice and equitable livelihoods, as much of the conventional development narrative hinges on the exploitation of marginalised communities [9–12].

Radical perturbations, such as the COVID-19 pandemic, could act as a 'game-changer' to disrupt the unsustainable and iniquitous status quo, creating an unprecedented oppor-

tunity to reimagine and nurture sustainable, local economies [13]. Game-changers are events or phenomena perceived to alter the 'game' of societal interaction and structure. The dominant values, relationships, and institutions involved in organising society can undergo a significant transformation in response to game-changing events, thus creating spaces for transformative social innovations [14]. These innovations are marked by context-specific and bottom-up initiatives, the characterisation of which offers scholars, policymakers, and practitioners ways to enable a supportive ecosystem [15].

1.1. Sustainable Transitions in Agriculture

The rich and growing scholarship on sustainable transitions looks at environmental problems as grand societal challenges brought about by unsustainable consumption and production patterns. Conceptually, there is a need for a radical shift, beyond incremental improvements and technological fixes, to new kinds of socio-technical systems, often called 'sustainability transitions' [16]. A few key concepts have guided much of the research in sustainable transitions that we believe can be fruitfully applied to the lesser-researched dimension of managing transitions in emerging economies and food systems. The idea of 'socio-technical regime' highlights the social embeddedness of scientific knowledge, technologies, and engineering practices [17] and leads research towards the skills and expectations of users, designers, and institutional structures [18]. Recognising it as a 'regime' acknowledges the directionality, logic, and normative decisions that tend to get reified along established socio-technical knowledge structures. Alternate systems of practice find it hard to gain legitimacy and widespread acceptance, especially from mainstream institutions that create path-dependence and a technological lock-in to, and dominance of, input-centred socio-technical systems [19]. Overcoming this inflexibility and the path-dependence of pre-existing institutionalised structures requires building alternate ones [20]. The concept of a 'niche', inspired by evolutionary biology, highlights spaces of 'radical innovation' [21] (p. 3) in which a small group of actors supports and nurtures innovative approaches and alternate competencies to change the status quo. While much of the research has focused on urban transitions and industrial systems, there is a small, but growing literature on applying these in agriculture. Batterink et al. [22] and Metelerkamp et al. [23] highlight the role of 'innovation brokers' to emphasise the dynamic nature of niches in social systems, often requiring sensitivity to emergent skills and perspectives. The heuristic framework, in the form of Multi-Level Perspectives (MLPs) to understand how changes in the larger landscape of a regime can create windows of opportunity to alter (support or suppress) the ability of niches, has been widely used in sustainable transitions research. The approach, however, has also been critiqued for attending to large, powerful actors while neglecting 'ordinary arenas of everyday life' [24], where a series of small actions might lead to changes in an incremental fashion until a critical threshold is achieved.

While the literature has pointed to possible pathways for a fundamental transformation towards sustainable modes of production and consumption, researchers from the Global South have had a problematic relationship with a Western notion of 'sustainability' that has conventionally focussed on renewable-resource management, i.e., the ability to function in the future without compromising on the quality of life or depleting resources. Such conception does not acknowledge that systemic problems are tied to narrow conceptions of techno-scientific and economic rationality [25]. This view sidelines local and regional issues of livelihood and social justice which also share a complex relationship with environmental problems. Studies on understanding sustainable transitions in the Global South thus need to engage more deeply with contextual issues and concerns arising from the unique challenges and possibilities existing in these places [15,26].

Ecological and climate crises, environmental degradation, growing inequality, poverty, hunger, and obesity are interconnected, with the food and agriculture system being central to all of them. The food and agriculture system refers to all the artefacts and activities related to the production, processing, packaging, and consumption of food, along with their socio-economic and ecological outcomes. It has three core elements: (1) food supply

chains; (2) food environments; and (3) consumer behaviour [27]. In the context of the impending agrarian crises, managing sustainable transitions requires institutional innovations and intermediaries that could create newer linkages in food systems [28]. The tensions between the prevailing food regime and a growing presence of different niches of alternate food system models centred on agroecology, localisation, and equitable access have been emphasised [29]. In this study, our approach is inspired by the framework of transition management that acknowledges that transitions are not amenable to conventional ideas of control but can instead be nudged and influenced towards desired outcomes. Research in transition management tries to understand the processes at the individual to societal level to design policies and interventions [30].

There are few case studies of these processes and frames in the Global South and in agriculture, where, unlike in the West, a large percent of the population depends on farming for their livelihoods. Urban consumers, both in the Global South and elsewhere, need to appreciate the scale and size of the transition problem in agriculture. According to the State of India's Livelihood Report [31], for 62 million farm households, with land less than 1 hectare, comprising about two-thirds of all farm households, the monthly expenditure was in excess of income. In the following illustrative case studies across different geographies in India, we focus on operational mechanisms by identifying the elements, innovations, and pathways that can enable ecologically responsible socio-technical systems. Through these cases, we argue for the need of local capacity building through sustained community engagement to embed and foster similar initiatives across different contexts.

1.2. Research Method

The cases described here were purposively selected, based on the ground-level access to the authors, to collect rich, descriptive data over extended periods of time. The authors were familiar with the sites and conducted research as participant-observers to get a more nuanced sense of the interactions as they evolved across different events. This also helped them gain trust within the community, such that the participants were able to share their experiences freely. Participatory research allows for greater reflexivity and sensitivity on the part of the researcher [32], enabling knowledge for action, to be achieved through partnerships between traditionally trained researchers and lay people in a community [33].

Given that the 'central phenomenon of interest' [34] was to analyse the factors contributing to shifts in dominant practices in their natural setting, the case study method was considered as an appropriate approach. This approach allows for a close collaboration between the researcher and the participants, which means that the participants' narratives can be easily documented [35] and the rationale behind their actions can be better understood [36,37]. The empirical data collection for the cases depended on primary sources (interviews, field observation, artefacts), as well as secondary sources (photos, videos, news articles, etc.). The data from all these sources were integrated and qualitatively analysed using the methods of thematic analysis [38] to generate an understanding of the elements, institutions, and pathways generated towards sustainable transition practices. The research began as an exploratory study, with the possible aim of describing or characterising pathways for sustainable transitions. The understanding generated was qualitative, based on the interpretation of the findings. A thematic analysis was used in an inductive manner to highlight similarities as well as differences, to generate unanticipated insights. These were then mapped to specific aspects of interest, such as transition pathways and institutional innovations. In each of these cases, while COVID-19 became a distinct factor to create newer niches, we also noted several other factors that had created practices to enable the required shifts.

