An Assessment of Millets Production & Productivity in Hilly districts of Uttarakhand

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Abstract:

Millets are well known for their high nutrient value and livelihood security. Its crop is cultivated as dual-purpose crop because it provides food for human and straw for animal. Uttarakhand contributes a major part in the production of finger millets in the country. The finger millet is grown in both hilly and plain region of Garhwal and Kumaon. All the Millets are Nutri cereals Millets have various chemicals constants which are essential for a healthy diet. Millets help fight malnutrition and control cholesterol. The Two main traditional crop Ragi and Barnyard are rich in antioxidants and phytates. The Millets grown in Almora, Bageshwar, Champawat, Nainital, Pithoragarh and UdhamSingh Nagar districts of Kumaon region. Millets plays an important role in sustainable development and various health problems.

Keywords: Millet, Health, Sustainable, Cultivation

Objectives of the Study:

1. Socio-economic study on the production of the Millets in Kumaon region.
2. Government schemes and production towards marketing of the Millets.

Methodology: Paper is based on secondary data which have been collected from various sources, such as Govt. of Uttarakhand, Agriculture data 2023, articles, research papers, newspaper etc. The analysis has been done by using charts, line diagrams by using excel 2007.

Introduction: Millets are well known for their high nutrient value and livelihood security. Its crop is cultivated as dual-purpose crop because it provides food for human and straw for animal.

Millets are C4 carbon sequestrating crop which has capacity to reduce Co2 from atmosphere. It contains active Phyto chemicals. The phenolic compound present in millets have active role as antioxidant, anti-carcinogenic, anti-inflammatory anti-viral and neuro protective properties.

Table 1.1 Millet Cultivation in India:

S.No	Millet Crop	Local Names	State
1.	Sorghum	Jowar	Maharashtra, Tamil Nadu
2.	Pearl Millet	Bajra	U.P, Haryana
3.	Finger Millet	Ragi, Madua	Uttarakhand, Karnataka
4.	Barnyard Millet	Konidhan (zogara)	Uttarakhand, Nagaland
5.	Little Millet	Kutki	Uttarakhand

Socio-economic study on the production of the Millets:

The Millets grown in Almora, Bageshwar, Champawat, Nainital, Pithoragarh and UdhamSingh Nagar districts.

Table 1.2 The Millets mainly grown in the districts are mentioned below:

Pearl Millet	Proso Millet
Sorghum	Kodo Millet
Finger Millet	Little Millet
Barnyard Millet	Amaranth
Foxtail Millet	Buckwheat
Pseudo Millet	

All the Millets are Nutri cereals Millets have various chemicals constants which are essential for a healthy diet. Millets help fight malnutrition and control cholesterol. The Two main traditional crop Ragi and Barnyard are rich in antioxidants and phytates. Nutrients found in Millets

Ragi contains 1.3% protein, 1.3% fat and 328 calories.

Barnyard contains 6.2% protein, 5.8% fat and 309 calories.

Amarnath contains 16.6% protein, 6.3 % fat and 410 calories per 100 grams

Millets are more important due to the presence of Iron (fe), Calcium (Ca), Phosphorus (P), Zinc (Zn) etc.

In India celebration of International Year of Millets in 2023. The following status has been partially achieved at the international level.

1. Food & Agricultural Organisation has included the production of Millets for awareness use and production for the countries who have accepted the proposal in 75th Convention of U.N in 3 March 2021.

2. The Government of India is leading in international level for production and expansion of utilities of millets.

In India particularly in Uttarakhand the 77% of food grain contribution in Uttarakhand.

Table 1.3 The percentage of different crops is tentatively are given below:

Wheat	31%
Rice	25%
Finger Millet	10%
Barnyard Millet	3%
Cereals (Local)	6%
Barley	2%

Uttarakhand contributes a major part in the production of finger millets in the country. The finger millet is grown in both hilly and plain region of Garhwal and Kumaon. Finger millet is also known as ragi and is a good source of protein, carbohydrate, minerals and dietary Fiber to improve our digestion flatulence, fighting constipation, bloating etc.

Table 1.4 Total Millets Production in Uttarakhand (Metric Tons)

S.No.	Year	Total Millets
1	2011-12	260347
2	2012-13	236962
3	2013-14	223616
4	2014-15	94685
5	2015-16	220970
6	2016-17	235214
7	2017-18	208896
8	2018-19	183076
9	2019-20	-
10	2020-21	190831
11	2021-22	181998
Total		**2036595**

