Organic Farmers, Consumers and Media: A Participatory Action Research

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Abstract: The market for organic products is currently exhibiting strong growth in India. More than 2% of India's net agricultural land was used for organic farming in the fiscal year 2022, the area used `for organic farming has been growing steadily, indicating an increase in demand for organic products (Statista, 2022). Besides, the Govt. of India promoting organic farming practices, many universities and colleges are offering organic farming courses online and offline. A quantitative approach to Participatory Action Research(PAR) was adopted as a broader tradition of collective self-experimentation that is backed up by evidential fact-finding, reasoning, and learning. The researchers organized a field visit to their own organic farm, '*Redwoods'* at Chinna Thadagam, Coimbatore, where integrated farming is practiced with chemical-free inputs. The farm is a blend of greens, fodder crops, herbs, flowers, fruits, and timber trees of local and exotic varieties with poultry, native dogs, and cows and data was collected from the participants pre- and post-visit through questionnaires. Growers lack a marketing network in small farms because of low-volume products and difficulties in reaching consumers. Researchers have attempted to find the role of different information and communication technology (ICT)to bridge this gap from the participants' perspectives both as producers and consumers. This study attempts to provide an overview of the role of media in bridging the gap from the participants' perspectives both as producers and consumers to provide an overview of the sources, choices, and preferences of the participants for information on organic farming practices and organic products. The participants' awareness of organic farming and organic products and trust in them improved after the field visit. As an important step toward a solution to many of the threats that conventional agriculture has on health and biodiversity, it depends upon a societal commitment to supporting organic farming. While field visits, workshops, and conferences can help with experientially learning organic farming, media, especially social media can help disseminate information about organic farming practices including techniques, workshops, field visits, marketing, buying, and selling organic products. In conclusion, media can be effectively used as channels to connect communities for sharing and marketing organic farming practices, organic products, post-harvest processing, value addition, and transportation among farmers and consumers.

Keywords: Organic Farming, Sustainable Living, Farm Journalism, Environmental Communication, Organic Products, Organic Producers, Organic Consumers, Media, Social Media, Environmental Sustainability

Introduction:

Food being the major requirement for all species to exist, lands are used for growing food that not only provides nourishment to animals, but to humans as well. Since ancient times, efficient agricultural practices have been adopted(Singh *et al.*, 2018). For a country like India, it is necessary to implement adequate agricultural practices to improve the food supply chain. Furthermore, it is agricultural practices that play an important role in making farming easy and efficient (Elayaraja & Vijai, 2021) andthese practices are responsible for making food efficient and safe for all. Conventional agricultural systems have increased per-area yield while reducing labour requirements through the use of new plant varieties that use fertilizer more efficiently, cultural practices (i.e increased crop density), efficacious pesticides, higher fertilizer rates, and increased mechanization for crop harvesting. Given the

setting, organic farming is a vital sustainable agricultural practice for addressing India's current agricultural snags(Soni *et al*., 2022). Shift towards nutrition and reduction in consumption of animal products have gained significance in public discourse as a result of the discussion over climate change with a shift to organic farming and organic products.

Awareness of human health and environmental issues in agriculture has demanded the production of safe and environmental-friendly food as an attractive source of farm income generation (Magnaye, 2018). While there are trends of rising consumer demand for organic food in India among the wealthiest consumers, sustainability in the production of crops has become the prime concern in agriculture development (Singh*et al.*, 2018). Even though organic food production has several advantages and growing demand, there are many constraints to its adoption in a country like India. India has the potential for organic production as agriculture is the main sector of the economy. Organic farming is a land use system with high potential as it can contribute to addressing several challenges our society faces, such as poverty, loss of biodiversity, water pollution, or climate change (Kummer *et al*, 2010).

In the case of farming production, the concerns related to biodiversity, global alimentary security, animal welfare, climate change, and natural resources disposal, emphasise the necessity of sustainable agricultural development, which is only possible with Information and Communication Technology (ICT) support (Correa, 2017). Indianagriculture is lagging in many aspects, characterised by poor connectivity and disintegration of markets, delayed and unreliable information to farmers, small land holdings, and less adoption or non-adoption of advanced technology (Singh *et al*., 2020). As ICT is an economical, user-friendly, and easily accessible form of communication for the dissemination of required information, effective utilization of it can potentially help rural communities prosper by providing up-to-date information on the market rates of commodities, inputs as well as consumer trends that can relatively improve a farmer's negotiating position and thereby their livelihood (Lokeswari, 2016).