2. Case 1: Encouraging Community-Supported Agriculture through Urban Farming Initiatives

2.1. Urban Farming as a Civic-Ecology Initiative

The unprecedented rate of urbanisation in the past century is a significant contributor to the rapid degradation of the environment. The expanding urban environment has been linked to food insecurity, global warming, climate change, air pollution, overexploitation of water resources, and decrease in forest cover, among other problems [39]. Yet a growing school of thought and practice under civic environmentalism aims at generating positive ecological and social outcomes in human-dominated landscapes through participatory environmental restoration and management initiatives. Urban farming, broadly understood as the growing and processing of food-related crops and rearing of livestock within or in the vicinity of urban areas [40] (p. 4) has emerged as a common feature of many civic-ecology initiatives. The connection between environmental actions and the act of farming is succinctly captured by Wendell Berry's statement "Eating is an agricultural act" [41]. Linking the act of consuming food to the conditions under which food is grown and brought to our plates requires a systemic way of thinking about the human-nature relationship. Community farming requires a constant dialogue between participants, to share the knowledge and skills involved in various tasks. The dialogue and sharing of tasks in turn strengthens feelings of community belonging, as people exchange ideas and thoughts on a variety of related topics [42]. The participatory culture in these initiatives, especially from the point of view of expanding notions of sustainability, is a less understood phenomenon [43].

In recent years, India is also seeing a small, but noticeable trend of urban community farms, with food safety and ecological integrity being a prime motivation. Several startups have facilitated the nascent interest in growing food by offering a host of services and materials to grow rooftop farms. Examples include iKheti, Edible Routes, Homecrop, and Squarefoot farmers. States like Kerala have seen civic bodies initiate sustainable practices by providing kits and services to grow up to 30 vegetable varieties locally [44]. This trend is accompanied by a revival of, and search for, ecologically sound methods of farming that were embedded in traditional practices. However, the potential of local urban food systems in promoting socio-cultural and ecological sustainability has been insufficiently researched [45].

2.2. A Community Farm in Mumbai

Dream grove is an urban gardening initiative within an 800 square feet public park in Mumbai. The park's earlier neglected condition prompted a local resident, Marie Paul, to convert it into a more welcoming space for the children and elderly in 2018. She formed a local neighbourhood group to maintain the park on a voluntary basis. Two of the group members, Premila Martis and Diipti Jhangiani, had prior experience growing edible plants as volunteers with a city farming group called Urban Leaves. Martis took the initiative of getting everyone to collect fallen leaf litter, kitchen waste, and coconut husks from the neighbourhood and began composting them in heaps in the park using cattle dung and urine to aid the process termed as making *Amrit Mitti* (*Amrit-Mitti* is made by decomposing dry bio-mass, comprising mostly dry leaves, using an organic accelerator called *Amrut-Jal*, which is made from a mixture of water, cattle urine, cattle dung, and organic black jaggery. Ruminant dung contains many microbes that aid in decomposition, the urine has high amounts of urea, which creates an ideal ambiance for the microbes to multiply, and jaggery aids in fermentation.) The nutrient-rich soil organic matter was then used to grow organic fruits and vegetables. Initially, the Brihan Mumbai Municipal Corporation (BMC) was apprehensive about the idea, but the response of locals and the physical transformation of the place prompted them to help with the upkeep of the park. Now, they also seem invested in the idea of such community-led food gardens. According to Jhangiani, in the past two years, they have grown over 50 varieties of edible plants, including fruits, vegetables, and herbs. The seasonal harvest includes pineapples, bananas, yam, radishes, tomatoes, bitter

gourd, chillies, and okras, to name only a few. Most importantly, Martis commented that people's physical participation in activities like composting, tilling, plant-care, etc., helped them attune themselves more closely to the process of growing food. The involvement of a diverse age-group, ranging from 7 to 80 years, has led to new forms of intergenerational cohesion and dialogue. On average, 20 DG volunteers visit the park on weekends to participate in sowing, planting, harvesting, and watering activities. In her words, '... when you are personally involved, do you understand the importance of such an initiative. We're not only growing plants, but we're growing as human beings'. The group expanded their sphere of activities to connect with a nearby weekend farmers' market to procure organic seeds and salvage the leftovers and waste at the end of the day for composting.

2.3. From Growing Food to Supporting Local Farmers

Their increased interest and concern regarding the conditions of the food system led Premila to form a 'Growers to Bandra Homes' group during the lockdown imposed in India from March to June 2020, where she began to actively source and procure harvests directly from the farmers or farmer produce aggregators. The network has been gradually expanding, as other members also began introducing more farmer produce in the group through friends or family. Premila Martis had already been sourcing rice and grains from some organic farmers for the past few years. She took the initiative of forming an online WhatsApp group (Grower to Bandra Homes) where farmers could share details of their produce. This helped consumers connect and build a sense of trust with growers. Consumers also shared their own experience of buying and using food products from individual farmers that helped in popularising or creating awareness regarding their use.

2.4. Evolving Networks of Trust and Active Self-Organisation Capacity

The group members also took on the responsibility of buying in bulk from farmers and dividing the produce at their end, so that the cost of the trips from farms to cities could be minimised. Rather than being passive recipients, individuals also felt the ownership of the produce and empathy for the farmers. For instance, the group got together to buy onions and fruits from different farmers and sorted out the distribution amongst themselves. Constant dialogues and feedback from the farmers helped the group feel empowered through their choices and collective efforts. The group's support also extended to extremely small-scale produce (such as coconuts, pickles, etc.), thereby creating hyper-local supply chains.

The narratives and examples indicate that the group's sustained participation in urban farming initiatives can help them empathise with and appreciate the efforts put in by farmers in grounded ways [46]. They were willing to accept discrepancies in amount or quality, with the understanding of how local climate can affect the produce. Regular feedback and dialogue enabled them to feel a sense of partnership with the farmers rather than just being passive consumers. Building a relationship of trust led both parties to be willing to go the extra mile to ensure the satisfaction of the other (quality for consumers and fair price for the farmers. Even as the markets reopened and consumers were again offered conventional choices, members of the group have continued sourcing food from farmers directly.

