



IS THE MILLET MARKET A NEW HOPE FOR INDIAN AGRICULTURISTS?

Dr. Tanushree Roy

Assistant Professor

Department of Commerce

Allahabad Degree College, Prayagraj

Abstract: Undoubtedly, millets are the powerhouse of nutrition and the most interesting fact about millets is that it is India's own food because millets were first cultivated in India. Recognition of importance of millets is evident from the fact that the year 2023 has been declared as 'International Year of Millets'. This celebration will be meaningful in real sense only if it is successful in enhancing the awareness and consumption of millets among people. There is no doubt that many efforts are being continuously made not only for enhancing productivity but also for promoting and creating awareness about millets among consumers. But an important question arises here is that do these efforts really worthwhile? Have these efforts been successful in creating awareness about millets? And the most important question is that are the people really ready to accept millet and include it in their daily meal?

This research paper is a small attempt towards finding the answers of above questions. It is mainly done to find out the level of awareness and acceptance of millets among general public so that market potential of millets can be assessed.

Keyword: Millets, market potential, awareness

INTRODUCTION

Undoubtedly, millets are the powerhouse of nutrition and the most interesting fact about millets is that it is India's own food because millets were first cultivated in India and consumption of millets can be traced back to as early as Indus valley civilization, i.e., 3000 BC. Thus, among the 131 countries growing millets across the world, India can be claimed as leader in terms of oldest producer. [1] But at the same time, it is also true that with the passage of time, millets started to lose its popularity and there is a drastic decline in consumption of millets over the years. But now time has come when there is an enormous need to pay attention and make efforts for increasing the production as well as consumption of millets. Recognition of importance of millets is evident from the fact that the year 2023 has been declared as 'International Year of Millets'. This celebration will be meaningful in real sense only if it is successful in enhancing the awareness and consumption of millets among people. Thus, there is a great need to find out the market potential of millets so it can be found out that whether the consumers are really ready to accept millets or not? In case of positive response, millet market can prove to be a new hope for Indian agriculturists. This research paper is a small attempt towards finding out the level of awareness and acceptance of millets among general public so that market potential of millets can be assessed.

MILLETS IN INDIA

The word 'Millets' is used to describe collective group of small seeded annual grasses that are grown as grain crops mainly in dry lands. These small grained cereals do not need much water, hence; these are mostly grown on marginal land in dry areas of temperate, sub-tropical and tropical regions. According to the available historical evidences, millets were the first plants which were domesticated for food. It is termed as one of the most ancient foods because evidences of its usage in Indus valley civilization are available. Approximately 131 countries grow millets all over the world and India enjoys a remarkable position as it produces 80% of Asia's and 20% of global production, due to which India is the largest producer of millet in the world. At the same time, India is also the largest exporter of cereal products in the world and among the top 5 exporters of millets in the world. [1]

India is a country which is blessed with rich diversity not only in terms of different religions, languages but also in terms of climate, soil, atmosphere, etc. Due to this diversity, it is possible to grow different varieties of a food in different parts of the country. There are many varieties of millets such as Foxtail millet (Kangani) [Botanical name: *Setaria italica*], Finger millet (Ragi) [Botanical name: *Eleusine coracana*], Barnyard millet (Sawa) [Botanical name: *Echinochloa esculenta*], Browntop millet (Korale) [Botanical name: *Brachiaria ramosa*], Little millet (Kutki) [Botanical name: *Panicum sumatrense*], Kodo millet [Botanical name: *Paspalum scrobiculatum*], Pearl millet (Bajra) [Botanical name: *Pennisetum glaucum*], Proso millet (Cheena) [Botanical name: *Panicum miliaceum*], Sorghum (Jowar) [Botanical name: *Sorghum bicolor* L] which are grown in different parts of India. Rajasthan, Karnataka, Maharashtra, Uttar Pradesh and Haryana are the top five states of India in terms of millet production.

Over the last five decades, although there is huge decrease in area under millet cultivation but at the same time there is drastic increase in its productivity. According to the report of Ministry of Agriculture and Farmers Welfare, the area under millet has been decreased by 56% in the year 2020 as compared to 1970 but on the other hand, due to adoption of high yielding varieties or hybrids the productivity has been increased by 228% in the same period. Another alarming fact is that in 1970, millets constitute

approximately 20% of total food grain whereas in 2020, it is only 6% and food grain market is dominated by rice and wheat. [1] Millets are the traditional food for approximately 59 crore people in Asia and Africa. Millets are mainly *Kharif* crop in India which is harvested at the end of monsoon season. Although millets are obviously superior from rice and wheat in terms of nutritional value due to its richness in protein, vitamin and minerals but in terms of popularity, these are far behind rice and wheat because these are considered as “cereals of the poor”.