The growing mass population limits organic farming, as some say,it cannot provide enough food to meet the raising demand.The types of ICT-enabled services useful for improving the capacity and livelihoods of poor smallholders have grown quickly, with hundreds of agriculture-specific applications emerging and showing great promise of facilitation for organic farming and organic products too (McNamara, 2017).Marketing organic products and reaching consumers is another challenge at hand, especially for perishables. Given the scenario, it is imperative to understand the importance of organic farmers connecting locally, sharing their experiential knowledge to be implemented and practiced by others, and also selling and buying their organic produce. A medium becomes essential for the farmers to find a market to sell organic products as well as a market to buy organic products.

Organic Farming in India:

Agricultural practices have a history of more than 4000 years in India, and organic farming is very much native to Indians. Farmers in the *Vedic* period, as evident in *Arthashastra*, possessed reasonable knowledge about the selection of seeds, soil fertility, seasonal sowing, weed management, plant protection, and sustainability of crops for different lands. During ancient times, Indian farmers adhered to the natural laws which helped in maintaining soil fertility over a considerably longer period of time. With its origin in ancient agricultural techniques, organic farming evolved over millennia in innumerable villages and farming groups (Singh *et al*., 2020). India has a high potential for producing a broad range of organic products due to its diverse agro-climatic conditions. This provides opportunities for organic producers to tap into a gradually expanding market, domestically and globally (APEDA). India excels at producing high-quality crops such as rice varieties, spices, tea, and medicinal herbs with its long history of agricultural practices used to build organic farming methods. Agriculture, in various parts of India, is not extremely intense about using agrochemicals, specifically in mountainous and tribal areas, and this makes the transition to organic farming easier. Organic farming practices when compared to conventional farming have proven to provide equivalent or higher yields on marginal soils, especially in the humid tropics. In India, labour is relatively inexpensive in comparison to input costs, favouring the transformation to less input dependent, but more labour-intensive production processes, as long as acceptable yields are attained. The growth of organic food industry in India is being boosted by a growing market for organic products as well as government policies that encourage exports. India ranks first globally with the maximum number of organic farmers (APEDA) and India

ranks fourth in terms of certified area globally as per the report published by the Research Institute of Organic Agriculture (FiBL) and the International Federation of Organic Agriculture Movements (IFOAM) Statistics 2022. As defined by National Programme for Organic Production (NPOP), the total area under organic production was 9119865.91 hectares in 2021-22. This comprises a cultivated area of 4726714.74 hectares and a wild harvest gathering area of 4393151.17 hectares.

Benefits of Organic Farming:

India is bestowed with a wide range of naturally occurring organic nutrients better suited for organic cultivation of a variety of crops. Additionally, the climatic and soil conditions of the drylands in India are appropriate for organic agriculture when compared to the conventionalagricultural system (Yadava & Komaraiah, 2021). India is also the birthplace of various traditional farming methods wherein indigenous farmers and natives make use of their traditional knowledge and skills,while using organic pesticides and fertilizers made from plant and animal wastes. The soil fertility is largely conditioned using organic manures, following climate-appropriate crop rotation and planting cover crops. Biological and physical control systems are used to manage pests, diseases, and weeds. Organic livestock is reared without antibiotics and growth hormones, while they are given routine immunization, vitamin and mineral supplementation (Das *et al.*, 2020). Organic farming is associated with numerous economic, environmental and social benefits. The International Federation of Organic Agriculture Movements (IFOAM) defined major principles of organic farming as principles of health, care, ecology, and fairness (IFOAM). The major components of organic farming include management of soil, weeds, pesticides, and crops, use of biofertilizers, and recycling of wastes. The traditional farmers practicing organic farming have deep knowledge of maintaining the fertility of the soil, and pest and disease management which are of great value in organic production (Das *et al.*, 2020). Thereby organic farming can help in restoring and maintaining the ecological health of the lands.

Conversion to Organic Farming and Organic Products:

Organic products are characterized by protecting soil fertility in the long-term via maintaining organic matter levels, fostering biological activity in the soil, environment-safe mechanical intervention, self-sufficiency of nitrogen through legume use and fixation of biological nitrogen, effective and efficient recycling of organic materials such as crop residues and livestock wastes, and weed and diseases and pest control primarily based on diversity, crop rotation, predators, organic manuring, and resistant varieties(Gugalia, 2021). The issues involved in organic farming include yield reduction related to conversion to an organic farm, enhancing soil fertility, livestock integration, constraints involved in the certification process, ecology, marketing, and policy support.Primary factors affecting demand for organic food among consumers are health consciousness and their willingness to pay for high-priced produce. Generally, consumers of organic products are a group of educated, affluent, and health-conscious spurred by strong demand, generous prices, and concerns for the environment. Due to these hidden benefits, conventional growers are turning to organic farming (Yadav, 2013).