Active collaborations between farmers' markets and voluntary organisations could be a way of enabling hyper-local supply chains, and even forming alternate means of economic transactions through barter, volunteering time, resources, etc. Enabling the infrastructure to encourage and sustain city-farming initiatives such as the concept of allotment gardens should be part of policy recommendation for city-planning to create community cohesiveness and connect with local farmers. The case of Dream Grove, an innovation intermediary from an urban metropolis, highlights the potential of community initiatives in creating a demand for sustainable consumption and collective civic action to support farmer groups. The following diagram (Figure 1) summarises the broad trajectory

of the events and phenomena that prompted specific initiatives and innovations to enable sustainable food systems.
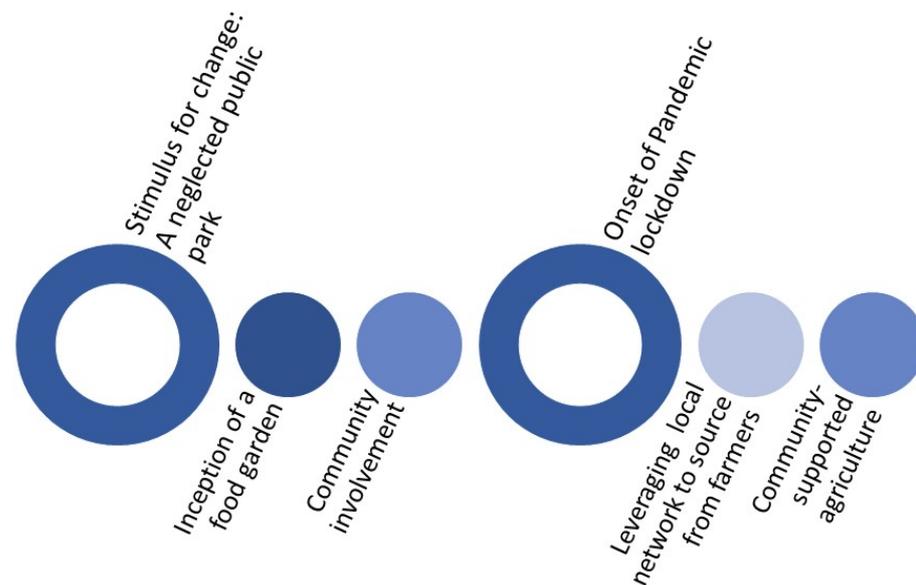
Figure 1. Trajectory of events set in motion by different perturbations in the context of the urban farming initiative.

3. Case 2: Enabling Conscious Consumerism in Semi-Urban Gujarat

In the past decade or so, there has been an active interest in collectivising farmers to help them negotiate on the market and earn better incomes. Farmer Producer Organisations (FPOs) enable farmers to collectivise and build remunerative market linkages, while accessing ecologically responsible ways of farming [47]. Gujpro, a state-level federation of FPOs, was set up in 2015 to help its 29 FPO members, including 45,000 farmers who were brought together by an earlier participatory natural resource management network, Sajjata Sangh (More details about the organisation can be found here: http://sajjatasangh.org/ accessed on 1 March 2021). Gujpro's main support to its members included the procurement and processing of groundnut, pulses and oilseeds, and trading in cumin. To diversity its portfolio, it also started providing marketing support to mango growers since 2018. Its 'farmer to consumer co-operative shop', Satvik Grahak Bazaar, was launched in February 2019. In the summer of 2019, Gujpro facilitated the sale of carbide-free Kesar (a variety of) mangoes in Ahmedabad with a well-publicised Kesar Mahotsav. Building on its positive experience, Gujpro was seeking to expand its outreach and sales in 2020.

3.1. COVID-Induced Disruption in Delivery and Supply

The COVID-19 pandemic, and the resulting lockdown in March 2020, however, severely affected their operations. The much-anticipated mango festival in May had to be cancelled. The rapid rise of COVID-19 positive cases in their key markets, Ahmedabad and Gandhinagar, led to restrictions on movements of vehicles, and confirmed orders of four trucks had to be cancelled. On the supply side, Gujpro staff were unable to visit and coordinate procurement, and the onus shifted to the FPOs to maintain quality and ensure that the mangoes were carbide-free, a key differentiator for Gujpro's customers. The sale of these perishable products was looking bleak for the FPOs in early May, and Gujpro came forward to support them by exploring alternate channels.

3.2. Leveraging Social Connections to Build a Local Customer Base

The CEO of Gujpro, Kuldeep Solanki, attended a workshop on the 'institution building challenges of FPOs' prior to the lockdown at the Institute for Rural Management Anand (IRMA), a place of historical significance in terms of leading the cooperative revolution in

the dairy sector. When he posted about the availability of mangoes in a WhatsApp group on FPOs, a faculty member of IRMA reached out to explore the possibility of selling the mangoes in the town of Anand [48]. A small team of volunteers reached out to the staff of IRMA and associated institutions in the area to explore home delivery options for the residents. Preliminary discussions with Gujpro indicated a good offer (lower than the online rates at Ahmedabad) if there were confirmed orders of 200 boxes (of 10 kgs each). Volunteers keen on supporting the initiative began actively soliciting interest in buying the mangoes from residents of various nearby institutions. They built on the original message by the FPO–'Pro-Mango, nature's love at your doorstep'–by emphasising the farmers' connection with the residents. A simple Google form for pre-orders was designed, with an explicit request for advance payments to the FPO, which would minimise the marketing risk for the FPO and reduce the hassle of cash handling at delivery. Quick collective action saw the identification of a volunteer and coordinator from each institution, who would manage pre-orders and collections as well as smooth operations in a decentralised manner, even though the customers database was centrally monitored.

Team effort in the coordination within and across institutions was critical in the delivery process, with minimal crowding and a speedy distribution following the social distancing protocols. After the first lot of delivery, a feedback survey was undertaken to understand customers' interest in reorder and reviews of the product. Discerning customers had useful feedback that was shared with Gujpro. Gujpro acted on the suggestions and made the option of ordering a half box and officially changed the listed weight of the box to 9 kg on their website (to account for the difference in weight when it reaches the final customer) even though the common industry practice was to label it as a 10 kg-box. By then, the lockdown had eased, and customers had other, slightly cheaper options of buying regular (as opposed to carbide-free) mangoes from the market. Nevertheless, a second bulk order could be managed, and customers were pleased with the fact that their suggestions had been implemented. They were also happy with the quality of the product.

