

Identification of Potential sourcing areas of selected organic fruits and vegetables (mango, onion, pomegranate) in Maharashtra and Andhra Pradesh.

ABSTRACT

India, characterized as an agrarian nation, witnesses approximately 54.6 percent of its population relying on agriculture and allied sectors which is contributing a noteworthy 17.8 percent to the nation's gross value in the fiscal year 2019-2020. Distinguished by its diverse climate and immense potential for fruit and vegetable cultivation. Organic agriculture is being practised in 187 countries globally, where a huge area of about 72.3 million hectares of agricultural land is managed by more than 3.1 million farmers (Statista, 2023). Organic farming is currently in its early stages in India. As per the FIBL & IFOAM Year Book 2020, India secures the 5th position globally. Based on the prominence of cultivation of selected organic fruits and vegetables i.e., onion, mango and pomegranate, two districts from Andhra Pradesh i.e., Chittoor and Kadapa and two districts from Maharashtra i.e., Nashik and Solapur had been considered for their sourcing. Based on the method of purposive sampling, data was collected from 20 respondents for each crop which includes a total of 60 respondents consisting of FPOs, traders and farmers. Among the 60 respondents, 45 belong to the state of Maharashtra and 15 to the state of Andhra Pradesh

Introduction

India is an agrarian country in which around 54.6 percent of the whole population is dependent on agriculture and allied activities and added 17.8 percent to the country's gross value during the financial year 2019-2020. The diverse climate existing and the huge potential of India in fruit and vegetable cultivation established it as the second-largest producer of fruits and vegetables after China. India produced 107.10 million metric tonnes of fruits and 204.61 million metric tonnes of vegetables during the year 2021-22. The area under cultivation of fruits stood at 7.01 million hectares, while vegetables were cultivated in 11.28 million hectares during the year 2021-2022 (PIB INDIA, 2022). Hence India is assured of the availability of all varieties of fruits and vegetables as fresh produce. According to the Food and Agriculture Organization (FAO, 2021), India is the largest producer of ginger and okra and ranks second in the production of potatoes, onions, cauliflower, brinjal, cabbage, and other vegetables.

Amongst fruits, the country ranks first in the production of bananas, mangoes, and papayas. The vast production base offers India tremendous opportunities for export. In 2021-22, India exported fresh fruits and vegetables worth Rs. 11,412.50 crores/1,527.60 USD million.

The green revolution era of the 1960s brought significant changes in Indian agriculture by introducing high-yielding seeds and fertilizers to the farmers with the aim of augmenting food production and achieving food security. But later, the utilization of fertilizers and pesticides had been increased drastically over a period. This caused severe environmental consequences, such as soil infertility and the production of hazardous food products. Hence, to make farming sustainable, it is necessary to decrease the use of agricultural chemicals.

Organic farming is in a nascent stage in India. According to the FIBL & IFOAM Year Book 2020, India ranks 5th in terms of the World's Organic Agricultural land and 1st in terms of the total number of producers. As of March 31st, 2022, a total area of 9.1 million hectares (registered under NPOP) was under the organic certification process, including 4.7 million hectares of cultivable land and 4.3 million hectares for wild harvest collection. A few states have taken the lead in improving organic farming coverage, as a result major part of organic cultivated area is concentrated only in a handful of states. Madhya Pradesh has the largest area under organic certification, followed by Maharashtra, Gujarat, Rajasthan, Odisha, Karnataka, Uttarakhand, Sikkim, Chhattisgarh, Uttar Pradesh, and Jharkhand. Sikkim has achieved the remarkable distinction of converting its entire cultivable land (more than 75,000 hectares) under organic certification. Madhya Pradesh contains 0.76 million ha of area under organic cultivation which is over 27 percent of India's total organic cultivation area and it is followed by Rajasthan and Maharashtra which together accounted for about half the area under organic cultivation. The top 10 states account for about 80 percent of the total area under organic cultivation. The APEDA, Ministry of Commerce & Industries, Government of India is implementing the National Programme for Organic Production (NPOP). The program involves the accreditation of Certification Bodies, standards for organic production, promotion of organic farming and marketing, etc.

Organic farming scenario in Andhra Pradesh

In the current scenario, organic farming is gaining huge prominence and Andhra Pradesh with its huge potential for fruit and vegetable cultivation, is no exception to this trend. To facilitate the transition to organic farming, the state government has implemented various initiatives and programs. One of the key initiatives is the "Andhra Pradesh State Organic Farming Policy," which provides a road-map and framework for the development of organic farming practices. The policy aims to promote organic farming across all agricultural sectors, including crops, horticulture, livestock, and fisheries. The government has also established the "Andhra Pradesh Organic Certification Authority" (APCO), which is responsible for the certification of organic produce. This certification ensures that organic farmers follow the required standards and guidelines for organic farming practices. It also helps in building consumer trust and providing market access for organic farmers.