It is evident from the above figures that during the last five years, there is almost a consistency in the production of millets in India. On an average, an increasing trend can be observed except 2018-19. Another notable point is that out of the different varieties of Millet, Pearl Millet (Bajra) constitutes the major chunk which is approximately 56% of total production of millets followed by Sorghum (Jowar) which is around 29%. [2]

It is evident from the figures given below that except 2019-20, there is continuous decrease in the area under millet cultivation but at the same time, except finger millet (ragi) there is an increasing trend in the yield of other varieties of millets. [2]

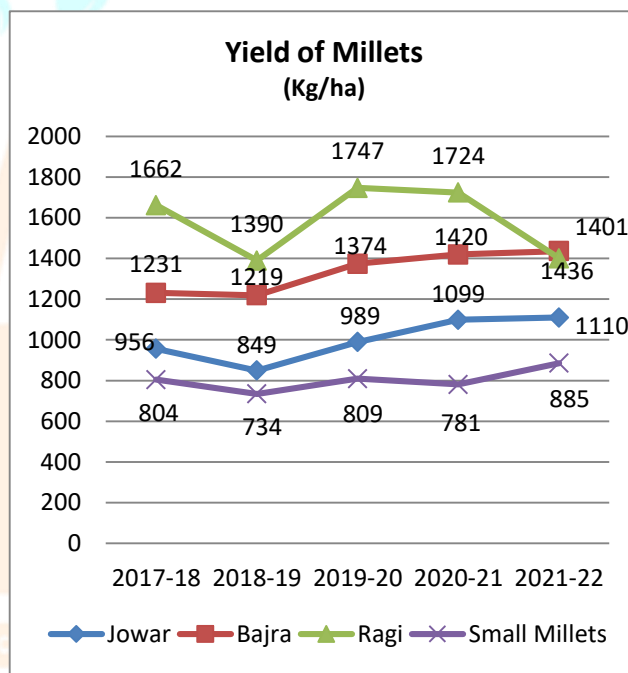
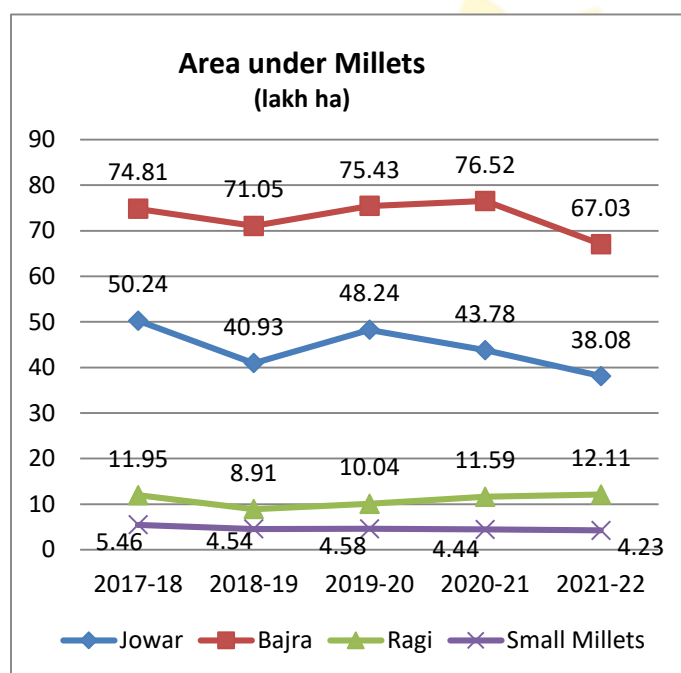
Production of Millets (During Last Five Years)

[in lakh tonnes]

	Jowar	Bajra	Ragi	Small Millets
2017-18	48.03	92.09	19.87	4.39
2018-19	34.75	86.64	12.39	3.33
2019-20	47.72	103.63	17.55	3.71
2020-21	48.12	108.63	19.98	3.47
2021-22	48.12	96.24	16.96	3.75

Source: Directorate of Millets development, Jaipur

Table: 1



REASONS FOR PROMOTING MILLETS

Millets are termed as superfood because of the nutritional value it possesses. Although a declining trend is observed in area and production of millets over the last few decades but there is no decrease in the benefits it offers. After recognizing the significance of millets, Government is making many efforts to promote it all over the world. Therefore, year 2018 had been celebrated as ‘National Year of Millets’ and due to the efforts of Indian Government, United Nations has declared 2023 as ‘International Year of Millets’. But the question is why there is so much hype about the millets? What are the reasons behind so many efforts made for promoting millets? The basic reason is the major benefits offered by millets which are mentioned below:

- ✚ Firstly, millets are health promoting nutritious crop which are good source of minerals like iron, zinc and calcium. In comparison to other cereals, millets have superior micronutrient qualities.
- ✚ Due to the nutritional superiority, millets are helpful in preventing and curing many types of diseases. Primarily, all millets are gluten free so it is recommendable for celiac patients also. Besides it, millets are also helpful in reduction of weight, controlling high blood pressure, preventing diabetes, etc. Different types of millets are effective in case of different diseases which are mentioned below:
 - **Sorghum**—It reduces the risk of CVD, colon cancer, type 2 diabetes.
 - **Foxtail Millet**—It helps in fighting against osteoporosis and reduces risk of fracture as it is rich in calcium.
 - **Proso Millet**—It helps in controlling depression, lowering blood pressure and also acts as anti-inflammatory
 - **Kodo Millet**—It is very helpful in strengthening the nervous system
 - **Pearl Millet**—It helps in protecting body tissues from free radical changes as it is a rich source of Vitamin E.
 - **Finger Millet**—It is very helpful in strengthening and development of bones and also helps in fighting against anemia.
 - **Little Millet**—It helps in maintaining the health of heart and also helps in controlling fluctuations in blood sugar level.
 - **Barnyard Millet**—It helps in producing hemoglobin and acts as a rich source of iron
- ✚ Another big advantage with millets is that these are easy to cultivate as they have minimal requirement of water, fertilizers and pesticides. These can be grown in a wide range of ecological conditions, even in rain fed, arid climate also.

- ✚ Yet another advantage related to millets is that it is used not only as food but as fodder also. Hence, it is more farming efficient which serves dual purpose.
- ✚ Millet cultivation is also helpful in reducing carbon footprint; thus, it is environment friendly also which helps in maintaining and enhancing sustainability of environment.
- ✚ Ready to eat convenient instant foods can also be made out of millets, hence, it offers variety of food option.
- ✚ Consumption of millets along with legumes enhances the overall digestibility of protein.

Climate friendly, health promoting crop millets are not only easy to grow and consume but pocket friendly also. Some varieties of millets are generally cheaper than top quality wheat and rice. So, if consumption of millets is increased then it is beneficial for health, environment and economy.

EFFORTS FOR PROMOTION OF MILLETS

Benefits of millets are unquestionable; thus, many efforts are being made towards its promotion. Governments as well as other organizations are involved in taking many steps towards this direction. Some of the noteworthy steps taken in recent years and action plan for near future are mentioned below:

- Government has designed and declared seven ‘*SUTRAs*’ i.e., themes for developing and promoting millets—(i) enhancement of production/productivity, (ii) nutrition and health benefits, (iii) value addition, processing and recipe development, (iv) entrepreneurship/start-up/collective development, (v) awareness creation—branding, labelling and promotion, (vi) international outreach and (vii) policy interventions for mainstreaming. These themes have been assigned to different ministries for implementation.
- For enhancing production and productivity of millets, Government is taking steps for strengthening quality seed chain through full support to breeder seed procurement, developing seed hubs, encouraging PPP mode; using frontline technology demonstrations, demand creation through awareness and increase in consumption, crop diversification focus in favour of millets, etc.
- For generating awareness regarding nutritional and health benefits, Government is implementing ‘Eat Right Campaign’. Efforts are also being made for promoting digital publication of papers on millets, availing technology support for research, commissioning studies by reputed national and international organizations.
- For value addition, efforts are being made for strengthening of 3 centres of excellence with advanced infrastructure and helping start-ups with technical support. For strengthening the processing element, primary processing clusters are developed at farm gate. Ministry of food processing industry included production linked incentive scheme for millet products. Institutions like IIMR, CFTRI, NIFTEM are actively involved in research regarding development of ready to use packaged food of traditional and contemporary millet recipes. Partnership with hospitality industry for popularizing millet recipes and releasing books on millet recipes are some other steps for supporting recipe development. [3]
- For ensuring international outreach, many activities have been planned for global promotion as a part of celebration of international year of millets 2023 such as global conference on millets, international exhibitions on millets, global recipes projects, food and cooking shows, etc.
- In order to ensure domestic outreach, millet promotion has been made an integral part of ‘Azadi ka Amrit Mahotsav’. Millet recipes food festival, cooking workshops, competitions, conference by industry, etc. are organized.
- Many efforts are also been made for creating mass awareness such as including millet recipe in mid-day meal in schools and *aganbadi* at least one day in a week, including millet dish in buffet at hotels, making appeal to people to eat millet atleast once a week, promoting ‘*vrat*’ recipes of millet, developing online platforms to popularize millets, placing millet vending machines in public places.
- The Ministry of Defence has decided to include millet-based dish in the menu of canteens and food outlets of armed forces. [4]
- A group of dieticians of Dr. Ram Manohar Lohia Institute of Medical Sciences compiled a book of millet recipes for patients and also introduced millet food for in-patients of the hospitals. [5]