3.3. Conscious Consumerism Post-COVID

Market operations work a lot on trust and the spirit of collective action and consumers' connection with producers yielded a few pleasant surprises. During the first order, there was a shortage of two boxes in the handling of multiple delivery demands in a short time window. However, the volunteers, with goodwill, stepped in and decided to make up for the loss of the customer by contributing mangoes from their personal order and ensured the delivery to the customer. Gujpro on its part was in constant touch and even offered to reduce its price marginally after collections were made the second time. Solutions were found through discussions, and Gujpro decided to offer a few complimentary boxes to each institution, that were later distributed amongst the residents. Though a brief experience, involving just a couple of rounds of bulk transactions, the larger message to the FPOs and farmers is the hope that consumers can support safer food and non-chemical alternatives, and even help during disruptions in the supply chain. Conscious consumerism need not just be a metro fad, and residents of smaller towns are willing to pay slightly more for good and safe products with timely information and peer support. For the FPO, the initiative provided newer business opportunities even as some volunteers joined the Gujpro WhatsApp group to learn and take the message of safe food further. Traditional bazaars, unlike modern markets, allowed for conversations among producers and buyers, with each knowing more about the other's world and life. The pandemic presents an opportunity to rework these relations to suit contemporary times. The following diagram (Figure 2) illustrates the broad interventions following the specific challenges faced the by the farmer collectives.
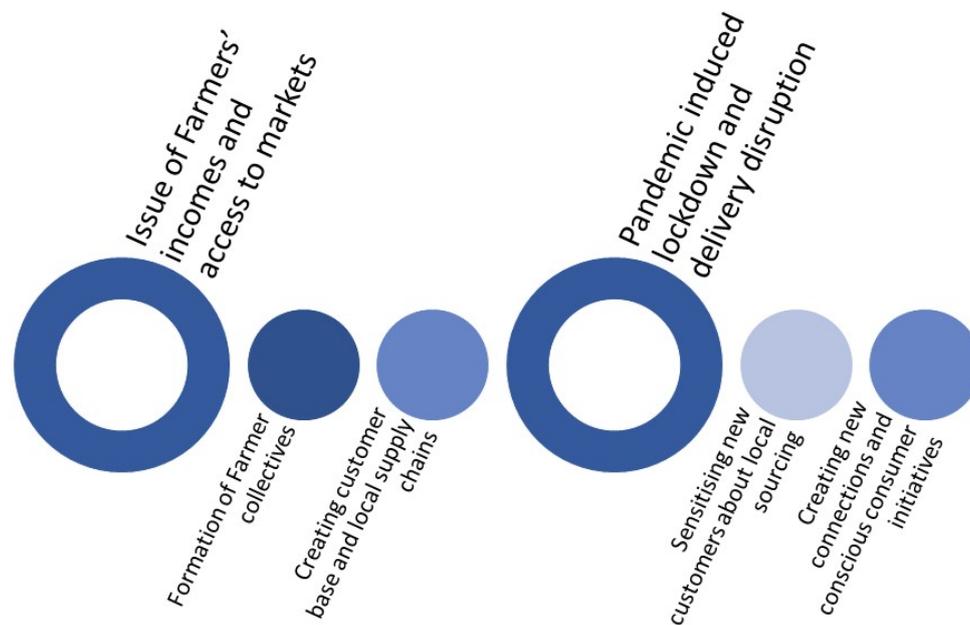
Figure 2. Trajectories of initiatives undertaken by farmer collectives and concerned citizens in response to chronic and situational issues.

4. Case 3: Collective Experimentation to Promote Climate-Resilient Farming in a Drought-Prone District of India

A bigger challenge in transiting to sustainable lifestyles and consumption is the transformation of unsustainable production systems. The Green Revolution model of high-input industrial agriculture has become the established way of doing agriculture in India, even though the ecological costs of pursuing this inherently fragile and high-risk model are now understood. The long-term growth path of agriculture is proving to be ecologically unsustainable and socially unjust [49]. India is the world's largest consumer of groundwater for agriculture, and resolving the agrarian crisis would require attending to the lesser-known knowledge dimension that might be required for the agricultural transition [50,51].

4.1. Transitioning towards Sustainable Production

Anantapuram, the largest district in the state of Andhra Pradesh, India, is also one of the driest and drought-afflicted areas in the country. For the largely small and marginal farmers, the Green Revolution came not through irrigation water or High Yielding Variety (HYV) seeds but through a change in cropping patterns from drought-resistant crops like millets and pulses to a monocrop of groundnut. By the 1990s, the yields and soil fertility decreased significantly. Unable to make ends meet through agriculture, farmers migrated to nearby cities in search of livelihood options, creating a vicious cycle of poverty and ecological degradation. In the face of such daunting challenges, a collective enterprise took shape through a series of social innovations to enable sustainability. The key initiatives involved convincing farmers to return to growing millet varieties, and subsequently building a marketing platform to generate a customer base for the products.

Aligning people towards a common goal takes time and effort, especially when the goals are long-term in nature. In such cases, the scaffolding of collective ideas usually takes place through pre-existing initiatives. Apart from a remarkable transformation of a barren landscape through natural regeneration since the 1990s [52], Timbaktu focussed on creating agency for women by promoting women thrift cooperatives. In 2005, studies indicated that most of the loans taken by women in the thrift cooperatives were spent on purchasing agricultural inputs such as chemical fertilisers, pesticides, and seeds. Apart from increasing the cost of agriculture, the use of these materials was also making the

soil infertile, with decreasing crop yields. Recognising the issues with chemical-based farming, as the "missing piece" in terms of its diverse effects, the Timbaktu collective started experimenting with organic farming on a few acres of land. The initiative gathered momentum, and slowly more farmers decided to opt for chemical-free farming. While the move towards chemical-free farming began shaping up firmly, farmers were still vulnerable to market exploitation due to the lack of marketing avenues. So, to get a fair price for their produce, farmers decided to collectivise under a legal structure such that they could approach the market directly. Under these considerations, the Dharani Farming and marketing mutually aided cooperative was formed in 2008 (Dharani FaM Coop). This initiative empowered farmers to explore the entire value-chain of their produce.

4.2. Building a Robust Form of Peer Validation–The Participatory Guarantee System

Through cooperative efforts and investment in training local farmer groups, all the member farmers of Dharani Coop shifted to organic farming, which led to a significant decline in input costs. However, organic produce often involves a costly certification for export markets that is unaffordable for most small and marginal farmers. Timbaktu and Dharani realised that the sustainability of organic farming cannot depend on export markets alone, and there was a need to connect with the growing consciousness of Indian consumers towards sustainable food. The key challenge faced was to establish systems of trust between the producer and consumer at a reasonable cost. Building on the network between farmers, Dharani FaM Coop decided to follow the Participatory Guarantee System (PGS) of certification, where a group of farmers certify their fellow farmer group's produce. PGS certification is cost-efficient and highly reliable, as farmers observe the fields daily and the act of peer feedback promotes mutual aid. Every farmer group, *sangha*, is further divided into *brindam* with five farmers as a unit. Every member of a *brindam* monitors his peer farmers, and the whole *brindam* certifies its members' produce as organic. Building on these efforts, the Timbaktu collective, as a facilitating council, has become one of the founding members of the PGS Organic Council (PGSOC), which is a strong advocacy body in the organic realm [52,53].

4.3. Social Innovations for Sustainable Transitions

By 2008, the Timbaktu collective had already garnered significant popularity in the social sector. Capitalising on this, Dharani decided to sell its products under the registered brand name Timbaktu Organic. Over a period, the brand has become synonymous with authentic, fair-priced, organic staples. To cater to a diversity of customers, with varying buying capacity and different lifestyles, Dharani created many food items and value-added products, such as breakfast mixes, and millet snacks. Dharani deals with retailers directly to keep the supply chain simple, enabling the organisation to reduce the burden on the consumers and ensuring that farmers get a larger share of the consumer rupee.

The case of Dharani FaM coop shows that collective enterprises can be an effective way to engage with agrarian issues in a sustainable manner. Social innovations are required to solve complex issues regarding the transition to organic farming. Building a consumer linkage and sustaining the social enterprise are only possible with strong cooperative structures in place. Interventions such as the PGS system help build bonds of trust and peer validation amongst the farmers [54]. They also help create consumer awareness about organic foods and enable a connection between producers and consumers.

