



AN OVERVIEW OF MILLET CULTIVATION IN INDIA IN RECENT TIMES - A WAY TOWARDS SUSTAINABLE AGRICULTURE AND NUTRITIONAL SECURITY

Paramita Chakravorty
Assistant Professor
Department of Economics
Shri Shikshayatan College, Kolkata, India.

Abstract

The United Nations declared 2023 as the International Year of Millets. Earlier 2018 was declared as the National Year of Millets by the Government of India. Millets can be cultivated even in dry regions with minimal input requirements and their cultivation is quite resilient to climatic changes. They also have high nutritional value and are gaining importance due to the health benefits from consumption of millets. There are quite a few varieties of millets that are cultivated in India, which include ragi (finger millet), jowar (sorghum), bajra (pearl millet), sawa (barnyard millet), proso millet, foxtail millet, kodo millet and others. Cultivation of millets can contribute to food security to the nation as well as nutritional security to the consumers. These are traditional food for a major section of the population in India and have higher nutritional value compared to our staples like wheat and rice. They are being called the nutri- cereals and smart food due to the health benefits and ease of cultivation. Most of the Indian states grow at least one variety of millets. Millets have also gained importance as an export item. An increase in the area of millet cultivation, government support through minimum support price to farmers and encouraging start-ups dealing with millets and millet products would bring about sustainable changes in the cultivation and consumption of this nutri-crop in future. The paper would try to present an overview of different dimensions of millet cultivation in India in recent times. This paper will try to look into the production of millets in India, with a focus on West Bengal's position compared to some major states in which millets are cultivated.

Keywords: millet, nutri-cereal, agriculture, sustainability

Introduction

With global warming, drastic climate change, erratic rainfall and increasing temperature, sustainability of agricultural production is a major concern. In this context the traditional millet cultivation in India can be considered as a possible solution. There are varieties of millets that are cultivated in India, across all states, which include ragi (finger millet), jowar (sorghum), bajra (pearl millet), sawa (barnyard millet), proso millet, foxtail millet, kodo millet and others. Cultivation of millets is cost effective as input costs are negligible.

These crops do not require much water, chemical fertilisers and pesticides and can be grown in dry regions. These are traditional food for a major section of the population in India, particularly in the rural areas. Of late millets are taking up an important position in the urban consumption basket due to their higher nutritional value compared to our staples like wheat and rice. They are being called the nutri-cereals and smart food due to the health benefits. Millets can provide food security to the country and nutritional security to the consumers.

Literature Review

A brief review of relevant literature on millet cultivation and its impact is being presented here. A study by Raj et al [2024] explores the benefits of millet cultivation in soil- nutrient management and integration of millets in crop rotation and intercropping system has been highlighted as a sustainable practise. Once considered as ‘poor man’s food’, millets are gaining importance as nutri crops due to their immense health benefits. According to Asha Devi and A. Perumal [2022], millets can help to achieve nutritional security sustainably as they are climate resilient crops and have superior nutritional profile compared to rice and wheat. In the post Green Revolution period, the area under cultivation of millets witnessed a drastic decline due to more importance given to wheat and rice cultivation. This study tried to look into the demand-supply gap in the production of millet varieties like jowar, bajra, ragi and small millets. Sendhil and Jyothimal et al [2023] in their study have analysed the trend, potential prospects and outreach strategies of millet cultivation in India. Their study revealed a decline in production and acreage during their study period 1968-69 to 2022-23, though they note a recent revival due to several initiatives by the Government. Dayakar Rao et al [2017] have presented a detailed analysis of the health benefits of millet consumption. The nutritional profile of various millets like sorghum, pearl millet, finger millet, foxtail millet, common millet, barnyard millet, little millet and kodo millet have been elaborately explained.