Organic farming scenario in Maharashtra

Maharashtra has witnessed significant growth and development in organic farming in recent years. It is one of the leading states in India for organic agriculture practices. The state government has actively promoted and supported organic farming through various initiatives and policies. At the same time, Maharashtra's diverse agro-climatic conditions provide suitable environments for cultivating a wide range of organic crops including cereals, pulses, fruits, vegetables, spices, and medicinal plants, which are grown using organic methods across the state. Several organizations and farmer groups in Maharashtra have embraced organic farming methods, transitioning from conventional farming practices to more sustainable and environmentally friendly approaches. These farmers adhere to organic principles, such as avoiding synthetic pesticides, Genetically Modified Organisms (GMOs), and chemical fertilizers. The adoption of organic farming practices has not only contributed to the conservation of soil health, but has also enhanced the quality of agricultural produce. Organic farmers in Maharashtra have reported improved soil fertility, increased water retention, and decreased soil erosion, leading to sustainable and long-term benefits for the farming community. To support organic farmers, the Maharashtra government has introduced schemes and incentives, such as financial assistance for organic certification, training programs, and the establishment of organic markets. These measures aim to encourage more farmers to switch to organic farming and ensure a fair market for their produce.

Methodology

To carry out the study with the above objectives in Maharashtra and Andhra Pradesh states, Chittoor, Kadapa, Nashik and Solapur districts was taken up as study area as most of the select organic fruits and vegetables i.e onion, mango and pomegranate are cultivated in this district. To collect the primary data regarding select organic fruits and vegetables. Data was collected from 60 respondents which are included FPOs, traders and farmers in Chittoor and Kadapa districts of Andhra Pradesh, and Nashik and Solapur district of Maharashtra. From for each selected organic crop data was collected from 20 respondents. Purposive sampling method has been used to select the sample.

Major Findings of the Study

Survey was conducted to identify the potential areas for sourcing of select organic fruits and vegetables is that onion, mango and pomegranate from the states of Andhra Pradesh and Maharashtra. The data collected has been analyzed to pick out the sources of supply for the firm. From the survey it is seen that the organic cultivation of the selected crops i.e., onion, mango, pomegranate was prominent and spread across the states of Maharashtra and Andhra Pradesh, whereas the cultivation of organic onion is seen in Maharashtra. The presence of several Non-governmental Organizations (NGOs) (to name a few Centre for Sustainable Agriculture (CSA), Deccan Development Society (DDS)) are promoting the cultivation of organic crops in these states. The technical support and the scientific advises provides by these agencies are aiding farmers and can result in the further expansion of organic cultivation in these areas. Based on the secondary data collected from various sources such as Ministry of Agriculture GOI, Agriculture Processing and Export Development Authority (APEDA), Farmers Producers Organization (FPO), FPO Junction, National Project on Organic Farming (NPOF), Deccan Development Society (DDS) and Centre for Sustainable Agriculture (CSA) two districts from each state i.e., Solapur and Nashik from Maharashtra and YSR Kadapa and Chittoor from Andhra Pradesh have been identified as potential areas for sourcing of organic Onion, Mango and Pomegranate.

From the secondary data that was collected from various sources it is noticed that the potential sources could be FPOs, traders and farmers. Initially from the available data 150 FPOs/traders/farmers who are into cultivation of either onion,

pomegranate or mango were contacted. Keeping the basic requirements as possessing organic certification 60 sample respondents have been shortlisted to conduct the study. Among the 60 respondents, 45 belong to the state of Maharashtra and 15 to the state of Andhra Pradesh. The distribution of the sample respondents is shown in the table 1

Table 1 Distribution of Samples respondents

S. No	State	Samples respondent	Percentage of total sample (%)	FPOs	Traders	Farmers
1	Maharashtra	45	75	21 (35%)	15 (25%)	9 (15%)
2	Andhra Pradesh	15	25	8 (13.3%)	4 (6.6%)	3 (5%)
3	Total	60	100	29	19	12

Among the total samples respondents from the Maharashtra *i.e* 45, 21 were FPOs, 15 were traders and nine were farmers where as in Andhra Pradesh, in the total sample size of 15 respondents, eight were FPOs, four were traders and three were farmers.

Details of Sources for procuring organic Onions

The FPOs, traders and farmers of Nashik district of Maharashtra are identified as the potential sources for procuring organic onion, which are nine FPOs, seven traders and four farmers. All the identified FPOs have Participatory Guaranty System (PGS)-India (organic certification) given by Ministry of agriculture, Govt. of India.

Details of Sources for Procuring Organic Mangoes

The FPOs, traders and farmers of Kadapa and Chittoor district of Andhra Pradesh and Nashik district of Maharashtra are identified as the potential sources for procuring organic mangoes which are include two FPOs, two traders and one farmers from Nashik district and eight FPOs, four traders and three farmers from Andhra Pradesh. All the identified FPOs have Participatory Guaranty System (PGS)-India (organic certification) given by Ministry of agriculture, Govt. of India.

Details of Sources for procuring organic Pomegranate

The FPOs, traders and farmers of Solapur and Nashik district of Maharashtra are identified as the potential sources for procuring organic pomegranate which are seven FPOs, four traders and two farmers from Solapur district and three FPOs, two traders and two farmers from Nashik district. All the identified FPOs have

Participatory Guaranty System (PGS)-India (organic certification) given by Ministry of agriculture, Govt. of India.

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