The case offers a couple of reflections for building sustainable collective enterprises. It shows that the livelihood of farmers and environmental concerns need not conflict with each other, as usually portrayed by input-centric farming models. In fact, the wellbeing of farmers and consumers is fundamentally linked to ecological sustainability. Through collective experimentation, enterprises like Dharani address multiple interlinked problems and are thus better suited to meet Sustainable Development Goals (SDGs). Rather than being a singular entity, social innovations build on synergies spread across the network of actors and stakeholders. In this case, Dharani FaM coop was eventually able to establish

a new value chain by building on the earlier cooperative movement of women-run thrift societies and creating field level support to help shift production systems. The social credibility garnered through previous work helped in convincing farmers to adopt organic farming in the form of collective experimentation.

Dharani was also able to subvert the concept of big brand retail by creating local systems of fair-trade practices and consumer linkages. This helped them maintain their autonomy while negotiating with the market. Creating such local, resilient systems of responsible supply chain is important because fluctuating and falling commodity prices have adversely impacted the incomes of primary producers. Simply plugging into a global value chain often does not change power relations in an unequal market, as starkly proven during the pandemic-induced supply chain disruptions. Multiple, local entities such as Dharani can also provide an alternative to retail concentration and monopolies that tend to exploit both consumers and producers alike [55]. In other words, it is possible to reimagine economic and farming practices, such that they are conducive to the flourishing of natural resources and people alike. While the pandemic has disrupted most production systems, the distributed, well-connected, and integrated systems of Dharani have shown that a significant resilience is an important attribute in designing food systems post-pandemic. The following diagram (Figure 3) summarises the broad trajectory of the events and phenomena that prompted specific initiatives and innovations to enable sustainable farming and increasing farmer incomes.
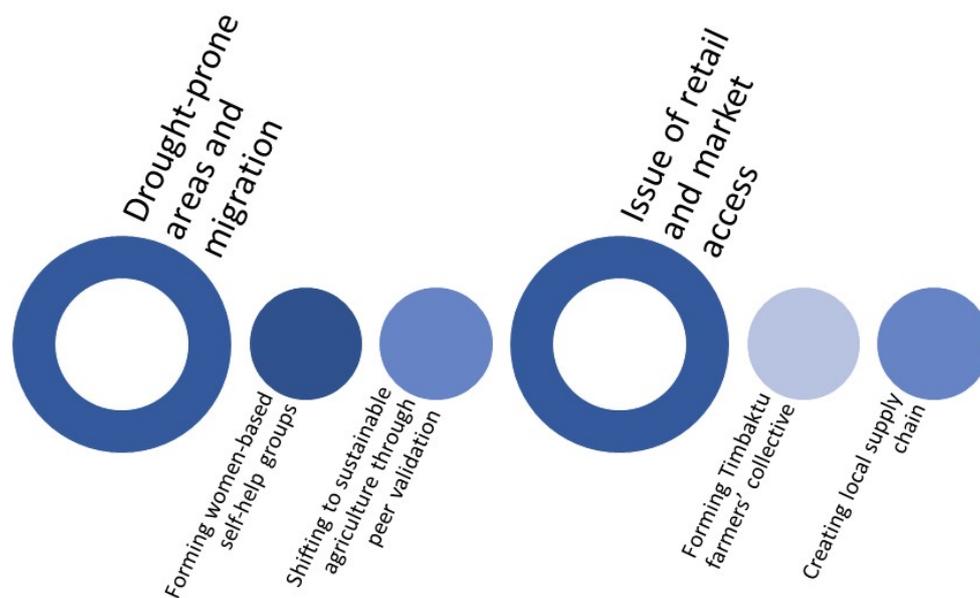
Figure 3. Trajectory of events set into motion through issues faced by the community in Anantapuram.

5. Managing Sustainable Transitions

These cases, drawn from different contexts, indicate the myriad challenges as well as opportunities existing in the terrain for enabling sustainable transitions. Importantly, unlike conventional approaches that seek to depend on a technological solution or innovation—a better seed, or a digital platform etc.—the innovations have largely been institutional. These include new or changed norms of consumption (Dream Grove), production, (Dharani) or newer markets (Gujpro). The cases also map onto different scales of consumption and production, from a small urban community to larger residential societies and farmer producer organisations catering to a large number of consumers. The challenges of mobilising people at each level require different approaches and institutional mechanisms. These can range from informal social platforms to semi-legal arrangements to enable various practices. Collective action and institutions like a farmer cooperative (Dharani) or a federation of farmer collectives (Gujpro) do play important roles in bringing about these transitions,

especially if sustainability is part of their agenda or vision. Networks enable trust building, and intermediaries, like an FPO, also play important roles as knowledge or innovation brokers. Newer institutional mechanisms like the PGS are critical for bringing sustainable producers and consumers together. The cases confirm experiences in other regions that found that 69% of the constraints for the sustainable intensification in the Central Africa Highlands related to institutional innovation (e.g., better access to credit, services, inputs, and markets) [56].

Transitions involve guided shifts in the attitudes, perspectives, and values of the people involved. Even with an initial acceptance of the need to change existing practices, there are significant and unexpected risks involved in undertaking new initiatives, as illustrated in the Dharani FaM coop. Building strong networks, at the institutional as well as personal level, is necessary to provide a buffer against the inevitable challenges involved. A paradigm shift in the ecologically destructive socio-technical landscape requires the mediation between many actors and time to facilitate an ecosystem that can build and sustain the momentum for 'new normals' and resilient futures. A new type of normativity, which is needed to engage with the ecosystem in a sustainable manner, can emerge strongly from grassroots experiences, gained through engagements that foreground a more interconnected and interactive approach to the human-nature relationship [57]. Table 1, below, captures the salient practice elements of the three cases, and the transition pathways enabled through them. In each case, unique elements play a role in building agency through social and institutional innovations. This allows for changing certain aspects of producer-consumer relations. However, transforming structures requires larger political forces to lend their weight by creating policies that can support such initiatives.

Table 1. Practice and Transition elements in the three cases.