Methodology

This analysis is majorly exploratory in which a review of available relevant literature has been done. Secondary data from official website has been used for relevant analysis.[[apeda.gov.in/ millet](http://apeda.gov.in/millet)]

Overview

In this paper there is an attempt to look into the cultivation of millets across states in India and hence find out the position of West Bengal in comparison to other states. Millet is being called a nutri cereal since it has immense health benefits. Compared to the regular staples like wheat and rice, millets are supposed to have health benefits for consumers since they are gluten-free and have a low glycemic index, being rich in dietary fibre and antioxidants. With an increase in lifestyle diseases over time like obesity, diabetes etc. there is an increase in the demand for millets in recent times as a super cereal among the urban population. On the supply side, cultivation of millets is easier and cheaper compared to other cereal crops. The requirement of inputs is minimal as it can grow in dry and arid regions, without the use of pesticides. Recognising the demand side and supply side benefits, one of the major queries of this paper is to check whether the Indian farmers are getting incentive enough to cultivate millets in larger volumes or not. Cultivation beyond self consumption of the farming family/community will enable not only sale of various millet varieties within the country but there will be increase in export volumes.

The benefits or prospects of cultivating millets are multiple.

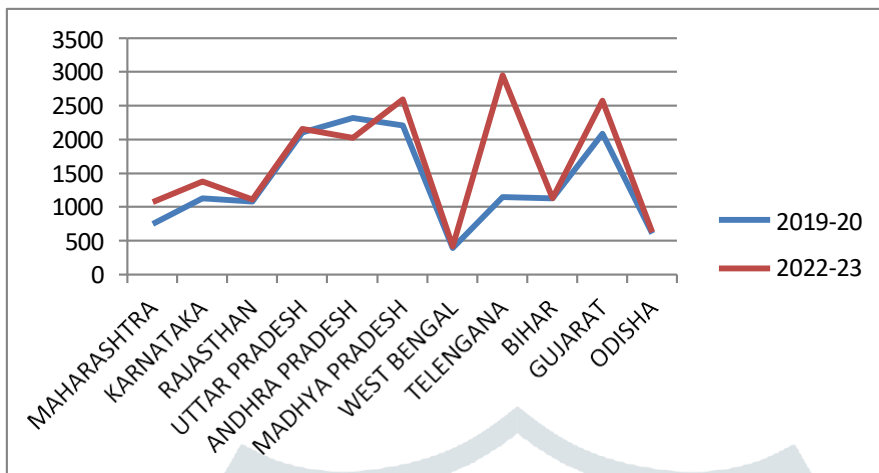
- Millets are drought resistant and can be cultivated in dry and arid regions or during dry season
- Preservation of biodiversity by cultivation of various types of millets
- Lower input costs as cultivation of millets requires very minimal chemical fertilisers, pesticides etc
- Higher profitability to farmers as input costs are low
- Nutritional security to consumers of millets at cheaper cost, particularly women and children who suffer from malnutrition

- Export prospects of various varieties of millets and millet products Production of millets in selected states in India in 2019-20 and 2022-23

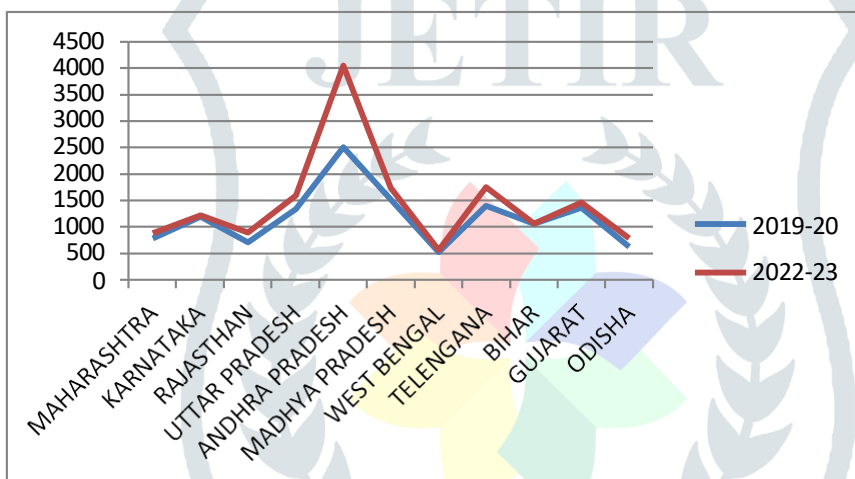
The major millet producing states are Rajasthan, Uttar Pradesh, Telengana, Gujarat, Karnataka, Andhra Pradesh, Maharashtra and Tamil Nadu. A comparison of some selected states with respect to production of major millet varieties [in terms of yield per hectare] reveals that bajra, jowar, and ragi are cultivated in almost all states in India. A basic study of yield/hectare of the 3 major millets in 2019-20 and 2022-23 reveals that Telengana is currently the highest producer of bajra while West Bengal is lowest. In case of jowar, Andhra Pradesh leads with the highest yield/hectare and West Bengal is lowest. In case of ragi, it is Gujarat which records the lowest cultivation while Telengana leads. West Bengal is primarily a rice cultivating state and hence low production volumes of millets are expected. However with increasing dry and hot summer spells and scarcity of water, farmers