REVIEW OF LITERATURE

Ashwani Kumar, Vidisha Tomer and others (2018) in their article titled “Millets: a solution to agrarian and nutritional challenges” described the agrarian importance of millets along with the optimum agrarian conditions required for major cereals and millets. They emphasized mainly on the nutritional benefits of different types of millets in detail and discussed how it can be helpful in solving the problem of malnutrition witnessed at the world level and especially in India. They concluded that “The sensory acceptability of millet-based products can be enhanced by mixing millet fours with other fours of high acceptability and preparing composite foods.” [6]

Asha Devi, P. Anbukkani and others (2022) in their research paper entitled “Millet production and consumption in India: where do we stand and where do we go?” explained the demand and supply trend of millets in India over last 50 years. They make a comparative study between the consumption patterns of rural households and urban households during last 35 years. On the basis of analysis of production figures, they also tried to estimate the future trend of production of millets. They concluded that “Since millet production is highly concentrated in a few states that lag behind productivity, immediate production improvement can be achieved by concentrating on productivity enhancement in these major states.” [7]

A. Kalaiselvi, L. A. Razia Fatima and M. Parmeshwari (2016) in their research article titled “Awareness and consumption of millets by women: a study on Coimbatore city” attempted to analyze the reasons for usage of millets among women consumers. They also tried to find out awareness and purchase trend of millets among women consumers of Coimbatore city. They suggested that “All media can broadcast and expose the importance of using millets which helps to overcome the problem of malnutrition among children.” [8]

O. P. Yadav and K. N. Rai (2013) in their research paper entitled “Genetic Improvement of Pearl Millets in India” discussed in detail about the constraints involved in production of pearl millet in India. They mainly present an overview of strategies followed in genetic improvement of pearl millet and also discussed its future prospects. [9]

G. Basavaraj, P Parthasarathy Rao and others (2010) in their research article titled “Availability and utilization of pearl millet in India” tried to find out the trend of per capita consumption of pearl millet for food use at country and state level. They also analyze trend in area and production of pearl millet. They concluded that “The increase in pearl millet production juxtaposed with its declining food use implies that its use in alternative uses has been increasing.” [10]

Anbukkani Perumal (2018) in his research paper entitled “Production and consumption of minor millets in India: a structural break analysis” studied the consumption pattern of small millets for the major states. He also presented a detailed spatial and temporal analysis of small millets of area, production and yield. He concluded that in case of minor millets area of structural break observed in the year 1998 and between 2000 and 2002. In comparison to sorghum, pearl millet and finger millet limited varieties of small millet have been developed. [11].

RESEARCH GAP

It is clear from the review of literature that most of the studies conducted in past was focused on nutritional value of different types of millets and studying the production and consumption trends of millets over last few decades. There is no doubt that many efforts are being continuously made not only for enhancing productivity but also for promoting and creating awareness about millets among consumers. But an important question arises here is that do these efforts really worthwhile? Have these efforts been successful in creating awareness about millets? And the most important question is that are the people really ready to accept millet and include it in their daily meal?

This research paper is a small attempt towards finding the answers of above questions. It is mainly done to find out the level of awareness and acceptance of millets among general public so that market potential of millets can be assessed.

RESEARCH METHODOLOGY

In order to do this research, a survey was conducted in online mode. This survey was conducted with the help of a questionnaire made in google form which was administered among the respondents belonging to different parts of the country. The questionnaire was divided in two parts. The first section was related to the personal information of respondents and the second section contained 15 close-ended questions related to different aspects about awareness and acceptance of millets. Responses were collected from 151 respondents who belong to 13 different states of India.

On the basis of standard formula for sample size calculation in case of unlimited population, i.e., $n = \frac{z^2 \times \hat{p} (1-\hat{p})}{e^2}$ at 95% confidence level for 10% population proportion, sample size comes 139. In order to maintain a safe margin keeping the chances of invalid responses, sample size has been kept as 151.