Case	Dream Grove Community Farm	GujPro Mango Delivery	Dharani FaM Coop
Elements	Farm Plot, compost, food crops, seeds	Farmer Producer Organisations (FPOs), locked-in consumers, ready produce	Drought-resistant crops, organic farming, organic retail
Transition Pathway	Passive consumers to critically engaged participants	Locked-in to conscious consumerism	From input-centric agriculture to organic farming
Extent	15–20 farm volunteers, 50–60 WhatsApp members	130 consumers, 6 volunteers, 329 boxes (10 kgs) of mangoes sold	2072 orders, 617 tonnes of organic produce from 462 farmers, Sales of Rs 50 million
Building agency though institutional innovation	Social learning of consumers through experiments facilitated by core volunteers	Consumers minimising risk for producer collectives through pre-orders rather than cash on delivery	Producers facilitated into organic through *brindams*, Trust of consumers through PGS; and newer models of ethical investing
Mechanisms for changed relations	Peer feedback and active social platforms	Social capital of producer collective networks; leveraging the sustained demand in the following year	Synergy of networks of women SHG groups; *Brindams* (Farmer Field Schools) and organic farming (national and international)
Challenges in transforming structures	Motivating continued support from consumers to buy directly from farmers	Competing with cheaper (but ecologically harmful) alternatives, sustaining, and increasing scale of newer channels	Expanding organic procurement from more members, diversifying cropping patterns away from groundnut

6. Seeding Sustainable Transitions—What Is the Way forward?

Unlike in the West, where the producers are often a minority of the overall population, agriculture is the main source of livelihood for most Indians. Solutions for sustainable lifestyles need to explicitly recognise and involve producers in the collective experimentation with consumers. System transformations need to build on the resilience and reengagement of vulnerable populations [58]. The cases point to a few directions in seeding sustainable transitions for both producers and consumers and are indicated below:

1. Explicit focus on socio-ecological dimensions: There is mounting evidence that production and consumption patterns can no longer be understood along purely economic or price rationale lines, ignoring the ecological repercussions or social conditions of producers. India had 23 major droughts between 1871 to 2002; droughts have been more frequent ever since—roughly one every four years. Over 1000 incidents of crop losses due to unseasonal weather have been reported since 2015 [5]. An increasing number of smallholder producers are driven to starvation and suicide. Input-centred agricultural practices have severely stressed ground water availability and soil fertility, making many farmers dependent on barren and uncultivable lands for survival. Consumers need to look beyond economic growth models and explore the systemic relations of food systems that link ecological sustainability and human equity.

2. Building agency and changing relations are key to managing sustainable transitions: Beyond a plethora of technical solutions, there is a greater need for institutional reform to align organisations towards the objectives (a commitment to shift dominant paradigms of food production) of sustainable transitions. As the cases illustrate, and as articulated in recent discussions on equitable livelihoods and food systems [59], a key element is to build the agency of both producers and consumers and changing existing relations that are iniquitous, power-imbalanced, and ecologically unsustainable. Collective experimentation at a grassroots level, through mechanisms that change the relations between producers and consumers, is key for sustainable consumption.

3. Institutional innovations to break path-dependence: The cases also highlight innovative ways through which a shared understanding of socio-ecological interactions is supported. The role of informal institutions in building capacities to enable newer forms of interaction and learning is often undervalued, and change is often a non-linear, iterative process involving multiple knowledge bases. The path-dependence of the dominant systems can be altered through relevant triggers (such as COVID-19, the global financial crisis, peak-oil in Cuba, Arab Spring) and collaborations that address multiple issues simultaneously. These collaborations create new systemic opportunities through a recombination of pre-existing and novel ideas [60]. In the Indian agrarian context, while there is a broad consensus regarding the aim of sustainable food systems, there is less understanding on processes that could enable sustainable transitions. This would require the active unlearning of older paradigms, be it chemical farming or yield-focussed agricultural practices. While existing organisations of agricultural research are often technologically locked into old approaches, new knowledge and experiments in sustainable transition often exist outside formal institutions and state-led extension services, among diverse practitioners and networks. Enabling knowledge dialogues between the powerful formal and dispersed informal requires a greater focus on the software of policymaking, the skills in managing change in large systems, and the ability to create learning platforms among multiple actors and stakeholders. There is currently a deficit of such institutional spaces and skills to piece together the fragmented knowledge existing across development organisations, practitioners, formal institutions, and policy makers. For instance, a recent special programme for the promotion of millets in tribal areas of Odisha (Odisha Millets Mission), launched by the Governement of the eastern state of Odisha in 2017, to revive millets in farms and on the plate, brought together academics and civil society organisations to work with farmers to encourage the production of millets [61].

The efforts have improved the livelihood of farmers and supported the demand for climate-resilient crops.

4. A bricolage approach to scalability: The trajectories of the transitions set into motion by game-changers are not pre-determined routes or destinations. Instead, they are manifested in many different, simultaneous initiatives interacting with each other in unpredictable, emergent ways. These forms of collective experimentation are interesting, as they allow for the redistribution and contextualisation of innovative practices, such as self-help groups, local governance structures, stewardship of commons, and so on. The diverse forms of representation are not amenable to conventional ideas of scalability that assume the context-independent replicability of elements and relationships. Instead, transformative actions and relationships require attention to the historical contingency and particularities of a place, much like the multi-crop patterns used in agroecology. Social innovations can grow in the form of forests, diverse and connected, rather than plantations, controlled and bereft of the qualities that enabled them in the first place. The challenge and opportunity for these innovations is to identify practical points of entry into mainstream practices.

Reeling under the first and second wave of the pandemic, India is already showing signs of increasing inequality. There is thus a need to specifically work towards systems and processes that build consciousness, confidence, self-esteem, and the aspirations of the non-formal space, even though the capabilities, knowledge, and skills of the formal space needs to improve. Gearing our public, private, and community institutions towards this purpose requires a significant rethinking and constant monitoring of our food system goals and processes. While we do have many examples in India of alternatives that build agency and even change relations, they struggle to transform existing structures towards sustainability. Strengthening these initiatives with the right kind of public investments, akin to the Payment for Ecological Services (PES), could be one way. India's ecological footprint is low because of the significant contribution of communities practicing agroecology. Their knowledge systems are taken for granted under the 'default organic' category, not recognising their livelihood struggles in maintaining this low footprint, even as the systems around them continue to be ecologically insensitive. These efforts need to be counted—and, if required accounted too—for the required transformation. Transitions, if they need to be sustainable, need to be planned, invested, and managed. As Chambers [62] comments, this requires dismantling power relations to have a level playing field between holders of dominant and local knowledges and identify strategies for transformative change. Characterising the plethora of emerging cases in India and South Asia can provide us with new tools for imagining a sustainable socio-economic structure in society. The pandemic has laid bare the ruptured socio-ecological connections and offers a unique chance to reconstruct a resilient path to the recovery and wellbeing of the planet.

Author Contributions: Conceptualization, S.P.C. and D.D.; methodology, data collection, writing, review and editing, D.D. and S.P.C. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Ethical review was not applicable for this study as we did not work with vulnerable interview partners, no manipulation took place, and the interviewees were not exposed to risks. The participation was voluntary and based on an informed consent statement.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding authors.