Objectives of the Study:

- To identify the media accessed by organic farmers and consumersfor information on organic farming and organic products
- To identify the ICT platforms preferred and/or used by organic producers and consumers for information about organic farming and organic products

Review of Literature:

ICT for Organic Farming:

All farmers through Information and Communication Technology (ICT) can revolutionize the Indian farming sector. Farmers' exposure to mass media is propitious to their use of ICT and they use ICT services as and when they need information (Lokeswari, 2016). 'Digital Green' was one such research project in India to disseminate targeted agricultural information to small and marginal farmers through digital videos (Gandhi *etal*., 2007).Although such projects and videos provide a point of focus, ultimately people and social dynamics make these projects work. Local networks can effectively build a connection between farmers and experts. The widespread growth of information and telecommunication technologies (ICTs) offers new opportunities to provide timely and cost-effective information services to farmers, while simultaneously assisting in coordinating agricultural agents (Aker *et al*., 2016). The crucial aspect of ICT to better use sustainable on-farm resources is that the information should be accurate and reach the farmers at the right time (Yadav *et al*., 2017). It is pertinent to encourage ICT usage through measures including ICT infrastructure, and training on ICT tools, especially for setting market information (Lokeswari, 2016). ICT can offer a venue for the promotion and transmission of information related to organic farming practices, technology, events, and activitiesaiding procurement of required inputs besides buying and selling organic outputs such that the farmers are benefitted.

ICT for Organic Products:

Consumption is the reason for producing anything and farming organically is motivated by consumption patterns (Yazdanpanah and Forouzani, 2015). Health, quality, and environment are the foremost attributes of organic products, and the promotion of these benefits has the potential to demonstrate the same. Even at a higher price, they still offer value for money. Organic agriculture offers trade opportunities for farmers in developing and developed countries (Garibay, 2003). Organic food products are considered to be more sustainable than and an alternative to conventional farm food (Mhlophe, 2016). Marketing activities regarding sustainable development include promoting a better quality of life for consumers at the present and for future generations (Capatina *et al*., 2017). Creative marketing communication can help both, farmers and retailers, to effectively market sustainable products (Mkhize, 2019). Price is considered to be one of the main obstacles that consumers face in the process of making buying decisions in the organic food market (Melovic, 2020). Organic products are increasingly being imported (Xie, 2011). With the development of e-commerce, online consumption has rapidly grown. Social networks and other Internet-based channels could be efficient instruments for the promotion of organic farming practices and food products. Consumers prefer traditional and modern media as sources of information, and the relative impact of different promotion channels on consumer preferences and acceptance keeps changing depending on the type of information and the need for the information. The internet can be an efficient channel for organic sales (Medina-Viruel, 2015). The major benefit of ICT in the agricultural sector is the improvement of knowledge sharing and market activities (Arogundade, 2020), thereby helping organic farmers and consumers connect among themselves and with each other.

RQ1: Is there any change in the level of awareness and understanding about organic farming and products before and after the organic farm visit?

RQ2: How do participants prefer to learn organic farming and buy organic products?

Methodology:

The researchers adopted Participatory Action Research (PAR), a methodological approach to collaborate with local communities. It enables us to advance in the restructuring of physical flows, economies, and information that support local farming and market, as a means to achieve greater autonomy and self-management (Guzman *et al*., 2012) to link the local knowledge and livelihood systems crucial for successful adaptation (Koelle, 2012). PAR is a process that can encompass both relevance and rigour. In a field of inquiry, it enables the production of knowledge

that guides practice (McCown, 2001), with modification occurring out of a given reality as part of the research process(Oquist, 1978).

Zuber-Skerritt (1993) explains Action Research as being:

- Participative and collaborative wherein a researcher is not an outside expert but rather a co-worker doing research with and for the people concerned with the practical problem and its actual improvement;
- Practical wherein the results and insights gained from the research are not only of theoretical importance to the advancement of knowledge in the field but also lead to practical improvements during and after the research process;
- Emancipatory as all people concerned are equal participants contributing to the inquiry.
- Interpretive solutions are based on the views and interpretations of the people involved in the inquiry (with) research validity achieved by rigorous methods;
- Critical wherein participants act as critical and self-critical change agents who change their environment and are changed in the process. PAR is often depicted by the action research cycle (Zuber-Skerritt, 1993) consisting of iterative cycles of planning, action, observation, reflection, and replanning. Participatory Action Research is proposed as an alternative methodology that potentially delivers the benefits of new scientific knowledge and improved farming practices – as well as provides the opportunity to continually improve our research process.