RESULTS AND DISCUSSIONS

The data composition, population to whom the survey was administered, their responses and statement-wise analysis along with its interpretation are mentioned below:

Data composition:

There was total 151 respondents, among them 103 were female (68.21%) and 48 were male (31.79%). Approximately, female respondents are double than male. The reason behind keeping female respondents more than male respondents is that in our Indian society, usually grocery purchase decisions are taken by female rather than male. Thus, the decision of including millet items in the grocery list will depend upon mainly on awareness and acceptance of millet among women.

On the basis of age, respondents are divided into three categories:-(i) Below 18 years, (ii) 18 to 50 years and (iii) above 50 years. Out of 151 respondents, 2 respondents belong to the category of below 18 years whereas maximum respondents, i.e. 129 belong to the second category of 18 to 50 years and 29 respondents belong to the third category of above years. The main reason for taking most of the responses from the second category is that mainly customers belong to the second age group.

On the basis of monthly income, respondents are divided into 4 categories:-(i) below ₹ 10,000 (ii) ₹ 10,000 to ₹25,000 (iii) ₹ 25,000 to ₹ 50,000 and (iv) above ₹ 50,000. Out of the total 151 respondents, 42 belong to first category, 9 to second category, 41 to third category and 59 to last category. Thus, 27.8% respondents' income is below 10,000, 6% respondents earn between 10,000 to 25,000, 27.2% respondents' earnings is between 25,000 to 50,000 and 39.1% respondents' monthly income is above 50,000.

Responses were collected from different parts of the country. State wise collection of responses was as follows: (1) Uttar Pradesh—81 (2) Jharkhand—23 (3) Rajasthan—14 (4) Karnataka—07 (5) West Bengal—07 (6) Maharashtra—05 (7) Chattisgarh—05 (8) Uttarakhand—03 (9) Delhi—02 (10) Telangana—01 (11) Tamilnadu—01 (12) Haryana—01 (13) Gujarat—01. 70% data has been collected from 5 top most millet producing states of India, i.e., Uttar Pradesh, Rajasthan, Karnataka, Maharashtra and Haryana. Remaining 30% responses have been collected from other parts of the country. Thus, attempt has been made to collect responses from both types of states irrespective of the fact whether they are involved in millet production or not.

DATA ANALYSIS

15 close-ended questions regarding millets have been asked from the respondents in the second section of the questionnaire. Question-wise analysis is mentioned below:

Statement 1

Do you know that the year 2023 has been declared as 'International Year of Millets'?	Yes		No	
	No. of Responses	Percentage	No. of Responses	Percentage
	114	75.5%	37	24.5%

It is clear from the above observation that 75% respondents know that the year 2023 has been declared as 'International Year of Millets' whereas 25% respondents do not know about this fact. It means despite so many efforts being made by the Government, there is still lack of awareness about this celebration.

As per the collected data, out of total respondents consisting of 03 housewives, 42 students and 64 teachers; the respondents who do not know about the celebration of international year of millets consist of 2 housewives, 01 professional, 01 research scholar, 01 self-employed, 07 service category, 14 students and 11 teachers. It means 66.66% housewives; 33.33% students and 17% teachers do not know about this fact.

Another noteworthy point is that out of 37 respondents who do not know about this celebration there were 23 female (62%) and 14 male (38%). It means out of total respondents; 22% female and 29% male respondents are unaware of the fact which indicates that level of awareness about millet celebration is more in female respondents than male.

Statement 2

	Sorghum (jowar)	Pearl millet (bajra)	Foxtail millet (Kangni)	Little millet (Kutki)	Kodo millet	Finger millet (ragi)	Proso millet (cheena)	Barnyard millet (sawa)	Brown top millet (Korale)	None of these
Have you ever heard about any one or more of the following types of millets?	132	136	33	41	31	111	23	36	16	6
	87.4%	90.1%	21.8%	27.1%	20.5%	73.5%	15.2%	23.8%	10.5%	3.9%

It is clear from the above figures that 90% respondents have heard about Pearl millet followed by Sorghum (87%), then by Finger millet (73%) and so on. It is also noteworthy that 4% respondents have never heard about any type of millet. It is a clear indication that Pearl Millet is the most popular type of millet and Browntop millet is the least popular variety because only 10% respondents have ever heard about this variety.