Acknowledgments: The authors are thankful to four anonymous reviewers for their valuable comments and suggestions to improve the paper. The authors also thank Ford Foundation for supporting the 'Living Farm Incomes' project under which this paper was drafted.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. IPBES. *Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*; Díaz, S., Settele, J., Brondízio, E.S., Ngo, H.T., Guèze, M., Agard, J., Arneth, A., Balvanera, P., Brauman, K.A., Butchart, S.H.M., et al., Eds.; IPBES Secretariat: Bonn, Germany, 2019.
2. Dasgupta, P. *The Economics of Biodiversity: The Dasgupta Review*; HM Treasury: London, UK, 2021.
3. Ehrlich, P.R.; Harte, J. Opinion: To feed the world in 2050 will require a global revolution. *Proc. Natl. Acad. Sci. USA* **2015**, *112*, 14743–14744. [CrossRef]
4. Lal, R. Regenerative agriculture for food and climate. *J. Soil Water Conserv.* **2020**, *75*, 123A–124A. [CrossRef]
5. Sangloma, A. Looking Back: How Did Climate Change Alter the World This Year? 2020. Available online: https://www.downtoearth.org.in/news/climate-change/looking-back-how-did-climate-change-alter-the-world-this-year--74648 (accessed on 1 March 2021).
6. Heimlich, J.E.; Ardoin, N.M. Understanding behavior to understand behavior change: A literature review. *Environ. Educ. Res.* **2008**, *14*, 215–237. [CrossRef]
7. Kollmuss, A.; Agyeman, J. Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behaviour? *Environ. Educ. Res.* **2002**, *8*, 239–260. [CrossRef]
8. Steg, L.; Vlek, C. Encouraging pro-environmental behaviour: An integrative review and research agenda. *J. Environ. Psychol.* **2009**, *29*, 309–317. [CrossRef]
9. Agarwal, N. Inequality in India: What's the Real Story? 2016. Available online: https://www.weforum.org/agenda/2016/10/inequality-in-india-oxfam-explainer/ (accessed on 1 March 2021).
10. Bhaduri, A. *The Face You Were Afraid to See: Essays on the Indian Economy*; Penguin Books India: New Delhi, India, 2009.
11. Warlenius, R.; Pierce, G.; Ramasar, V. Reversing the arrow of arrears: The concept of "ecological debt" and its value for environmental justice. *Glob. Environ. Chang.* **2015**, *30*, 21–30. [CrossRef]
12. UN Food Systems Summit. Action Track 4—Advancing Equitable Livelihoods. 2021. Available online: https://www.un.org/en/food-systems-summit/action-tracks (accessed on 30 March 2021).
13. Altieri, M.A.; Nicholls, C.I. Agroecology and the reconstruction of a post-COVID-19 agriculture. *J. Peasant Stud.* **2020**, *47*, 881–898. [CrossRef]
14. Avelino, F.; Wittmayer, J.; Haxeltine, A.; Kemp, R.; O'Riordan, T.; Weaver, P.; Loorbach, D.; Rotmans, J. Game-changers and transformative social innovation. The case of the economic crisis and the new economy. *TRANSIT Working Paper* **2014**, *1*, 1–20.
15. Prasad, S.C. Innovating at the margins: The System of Rice Intensification in India and transformative social innovation. *Ecol. Soc.* **2016**, *21*, 7. [CrossRef]
16. Köhler, J.; Geels, F.W.; Kern, F.; Markard, J.; Onsongo, E.; Wieczorek, A.; Alkemade, F.; Avelino, F.; Bergek, A.; Boons, F.; et al. An agenda for sustainability transitions research: State of the art and future directions. *Environ. Innov. Soc. Transit.* **2019**, *31*, 1–32. [CrossRef]
17. Bijker, W.E. *The Social Construction of Bakelite: Toward a Theory of Invention*; MIT Press: Cambridge, MA, USA, 1987; pp. 159–187.
18. Kemp, R.; Schot, J.J.; Hoogma, R. Regime shifts to sustainability through processes of niche formation: The approach of strategic niche management. *Technol. Anal. Strat. Manag.* **1998**, *10*, 175–198. [CrossRef]
19. Vanloqueren, G.; Baret, P.V. How agricultural research systems shape a technological regime that develops genetic engineering but locks out agroecological innovations. *Res. Policy* **2009**, *38*, 971–983. [CrossRef]
20. Fuenfschilling, L.; Truffer, B. The structuration of socio-technical regimes—Conceptual foundations from institutional theory. *Res. Policy* **2014**, *43*, 772–791. [CrossRef]
21. Geels, F.W. Regime Resistance against Low-Carbon Transitions: Introducing Politics and Power into the Multi-Level Perspective. *Theory Cult. Soc.* **2014**, *31*, 21–40. [CrossRef]
22. Batterink, M.H.; Wubben, E.F.; Klerkx, L.; Omta, S.W.F. Orchestrating innovation networks: The case of innovation brokers in the agri-food sector. *Entrep. Reg. Dev.* **2010**, *22*, 47–76. [CrossRef]
23. Metelerkamp, L.; Biggs, R.; Drimie, S. Learning for transitions: A niche perspective. *Ecol. Soc.* **2020**, *25*, 14. [CrossRef]
24. Shove, E.; Walker, G. Caution! Transitions Ahead: Politics, Practice, and Sustainable Transition Management. *Environ. Plan. A Econ. Space* **2007**, *39*, 763–770. [CrossRef]
25. Gerber, J.-F.; Raina, R.S. Post-Growth in the Global South? Some Reflections from India and Bhutan. *Ecol. Econ.* **2018**, *150*, 353–358. [CrossRef]
26. Priyadarshini, P.; Abhilash, P.C. Policy recommendations for enabling transition towards sustainable agriculture in India. *Land Use Policy* **2020**, *96*, 104718. [CrossRef]
27. Kassam, A.; Kassam, L. Paradigms of agriculture. In *Rethinking Food and Agriculture*; Woodhead Publishing: Sawston, UK, 2021; pp. 181–218.
28. Kilelu, C.W.; Klerkx, L.; Leeuwis, C.; Hall, A. Beyond knowledge brokering: An exploratory study on innovation intermediaries in an evolving smallholder agricultural system in Kenya. *Knowl. Manag. Dev. J.* **2011**, *7*, 84–108. [CrossRef]
29. Holt Giménez, E.; Shattuck, A. Food crises, food regimes and food movements: Rumblings of reform or tides of transformation? *J. Peasant. Stud.* **2011**, *38*, 109–144. [CrossRef]

30. Loorbach, D.; Rotmans, J. Managing Transitions for Sustainable Development. In *Environment & Policy*; Springer: Dordrecht, The Netherlands, 2006; Volume 44, pp. 187–206.

31. Livelihoods India. *SOIL State of India's Livelihood Report*; Mahajan,, V., Ed.; Access Development Services: New Delhi, India, 2020.

