

# TRANSFORMING INDIA'S AGRICULTURE AND NUTRITION LANDSCAPE: THE IMPACT OF GOVERNMENT AWARENESS PROGRAMS ON MILLET PRODUCTION AND CONSUMPTION

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## ABSTRACT

The study aims to analyse the impact of government awareness program on the millet production and consumption in India. The data for the study have been collected from the indexmundi website for the period from 2002-2023. As per the objective, we employ paired t-test to analyse the impact of two government programmes by comparing the pre and post production and consumption of millets. The findings suggest that the government awareness programme have no significant impact on the production and consumption of millets in India, which suggest that more effort from government side is expected. The paper will be helpful for policy makers in taking important decisions.

**Keywords:** Government awareness programmes, Millet's production, Millet's consumption

## 1. INTRODUCTION

Millet is such an power house of nutrition which is an effective tool to address malnutrition. Rich in protein, calcium, dietary fibre, iron, manganese etc. Including Millet in public distribution system not only helpful to tackle with malnutrition but also in many other aspects like climate change, soil fertility etc. Consumer behaviour and attitudes towards purchasing sustainable goods have changed due to worries about ethics, the environment, and health hazards. Although there is a trend towards more sustainably produced items, considerable adjustments are still needed to modify our consumption pattern (Mahato et al., 2023).

Seeing this unmatched benefit of these grains our government of Odisha launched a millet mission to revive millets on farm and plates and simultaneously focus on production, processing, consumption, marketing and inclusion of millet in government scheme.

Since 55% of India's population is dependent on agriculture, the country is essentially an agrarian society. Small and marginal farmers comprise 86% of the Indian farming population (Source: Agriculture census, 2015-16). Small and marginal farmers are facing an income security dilemma as a result of the rising costs of farming brought on by high input costs. Since almost 60% of India's arable land is rain-fed, crop failure in the agricultural sector is a result of climate change's harm, which also brings high temperatures and droughts. According to CGIAR estimates (Gowri and Shivakumar, 2020), climate change could result in a 13–20% decline in world production of wheat, rice, and maize in the upcoming decades.

With this backdrop, the paper aims to analyse the impact of government awareness programme on the production and consumption in India.

## 2. REVIEW OF LITERATURE

Behera (2017) in their research study conclude that nowadays, we require farming systems that are more resilient and designed to provide the country's needs for food and nutrition while maintaining a sustainable use of natural resources. Despite being late, In order to encourage millets growing on a mission mode and raise public awareness of greater consumption of millet, especially among urban Indians, the GoI and state governments have implemented a number of progressive steps during the past ten years.

Anbukkani et al. (2017) discovered that the cultivated area of millets has experienced a sharp decrease from 1956 to 2006. In the same time frame, wheat and rice which were grown on less land than millets in 1955–1956 have progressively increased to surpass millets. The country's rainfed region, which makes about 60% of the entire land, is a major producer of millets. In India, the two states with the highest consumption of small millets in rural regions were Assam (18.82 kg/hsh/m) and Bihar (18.69 kg/hsh/m).

Nanda and Janardhana (2024) in their research study found that the students do not know the various varieties of Millet and its significance to our geography, customs, traditions food and culture. Millets are regarded as a low-quality food. Community-stabilized meal that reflects social standing because they are grown or accessible in fewer or non-irrigated locations. The demand of the hour are societal behaviour and common sense in recognising our food, health and community in order to restore the biodiversity of food, fodder and climate. We must promote our Millet bowl to

the students in the areas where it is presently grown and provide opportunities for community members to engage with the teachers and students who are now growing and eating millet.

Sivaramane et al. (2023) in their findings provided that from 1966 to 2021, millets proportion in the total amount of cereal produced decreased from 26% to 6%. India's millet production is largely influenced by Uttar Pradesh, Rajasthan, and Karnataka. While the consumption of cereals has decreased overall in households in both rural and urban areas, the loss in millet consumption has been more pronounced in rural areas (66%) than in urban areas (50%). Because millet is not as profitable as its rival crop, it needs to be cultivated scientifically and with higher technological adoption.