Statement 3

	Sorghum (jowar)	Pearl millet (bajra)	Foxtail millet (Kangni)	Little millet (Kutki)	Kodo millet	Finger millet (ragi)	Proso millet (cheena)	Barnyard millet (sawa)	Brown top millet (Korale)	None of these
Have you ever tasted any one or more of the following types of millets?	114	135	21	22	18	87	13	26	7	5
	75%	88.8%	13.8%	14.5%	11.8%	57.2%	8.6%	17.1%	4.6%	3.3%

It is clear from the above data analysis that maximum respondents, i.e., 88% have tasted Pearl millet, followed by consumption of Sorghum (75%) and so on. It is also an indication of popularity of Pearl Millet. Another notable point is that if we compare the percentage response of statement 2 and statement 3, we will find that in all varieties of millet, level of consumption is less than the level of awareness. It means people have heard about the different types of millets but all of them have not tasted it.

Statement 4

	Very often	Once in a while	Never
How regularly you purchase millets or millet-based products?	57	82	12
	37.5%	54.6%	7.9%

It is clear from the above data that only 37.5% respondents purchase millets very often whereas 8% respondents have never purchased any variety of millet. The major portion of the population i.e. 55% purchases millets once in a while. It indicates that only 37% population is the regular purchaser of millets. It has also been indicated by the analysis of statement 2 and 3 that 96% respondents have heard and tasted at least one or more type of millets. It means that even after knowing and tasting millets, there are 59% such population who are not purchasing millets on regular basis.

Statement 5

	Very much	Little bit	Not at all
How do you like the taste of millet-based products?	49	94	3
	32.4%	62.2%	2%

Since, as per the data of statement 3, there are 05 respondents who have never tasted any type of millet, hence they have been excluded from the analysis of Statement 5 because in such case, their opinion regarding taste becomes invalid. Data analysis of Statement 5 (on the basis of 146 respondents) shows that 32% respondents like the taste of millet-based products very much and there are only 2% respondents who do not like the taste of millet at all. There are 62% respondents who like the taste to some extent. It means this 62% population can become the future customers of millets.

Statement 6

	Yes	No
Do you know about the health benefits of millets?	133	18
	88.1%	11.9%

It is clear from the above data that 88% respondents know about the health benefits of millets whereas 12% are not aware about it. It indicates that there is a huge level of awareness among consumers about health benefits. This perception can be very helpful in creating new customers for millets.

Statement 7

	Always	Sometimes	Never
Do you give preference to millets over regular crops?	37	98	16
	24.5%	64.9%	10.6%

As per the collected data, only 24.5% respondents give preference to millets over regular crops whereas 10.6% respondents have never given preference to millets. But the most noteworthy point is that there are 65% respondents who sometimes give preference to millets over regular crops. It indicates that level of acceptance is very high because although presently only 25% population is giving preference to millets but by exercising some efforts, additional 65% customers can be created.

Statement 8

	Certainly	Maybe	Never
Are you ready to accept millet products as an alternative of regular crop products?	67	78	6
	44.4%	51.7%	4%

This statement is directly related to level of consumer acceptance of millets. It is clear from the data analysis that 44.4% consumers are ready to accept millet products as an alternative of regular crop products and only 4% consumers are not ready at all for this option. 52% consumers are not certain about their decision. They may or may not accept millet products as an alternative of regular crops. It indicates that in addition to 44% certain consumers, there can be 52% potential consumers also.

Statement 9

	Nutritional value	Price	Taste	Reduction in consumption of regular crops	As a 'Vrata' food
Which factor motivates you most to purchase millets or millet products?	125	3	9	5	9
	82.8%	2%	6%	3.3%	6%

According to the data analysis, nutritional value is the most motivating factor behind purchase decision of millets. 83% population is ready to purchase millets only because of its nutritional value. Price is the least motivating factor as only 2% respondents state this reason. 6% consumers are ready to purchase millets because of its taste but one noteworthy point is that 6% consumers relate it with religious belief and ready to purchase it as 'Vrata' food.

Statement 10

	Yes	No
Are the items made of millets easily available in your area?	99	52
	65.6%	34.4%

As per the collected data, 65.6% respondents opine that millet items are easily available in their area whereas according to 34.4% respondents, millet items are not easily available in their area.

If we divide the whole population into two categories where the first category consists of the top 5 millet producing states (i.e., Rajasthan, Karnataka, Uttar Pradesh, Maharashtra and Haryana) and second category consist of remaining part of the country then we will find that 108 respondents belong to the first category and remaining 43 respondents belong to the second category. Further analysis shows that according to 66.6% respondents of first category and 62.8% of the second category, millet is easily available in their area whereas 35.9% respondents of first category and 37.2% of second category opine that millet is not easily available in their area. It shows that there is no significant difference between these two categories with regard to production and availability of millets. Easy availability does not depend upon the fact whether millets are produced in that state or not.