across all states should be encouraged to increase cultivation of millets, along with their major cultivable crop, so that they have a steady source of income flow.

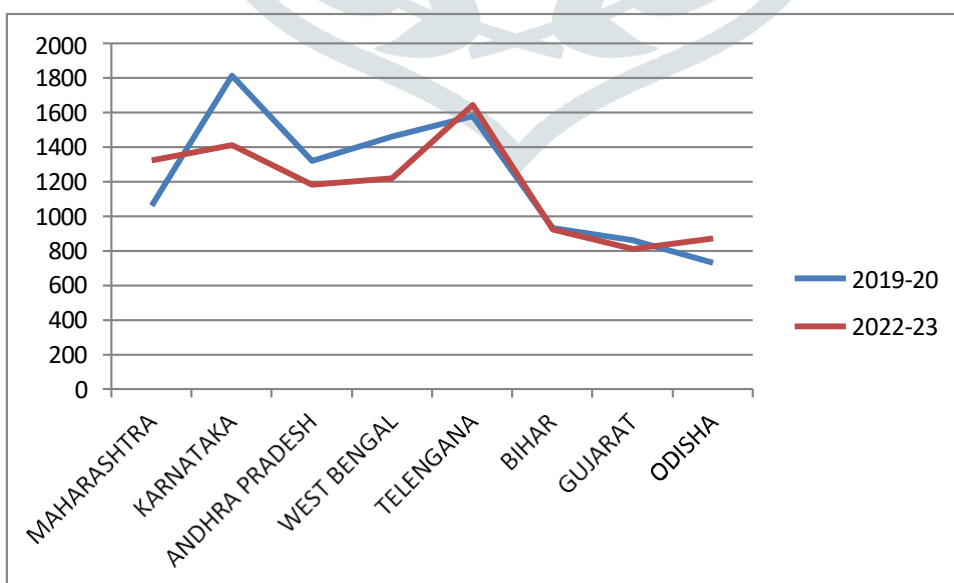
BAJRA- yield [kg]/hectare in selected states



JOWAR –yield [kg]/hectare in selected states



RAGI – yield /hectare [data for Rajasthan, UP and MP were not available]



West Bengal produces larger volume of ragi, followed by jowar, bajra and small millets [as per data available for 2022-23].

India's millet export

India produces nearly 20% of the global millet production. India exports many varieties of millets to countries like UAE, Saudi Arabia, Nepal, Libya, Oman, Egypt, UK and USA. Millet exports contribute to foreign exchange earnings. In terms of volume exports UAE is the leading destination for millets from India. The government can take up export promotion policies in support of millet which will in turn make it profitable for farmers to increase their cultivation of this nutri-crop. In this context the Agricultural and Processed Food Products Export Development Authority [APEDA] plays a prominent role.

Conclusion

Encouragement to cultivation of millets can be profitable to farmers, large and small, across the country. The role of government departments and NGOs are very important in terms of generating awareness, providing training, information and support for the same. Improved storage and transport facility and above all guarantee of minimum support price to farmers will be fruitful. SHGs focussing on millet products can also lead to women empowerment through creating income earning possibilities by making innovative millet items and selling them in local markets. Most importantly making millets as a popular and healthy food item across rural and urban areas will guarantee nutritional security. This is one agricultural product, cultivation of which will be sustainable in future.

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