Malaiaarasan et al. (2022) in their research study conclude that Millets can be utilised as a tool to solve a number of issues, including nutritional security, poverty, bad diet, climate change, and environmental issues related to agriculture. The scale of the area expansion under millets is extremely little, despite the fact that the higher price of millets has contributed to a larger chance of their adoption. Accordingly choosing millets is adversely correlated with knowledge of their MSP, even when the MSP is 1.5 times higher than the cost of production.

Meena (2021) Since ancient times, resource-poor farmers in arid regions and tribal populations living in delicate and less productive environments have been cultivating millets. Millets have experienced a resurgence, meanwhile, as a result of increased knowledge about their possible health advantages and industrial use. The primary issue pertaining to millet production is the shrinking worldwide millet farming area. Lower productivity of millets and declining area are mostly caused by a lack of improved cultivars, agricultural inputs, and legislative support. Projection of millets as future golden crops will require well-thought-out, sustained public sector investment in diverse research initiatives, collaboratively undertaken by major developing nations.

Singh and sharma (2018) It was discovered that, at a highly substantial rate, productivity growth in the state and nation of Madhya Pradesh and India reduced the area under small millets and the output of small millets in India alone. It was discovered that the yield effect was negative and that the state and national production of small millets had decreased for no apparent reason. Therefore, it is recommended that high-quality seed be produced and improved cultivars be distributed to guarantee a sufficient and timely supply of seed materials with high standards of seed quality at farmers' doorsteps.

### 3. METHODOLOGY

The purpose of this study is to ascertain the changes in production and consumption of millet due to the two different schemes of government namely (NMSA) National mission on sustainable agriculture (2010) and (NFSM) National Food Security Mission(2007-08). The study is based on Secondary data and the data collection source (site) is indexamundi. We have applied paired t-test for the comparison to ascertain the impact of Government Awareness programs by comparing pre and post period production and consumption. For accessing the impact of the first scheme we have compared the production and consumption of two periods i.e, 2003-2007 and 2008-2012. Similarly, for accessing the impact of the second scheme we have compared the production and consumption of two periods i.e, 2002-2010 and 2011-2019.

### 4. RESULTS AND DISCUSSION

First, we test the normality of all variables and we found that all the variable are normally distributed as the p value is more than 0.05. the result is shown in Table-3. so, we can go for parametric test. So, here as per the objective we have applied paired t-test to compare the consumption and production of millets in India pre and post of two government scheme namely (NMSA) National Mission on Sustainable Agriculture and (NFSM) National Food Security Mission. the result shows that there is no significant difference in the production and consumption of millets in pre and post period of the awareness schemes.

This insignificant result is observed for the growth rate also. Hence we can conclude that though the schemes have helped in increasing the production and consumption of millets in India such growth is not significant. It suggests that the government should put more effort on promoting the benefits of the schemes. The result of paired t-test is shown in table-4.

**Table 1:** India millet domestic production by year

Market Year	Production	Growth Rate
2002	6494	-42.20%
2003	14639	125.42%
2004	10841	-25.94%

2005	10509	-3.06%
2006	10347	-1.54%
2007	12673	22.48%
2008	11372	-10.27%
2009	8777	-22.82%
2010	13005	48.17%
2011	12657	-2.68%
2012	10752	-15.05%
2013	11663	8.47%
2014	11630	-0.28%
2015	10280	-11.61%
2016	11560	12.45%
2017	11640	0.69%
2018	10236	-12.06%
2019	12489	22.01%
2020	13208	5.76%
2021	11850	-10.28%
2022	13160	11.05%
2023	12500	-5.02%

Source: Compiled from SPSS

Notes: It shows the years and the production of millets in 1000MT and the growth rate is fluctuating every year.

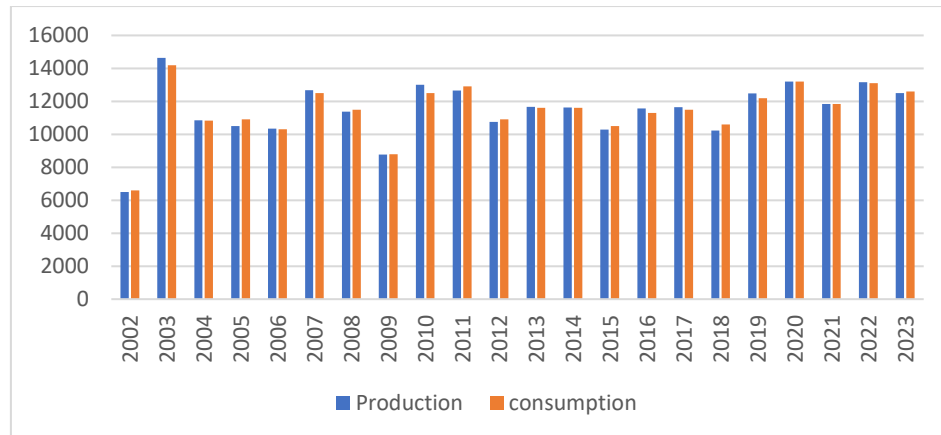
**Table-2:** India millet Domestic Consumption by year