Statement 11

	Certainly	Maybe	Never
In case of availability of millets at subsidized rates by the Government, will you purchase it?	88	62	01
	58.3%	41.1%	0.7%

It is clear from the above observation that supply of millets at subsidized rates will act definitely as a motivating factor for 58% population. 41% may also take the decision of purchasing millets because of the subsidy provided by the government. Only 0.7% population is not affected by the provision of subsidy.

Statement 12

	Sorghum (jowar)	Pearl millet (bajra)	Foxtail millet (Kangni)	Little millet (Kutki)	Kodo millet	Finger millet (ragi)	Proso millet (cheena)	Barnyard millet (sawa)	Brown top millet (Korale)
If you take a decision to purchase millets for the first time, which variety/varieties will you prefer?	85	106	20	26	12	72	15	16	11
	56.3%	70.2%	13.2%	17.2%	7.9%	47.7%	9.9%	10.6%	7.3%

As per the above data, Pearl millet is the first choice of consumers, followed by Sorghum (56.3%) and then by Finger millet (47.7%). In the priority list, Browntop millet comes at the end of the list (7.3%). An interesting fact is that although only 4.6% population have ever tasted Browntop millet but 7.3% consumers are ready to purchase it.

Statement 13

	Certainly	Maybe	Never
If ready-to-eat instant food made of millets such as Ragi Upma mix, Ragi Semolina, etc. are available in your area, will you purchase it?	83	62	6
	55%	41.1%	4%

The above data analysis indicates that only 4% population is not ready to purchase instant food made of millets. 55% consumers will definitely purchase such instant food whereas 41% consumers may take the decision of purchasing instant millet food items. It means there can be 96% consumers for instant millet food items.

Statement 14

	Buy alternative item available in the shop	Go to another shop to buy millet	Place order online	Abandon the purchase decision at all
In case of unavailability of millet in your local shop, what will you do?	39 25.8%	53 35.1%	49 32.5%	10 6.6%

It is clear from the above data analysis that in case of unavailability of millet in local shop, 26% customers will buy alternative item available in the shop. It means they will purchase millet only if it is easily available but in case of unavailability, they are ready to accept the alternative item. 35% customers will go to another shop to buy millet and 32.5% will place order online. It means 67% customers are ready to make extra efforts for purchasing millet. 6.6% customers will abandon the purchase decision at all. It means they are neither ready to accept alternative items in place of millet nor they will make extra efforts to purchase millet. It indicates that these 6.6% customers will certainly purchase millets if it is easily available in the local shop.

Statement 15

	Yes	No
Will you recommend millet to other people?	148 98%	03 2%

As per the above data, 98% population is ready to recommend millet and only 2% are not ready to recommend it to other people. This data shows that level of acceptance of millets is very high because 98% population is ready to suggest usage of millet to other people.

SIGNIFICANT OBSERVATIONS OF THE SURVEY

This survey was focused mainly on two aspects, i.e., awareness and acceptance of millets. The significant observations of the survey are mentioned below:

- Despite so many efforts, 25% population is still not aware about the celebration of international year of millets.
- Pearl millet is the most popular variety of millet and browntop millet is the least popular variety because maximum people (approximately 90% population) have heard and tasted pearl millet. Not only this, it is also their first choice.
- Level of acceptance of millets among general people is very high as 96% population is ready to purchase millet items as alternative of regular crop items. Although 44% is certain about this decision but remaining 52% potential customers can also be converted into actual customers because they do not deny to accept millet as their choice.
- Nutritional value is the most promising factor behind choice of millets. Other factors like price, taste, reduction in consumption of regular crops, etc. do not have significant bearing upon the choice of millets.
- The most motivating observation is that 98% people is ready to recommend millet to other people. It shows that level of acceptance is really high.
- Another significant observation is that according to 34% respondents, millet is not easily available in their area. It clearly indicates that there is need to increase the availability of millets in all the parts of the country because if 96% population is ready to purchase millet items then it should be easily available in all local shops.

FINDINGS AND SUGGESTIONS

Market potential of any product can be assessed on the basis of its acceptance and acceptance is created through awareness. There is no doubt that many efforts are made for creating awareness and promoting usage of millets among people but there is a serious need to enhance these efforts. For example, the survey shows that 17% teachers do not know about the fact that 2023 has been declared as the 'International Year of Millets'. If teachers are not aware then how can they disseminate such important information to students? Educational institutions are the most powerful platform to spread awareness or propagate any issue. If students and teachers are aware and convinced about the advantages of using millets then obviously this message will spread very easily among the society. Thus, all educational institutions should be instructed to hold at least one workshop or organize any program on millets in their schools and colleges so that students could be familiarize with the benefits of millets and convince their families to purchase and use millets.