Source: Govt. of Uttarakhand, Agriculture data 2023

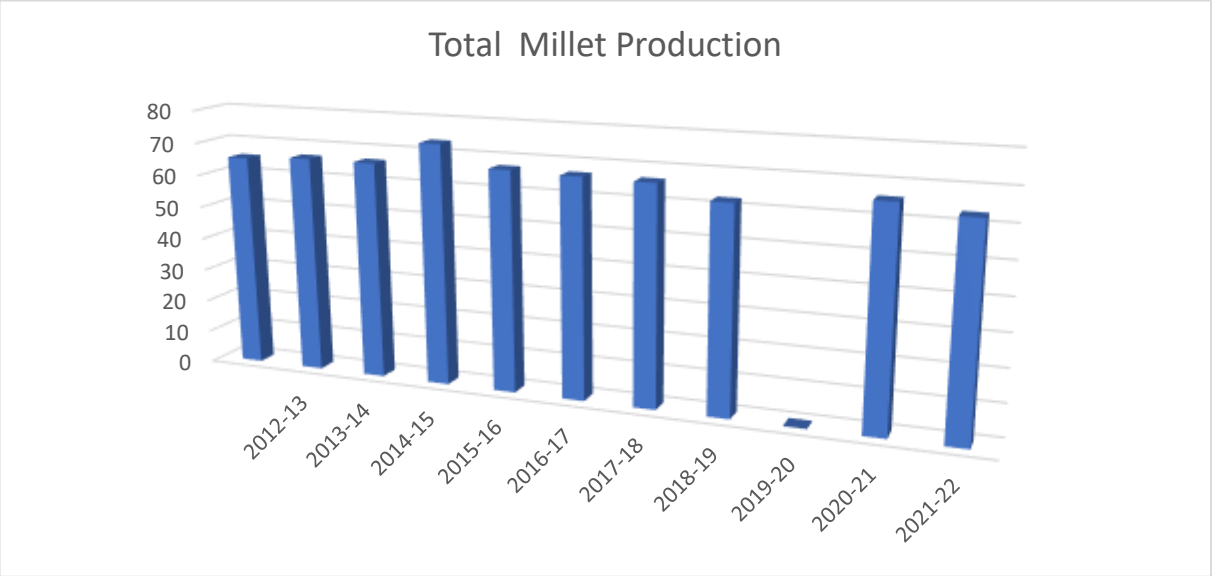


Table:1.4 Indicates that although the area under millets over the period 2011-12 to 2021-22 has declined by 40%, however the fall in production is around 30% (from 260347 to 181998 metric tons).

Table 1.5 Percentage of Total Millets Production in last 11 years (Metric Tons)

S.No.	Year	Finger Millets	Barnyard Millets
1	2011-12	65.3	33.6
2	2012-13	66.4	31.9
3	2013-14	66.4	31.9
4	2014-15	73.5	22.0
5	2015-16	67.2	30.3
6	2016-17	66.7	30.7
7	2017-18	66.4	30.3
8	2018-19	62.4	34.4
9	2019-20	-	-
10	2020-21	65.8	30.3

11	2021-22	63.2	33.3
Total		**663.3**	**308.7**

Source: Govt. of Uttarakhand, Agriculture data 2023

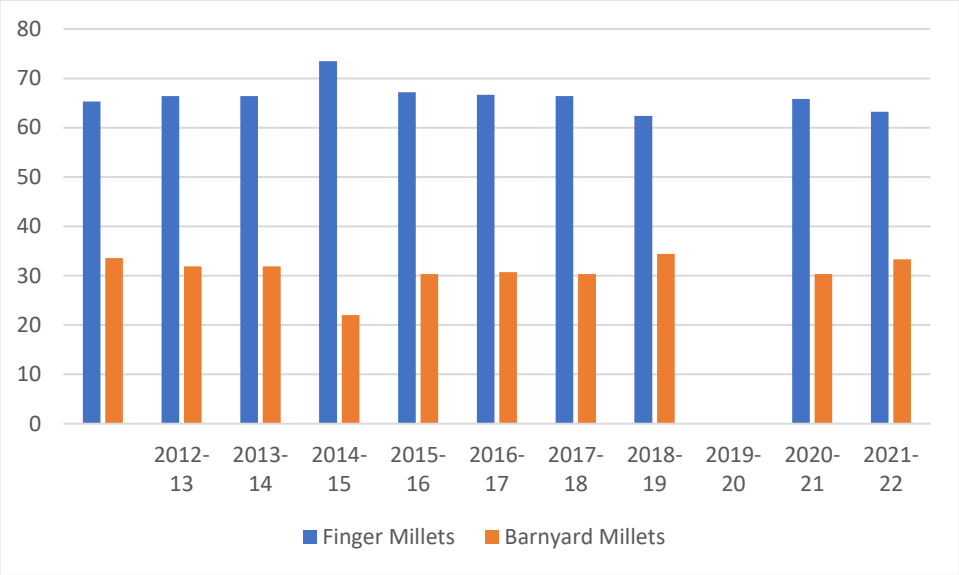


Table 1.5

Table 1.6 Production in Metric Thousand Productivity per year in last 11 Years

S.No.	Year	Finger Millets	Barnyard Millets
1	2011-12	13.3	12.9
2	2012-13	13.9	13.3
3	2013-14	13.7	13.1
4	2014-15	12.9	12.9
5	2015-16	14.1	13.3
6	2016-17	14.8	14.1
7	2017-18	13.7	13.6
8	2018-19	12.2	13.1
9	2019-20	-	-
10	2020-21	15.1	14.8
11	2021-22	14.8	16.1