Market Year	Domestic Consumption	Unit of Measure	Growth Rate
2002	6600	(1000 MT)	-40.81%
2003	14200	(1000 MT)	115.15%
2004	10840	(1000 MT)	-23.66%
2005	10900	(1000 MT)	0.55%
2006	10300	(1000 MT)	-5.50%
2007	12500	(1000 MT)	21.36%
2008	11500	(1000 MT)	-8.00%
2009	8800	(1000 MT)	-23.48%
2010	12500	(1000 MT)	42.05%
2011	12900	(1000 MT)	3.20%
2012	10900	(1000 MT)	-15.50%
2013	11600	(1000 MT)	6.42%
2014	11600	(1000 MT)	0.00%
2015	10500	(1000 MT)	-9.48%
2016	11300	(1000 MT)	7.62%
2017	11500	(1000 MT)	1.77%
2018	10600	(1000 MT)	-7.83%
2019	12200	(1000 MT)	15.09%

2020	13200	(1000 MT)	8.20%
2021	11850	(1000 MT)	-10.23%
2022	13100	(1000 MT)	10.55%
2023	12600	(1000 MT)	-3.82%

Source: Compiled from SPSS

Note: It shows the year and Domestic consumption in different years in 1000MT and the growth in various years which shows the growth rate is showing ups and down every year.



**Figure-1:** production and consumption of millets over the years

Source: Compiled from SPSS

**Table-3:** Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
production1	.299	5	.163	.842	5	.172
production2	.187	5	.200*	.936	5	.640
growth1	.307	5	.140	.805	5	.088
growth2	.270	5	.200*	.833	5	.147
consumption1	.302	5	.153	.877	5	.294
consumption2	.197	5	.200*	.926	5	.572
production3	.270	5	.200*	.919	5	.526
production4	.200	5	.200*	.959	5	.803
consumption3	.260	5	.200*	.925	5	.562
consumption4	.256	5	.200*	.932	5	.608

Source: Compiled from SPSS

**Table-4:** Paired Samples Test

Table-4: Paired Samples Test										
		Paired Differences					t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Pair 1	production1 - production2	489.20000	2692.26479	1204.01742	-2853.68826	3832.08826	.406	4	.705	
Pair 2	growth1 - growth2	22.93000	70.43332	31.49874	-64.52451	110.38451	.728	4	.507	
Pair 3	consumption1 - consumption2	428.00000	2367.26002	1058.67086	-2511.34154	3367.34154	.404	4	.707	

Pair 4	production3 - production4	-472.22222	2662.86353	887.62118	-2519.08033	1574.63588	-.532	8	.609
Pair 5	consumption3 - consumption4	-551.11111	2591.43032	863.81011	-2543.06079	1440.83857	-.638	8	.541
Pair 6	growth3 - growth4	8.48556	50.66460	16.88820	-30.45870	47.42982	.502	8	.629

Source: Compiled from SPSS

## 5. CONCLUSION AND POLICY IMPLICATION

The purpose of this study was to ascertain the changes in production and consumption of millet due to the government awareness schemes. In our result we found that there is no significant difference in the production and consumption of millets in pre and post period of the awareness schemes. This insignificant result is observed for the growth rate also. Hence, we can conclude that though the schemes have helped in increasing the production and consumption of millets in India such growth is not significant. It suggests that the government should put more effort on promoting the benefits of the schemes. Government should provide some concession for the production of millets and provide a minimum support price, which will encourage the farmers to grow more. There are clear links between social media and changing public attitudes, including the possibility that decisions made in politics will be influenced by public opinion (Maharana & Pal, 2023). So, the young people should organise a digital campaign which can result in more effort in the government side to promote Millet.

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