Another important observation reflected through survey is that only nutritional value is the main motivating factor behind purchasing millets as 83% population states that they will purchase millets because of its nutritional value. It also indicates that other factors are not able to create purchase desire among customers. If emphasis is given on other factors, then it can create more customers. For example, taste can become an inspirational factor for purchasing millets. So, efforts should be made not only for devising tasty millet dishes but also to publicize these dishes. Although some efforts have already made in this direction like releasing cook book on millet recipes, including millet dishes in mid-day meal, military mess, hotel buffet, etc. but these efforts are required to be increased. Social media platform can also be used for this purpose. It can prove to be a powerful tool for promoting millet dishes and then people will be ready to purchase millet not only because of its nutritional value but also for its taste.

Yet another promising area is ready-to-eat instant food items made of millets. Survey shows that there is huge level of acceptance for instant food items of millets. The survey result shows that 55% population is totally ready to purchase such instant items and additional 41% population may also consider this option. It means there is a huge market for instant millet food items. But presently, many varieties of instant millet food items are not available in the market. So, emphasis should be given on creating such products and its availability in all over India should also be ensured.

CONCLUSION

The result of the above study shows that there is a huge level of awareness and acceptance of millets among general people but further efforts are required to popularize the usage of millets so that this acceptance can be converted into actual purchase decision. Besides that, efforts for increasing the production and productivity of millets should also be continued because

consumption cannot be increased without increasing production. Thus, it can be said that millet market is actually a new hope for Indian agriculturists because it is loaded with great market potential.

REFERENCES

- Agricultural and Processed Food Products Development Authority, India Millets Production State-wise production data last five years, https://apeda.gov.in/milletportal/files/Statewise_Millet_Production.pdf Accessed Date:23/07/23
- Basavaraj G, Parthasarathy Rao P, Bhagavatula S and Ahmed W. (2010) Availability and utilization of pearl millet in India. Journal of SAT Agricultural Research 8.
- Devi Asha, Jha Girish and Perumal Anbukkani, (2022) 'Millet Production and Consumption in India: Where Do We Stand and Where Do We Go?', National Academy Science Letters, Springer, DOI: 10.1007/s40009-022-01164-0
- Hindustan Times, (2nd July 2023), 'Lucknow RMLIMS recipe book to promote millets' <https://www.hindustantimes.com/cities/lucknow-news/healthy-and-nutritious-millet-recipes-a-book-by-rmlims-to-promote-millet-dishes-for-better-health-and-recovery-101688309372919-amp.html> Accessed Date: 01/08/23
- Kalaiselvi A, Fathima L. A. Razia and Parameshwari M., (2016) 'Awareness and Consumption of Millets by Women – A Study on Coimbatore city', Volume: 6 Issue:2, p.p. 96-99
- Kumar Ashwani, Tomer Vidisha, Kaur Amarjeet, Kumar Vikas and Gupta Kritika, (2018) 'Millets: a solution to agrarian and nutritional challenges', Agriculture & Food Security, p.p. 1-15
- Ministry of Agriculture & Farmers Welfare, Report of National Kharif Campaign 2022 dated 19th April 2022, https://agricoop.gov.in/Documents/Crops_0.pdf Accessed date: 05/07/2023
- Perumal Anbukkani, (2018), Production and consumption of minor millets in India- A structural break analysis', Ann. Agric. Res. New Series Vol. 38 (4) pp. 1-8
- The Hindu, (6th July, 2023) 'As focus shifts to millets, CFTRI develops eight new products' <https://www.thehindu.com/news/national/karnataka/as-focus-shifts-to-millets-cftri-develops-eight-new-products/article67049370.ece> Accessed Date: 01/08/2023
- The Indian Express, (14th July 2023), 'Armed forces to canteens to get new milled based menu from FSSAI' <https://www.newindianexpress.com/nation/2023/jul/14/armed-forces-canteens-to-get-new-millet-based-menu-from-fssai-2594664.html> Accessed Date: 01/08/23
- Yadav O. P. and Rai K. N., (2013) 'Genetic Improvement of Pearl Millet in India', National Academy of Agricultural Sciences, Volume 2, Issue 4, pp. 275-292