32. Jorgensen, D.L. Participant observation. In *Emerging Trends in the Social and Behavioral Sciences: An Interdisciplinary, Searchable, and Linkable Resource*; John Wiley & Sons, Inc.: Hoboken, NJ, USA, 2015; pp. 1–15.

33. Clark, A.; Holland, C.; Katz, J.; Peace, S. Learning to see: Lessons from a participatory observation research project in public spaces. *Int. J. Soc. Res. Methodol.* **2009**, *12*, 345–360. [CrossRef]

34. Creswell, J.W.; Creswell, J.D. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*; SAGE Publications: Thousand Oaks, CA, USA, 2017.

35. Crabtree, B.F.; Miller, W.L.; Swenson, M.M. Doing Qualitative Research. *Nurs. Res.* **1995**, *44*, 254. [CrossRef]

36. Lather, P. Critical frames in educational research: Feminist and post-structural perspectives. *Theory Pract.* **1992**, *31*, 87–99. [CrossRef]

37. Robottom, I.M.; Hart, E.P. *Research in Environmental Education: Engaging the Debate*; Deakin University: Geelong, Australia, 1993.

38. Clarke, V.; Braun, V. Thematic Analysis. In *Encyclopedia of Critical Psychology*; Springer: New York, NY, USA, 2014; pp. 1947–1952.

39. Parnell, S.; Elmqvist, T.; McPhearson, T.; Nagendra, H.; Sörlin, S. Introduction: Situating knowledge and action for an urban planet. In *The Urban Planet: Knowledge towards Sustainable Cities*; Elmqvist, T., Bai, X., Frantzeskaki, N., Griffith, C., Maddox, D., McPhearson, T., Parnell, S., Romero-Lankao, P., Simon, D., Watkins, M., Eds.; Cambridge University Press: Cambridge, UK, 2018; pp. 1–16.

40. Mougeot, L.J. *Growing Better Cities: Urban Agriculture for Sustainable Development*; IDRC: Ottawa, ON, Canada, 2006.

41. Berry, W. The Pleasures of Eating. In *What Are People For?* North Point Press: New York, NY, USA, 1990.

42. Okvat, H.A.; Zautra, A.J. Community gardening: A parsimonious path to individual, community, and environmental resilience. *Am. J. Community Psychol.* **2011**, *47*, 374–387. [CrossRef] [PubMed]

43. Poulsen, M.N.; Neff, R.A.; Winch, P.J. The multifunctionality of urban farming: Perceived benefits for neighbourhood improvement. *Local Environ.* **2017**, *22*, 1411–1427. [CrossRef]

44. Suma, T.R.; Großmann, K. Exclusions in inclusive programs: State-sponsored sustainable development initiatives amongst the Kurichya in Kerala, India. *Agric. Hum. Values* **2017**, *34*, 995–1006. [CrossRef]

45. Frazier, C. "Grow what you eat, eat what you grow": Urban agriculture as middle class intervention in India. *J. Political Ecol.* **2018**, *25*, 221–238. [CrossRef]

46. Dutta, D.; Chandrasekharan, S. Doing to being: Farming actions in a community coalesce into pro-environment motivations and values. *Environ. Educ. Res.* **2017**, *24*, 1192–1210. [CrossRef]

47. Prasad, C.S. Farming as an Enterprise: Ten years of FPO Movement in India. In *State of India's Livelihood Report*; Access Development Services: New Delhi, India, 2019; pp. 37–48.

48. Ravichandran, V.; Vani, A. Conscious Consumerism-Institutions of India's Milk Capital Enable FPO Sell Mangoes During Lockdown. 2020. Available online: https://www.smallfarmincomes.in/post/conscious-consumerism-institutions-of-india-s-milk-capital-enable-fpo-sell-mangoes-during-lockdown (accessed on 1 March 2021).

49. Kumar, R.; Agrawal, N.K.; Vijayshankar, P.S.; Vasavi, A.R. *State of Rural and Agrarian India Report*; Network of Rural and Agrarian Studies: Delhi, India, 2020; p. 78.

50. Prasad, C.S. Constructing Alternative Socio-technical Worlds: Re-imagining RRI through SRI in India. *Sci. Technol. Soc.* **2020**, *25*, 291–307. [CrossRef]

51. Tyagi, B.B.; Kumar, R. The Future of Farming: To What End and For What Purpose? *Sci. Technol. Soc.* **2020**, *25*, 256–272. [CrossRef]

52. Ganguly, C.K. Putting people at the centre of development. *Rural 21* **2018**, *52*, 17–19.

53. Home, R.; Bouagnimbeck, H.; Ugas, R.; Arbenz, M.; Stolze, M. Participatory guarantee systems: Organic certification to empower farmers and strengthen communities. *Agroecol. Sustain. Food Syst.* **2017**, *41*, 526–545. [CrossRef]

54. Gupta, A. Participatory guarantee systems: The case of smallholders in Indian markets. In *Innovative Markets for Sustainable Agriculture: How Innovations in Market Institutions Encourage Sustainable Agriculture in Developing Countries*; FAO: Rome, Italy, 2016; pp. 113–136.

55. Kumar, C.A.V.S.; Prasad, C.S. Social Innovations in Organic Foods in Rainfed India: The Case of Dharani FaM Coop Ltd. In *Cooperatives and Social Innovation*; Springer: Singapore, 2020; pp. 165–182.

56. Hendrickson, M.K. Resilience in a concentrated and consolidated food system. *J. Environ. Stud. Sci.* **2015**, *5*, 418–431. [CrossRef]

57. Schut, M.; van Asten, P.; Okafor, C.; Hicintuka, C.; Mapatano, S.; Nabahungu, N.L.; Kagabo, D.; Muchunguzi, P.; Njukwe, E.; Dontsop-Nguezet, P.M.; et al. Sustainable intensification of agricultural systems in the Central African Highlands: The need for institutional innovation. *Agric. Syst.* **2016**, *145*, 165–176. [CrossRef]

58. Date, G.; Dutta, D.; Chandrasekharan, S. Solving for Pattern: An Ecological Approach to Reshape the Human Building Instinct. *Environ. Values* **2021**, *30*, 65–92. [CrossRef]

59. Westley, F.; Antadze, N. Making a difference: Strategies for scaling social innovation for greater impact. *Innov. J.* **2010**, *15*, 2.

60. Smith, A.; Stirling, A. The Politics of Social-ecological Resilience and Sustainable Socio-technical Transitions. *Ecol. Soc.* **2010**, *15*, 11. [CrossRef]

61. Joshi, S. There's a Third Alternative to Redefine Agri Markets. 2021. Available online: https://indianexpress.com/article/opinion/web-edits/theres-a-third-alternative-to-redefine-agri-markets-7140607/ (accessed on 24 February 2021).
62. Chambers, R. Knowledge systems for inclusively responsible food and agriculture. In *Rethinking Food and Agriculture*; Woodhead Publishing: Sawston, UK, 2021; pp. 353–369.