A field visit to an organic farm owned by one of the researchers, Redwoods Farm at Chinna Thadagam, Coimbatore, Tamil Nadu was organised. The event was promoted through print and social media. Around 46 participants from in and around Coimbatore registered and visited the field. Data were collected through two different questionnaires, before the visit, and after the visit. This study attempts to understand the choices and preferences of the participants to learn organic farming practices, market organic products, and the role of digital media in disseminating information about organic farming and organic products.

The participants were aged between 18 and 63 years from Coimbatore, involved or interested in organic farming and products. The visit comprised a farm walk on the organic farm where integrated farming is practiced with chemical-free inputs is practiced in the farm which is a blend of greens, fodder crops, herbs, flowers, fruits, and timber trees of local and exotic varieties with poultry, native dogs and cows. Data was collected from the participants pre- and post-visit through structured questionnaires. Comparisons with conventional farming practices and products were highlighted with the advantages of organic farming concerning soil and weed management, crop diversity, and biological pest control. The ease and importance of breeding native hens, dogs, and cows were explained. The participants were exposed to a wide variety of trees, and flowers and their role in forming asustainable ecosystem. The walk was concluded over a stallwherein organic farmers were invited to connect, introduce and sell organic seeds and products.The stall was exhibited by '*Rangamalai Organic Farms – Manvasanai*,' registered in Bangalore, Karnataka, and branched in Karur, Tamil Nadu.A Kangeyam bull, *Nandha*,was exhibited for the occasion for insights into their adaptability to our agro-climatic conditions, survivability on low feeds and fodder, and resistance to tropical diseases.

Results:

Table 1 indicates that 61% of the participants opined the cost of organic products to be high before the visit but it came down drastically to 24% after the visit.

Table 1 **Opinion on Cost of Organic Products**				
	Pre-visit		Post-visit	
	Frequency	Percent	Frequency	Percent
Very high	4	9	2	4
High	24	52	9	20
Fair	13	28	33	72
Low	3	7	1	2
Very low	2	4	1	2
Total	46	100	46	100

Table 2 indicates most, 71.7%, of the participants felt that the usefulness of this field visit was very high, while 24% felt it to be high and 4.3% felt neutral about the same.

Table 2 **Buy Organic Products**				
	Pre-visit		Post-visit	
	Frequency	Percent	Frequency	Percent
Yes	23	50	41	89
No	23	50	5	11
Total	46	100	46	100

Table 3 indicates that 31% of the participants highly trusted the organic products available in stores before the visit while the number increased to 76% after the visit.

Table 3 **Trust in Organic Products in Stores**				
	Pre-visit		Post-visit	
	Frequency	Percent	Frequency	Percent
Very high	5	11	23	50
High	9	20	12	26
Neutral	22	48	7	15
Low	6	12	4	9
Very low	4	9	0	0
Total	46	100.0	46	100.0

Table 4 indicates most, 72%, of the participants felt that the usefulness of this field visit was very high.

Table 4 **Usefulness of the visit**		
	Frequency	Percent
Very High	33	72
High	11	24
Neutral	2	4
Total	46	100.0

Findings and Discussion:

A majority (54%) of the participants were male,61%of the participants were below 40 years of age, and 46% were undergraduates. Most (59%) owned farmlands and a majority (70%) of them did not practice organic farming. Half (50%) of the participants bought organic products and most (89%) of the participants found it difficult to avail of them. However, their perceptions changed after the visit and 89% of them planned to buy organic products as their awareness about organic farming and the benefits of organic products increased after the visit. As per *Table 1,*before the visit, almost 61% of the consumers felt organic products are of high cost. With sensitisation on the processes and techniques involved in organic farming, the participants were able to understand the difference between organic farming and conventional farming and relatively 72% of the participants felt that organic products are priced fairly. The fundamental economics behind measures to decrease the prices of organic products would be to increase production and marketing base which would eventually lead to increased consumption, thereby reducing the cost. Before the visit, consumers' trust in organic products sold in stores was low (22%) and almost half (48%) of them were unsure about it. There is a substantial positive shift in the trust in organic products from 31% before the field visit to 76% after the visit. The stores could also improve the situation by educating the consumers through field visits/workshops to the farms supplying organic products to the stores. Social media is found to have a better reach with 54% of consumers relying on it for information related to organic farming and organic products. This is followed by print media (17%) and television (13%). Focus on digital production and display in advertising and marketing organic products could be mutually beneficial for organic farmers and consumers. Learning organic farming through field visits (30%) and workshops (24%) can highly impact consumers. The reliability of social media is surprisingly low at 20% in this regard followed by print (15%) and TV (11%). Most (59%) of the participants followed social media pages for information related to organic farming and a majority (54.3%) preferred social media networks for information related to organic products. Most (30.4%) of the participants preferred field visits to experientially learn about organic farming. While, before the visit, a majority (48%) of the participants felt neutral about their trust in organic products available in stores, most (50%) of the participants' trust in organic products was very high after the visit. Most (28%) of the participants preferred WhatsApp among social media networks for information on organic farming and products and all of the participants were willing to receive updates regularly on social media for information related to organic farming including practices, field visits, festivals, exhibitions, markets, workshops and also organic products. A majority (70%) of the participants were not concerned about brands concerning organic products. A majority (52%) of the participants had come to know about this field visit through social media platforms. A majority (72%) felt that the field visit was very highly useful for awareness of organic farming and organic products and a majority (98%) felt that understanding of organic farming will increase after such field visits. A majority (54%) of the participants felt that the role of women in organic farming was very high. A majority (98%) of the participants felt that organic

farming helps in tackling global warming and climate change. While only 54% of the participants read magazines related to organic farming, 72% of them read Pasumai Vikatan regularly for farming updates. A majority (57%) of the participants found enough news about organic farming in the media.

Conclusion:

Consumer demand for organic products has increased dramatically in the recent past, with global sales increasing more than threefold (Reganold and Wachter 2016). The demand for organic products and subsequently organic farming has been reported to increase all over the world. At the farm level, adaptive capacity depends on the diversity of activities and marketing channels, and on the farmer's self, through monitoring of the context and engaging in processes involved in learning. Within the sustainable agriculture movement, however, farmers and rural advocates have organized farmer-to-farmer networks for the express purpose of exchanging information among participants (Bird, 1995). Different experiences create multiple and partial perspectives from which local knowledge of sustainability is generated. Men and women tend to do different kinds of work and have different lived experiences on farms and diversity has challenged them to create ways to meet their desires to gather and exchange practical information (Hassanein, 1997).

Despite numerous advantages, in terms of preservation of natural resources, protection of the environment, better food quality, etc., a shift to organic farming remains a big challenge in developing countries like India. Besides other drawbacks, government policies concerning promoting organic farming are one of the biggest challenges in India (Bhardwaj & Dhiman, 2019; Das *et al.*, 2020). However, in India, organic produce does not offer a high price premium, thus decreased yield leads to lower profit if they are sold domestically. Another limiting factor is that a large number of farmers belong to a marginal and small category and therefore, to support organic farming, the government needs to invest to provide financial incentives to the farmers. There is a need to bring out more schemes wherein cooperation with non-government agencies should help in the certification process and provide special training to the farmers. These measures could help enhance their knowledge and skills required for the production, processing, and marketing of organic products, especially through viable social media networks. Besides, they need to be supported through extension programmes on how to use their input resources instead of purchasing and relying on outside resources. Also, there is a need to encourage organic farmers in making associations and trade unions to improve their marketing efficiency(Barik, 2017; Das *et al.*, 2020; Yadava & Komaraiah, 2021), especially excluding middlemen.

Most of the agricultural information was transmitted among farmers orally until the mid-19th century (Paskoff, 1990), following which radio, mail, and face-to-face communication evolved as prime sources of information (American Farm Bureau Federation, 2013). Even with all these communication forms being very crucial, the Internet outpaced all other forms and their influence in all fields, including agriculture. All over the world, retailers try to use the power of social media to their advantage with opportunities to change the way they function their businesses, specifically concerning making connections and gaining consumers to build trust to avail their services. Social media applications offer new accessible and transparent ways to connect sellers and buyers (Ginder and Byun, 2022).

The participants' awareness of organic farming and organic products and trust in them improved after the field visit. Organic farming and organic products are an important step toward a solution to many of the threats that conventional agriculture has on health and biodiversity, it depends upon a societal commitment to supporting organic farming.While field visits, workshops, and conferences can help with experientially learning organic farming, media, especially social media can help disseminate information about organic farming practices including techniques, workshops, field visits, marketing, buying, and selling organic products. Media can be effectively used as channels to connect communities for sharing and marketing organic farming practices, organic products, post-harvest processing, value addition, and transportation among farmers and consumers.

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