Source: Govt. of Uttarakhand, Agriculture data 2023

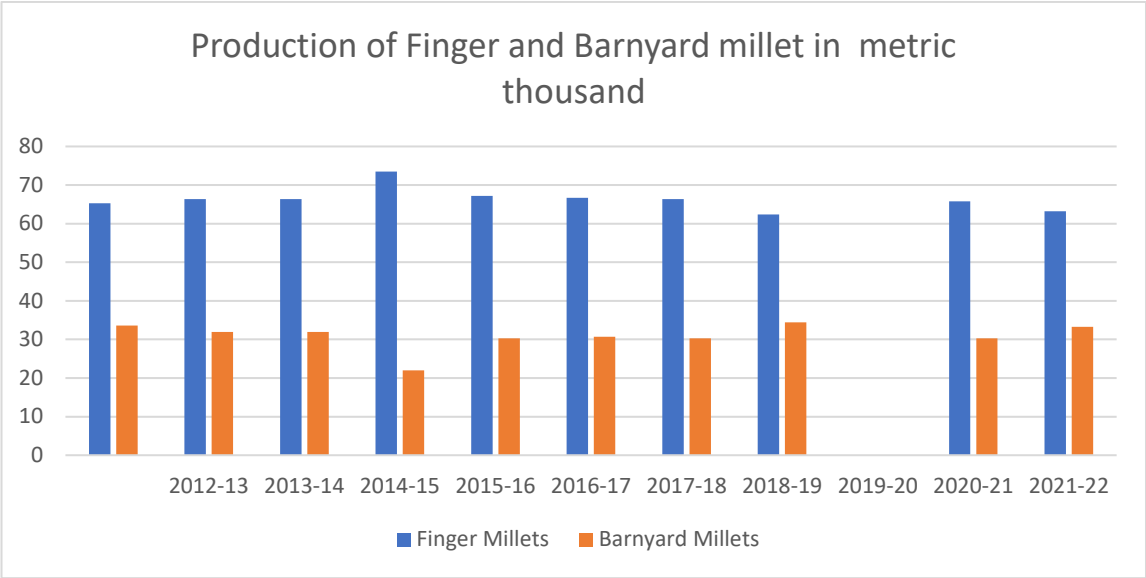
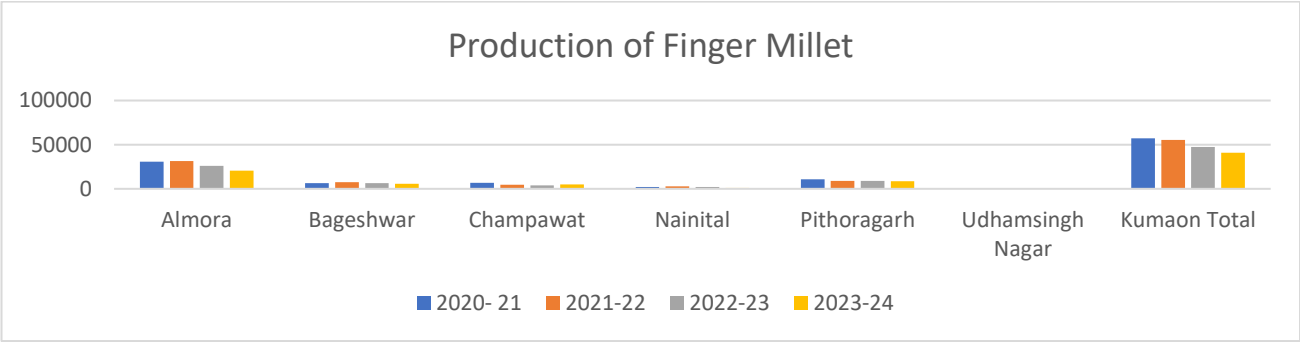


Table 1.7 Production of Finger Millet in last 4 years((Metric Tons)

S.No.	District	2020- 21	2021-22	2022-23	2023-24
1	Almora	30713	31625	26045	20532
2	Bageshwar	6521	7571	6502	5841
3	Champawat	6972	4573	4031	5013
4	Nainital	2257	2679	2067	1032
5	Pithoragarh	10864	9075	8817	8440
6	Udhamsingh Nagar	-	06	-	-
	Kumaon Total	57327	55529	47462	40858
	Uttarakhand	125897	115125	102512	95258



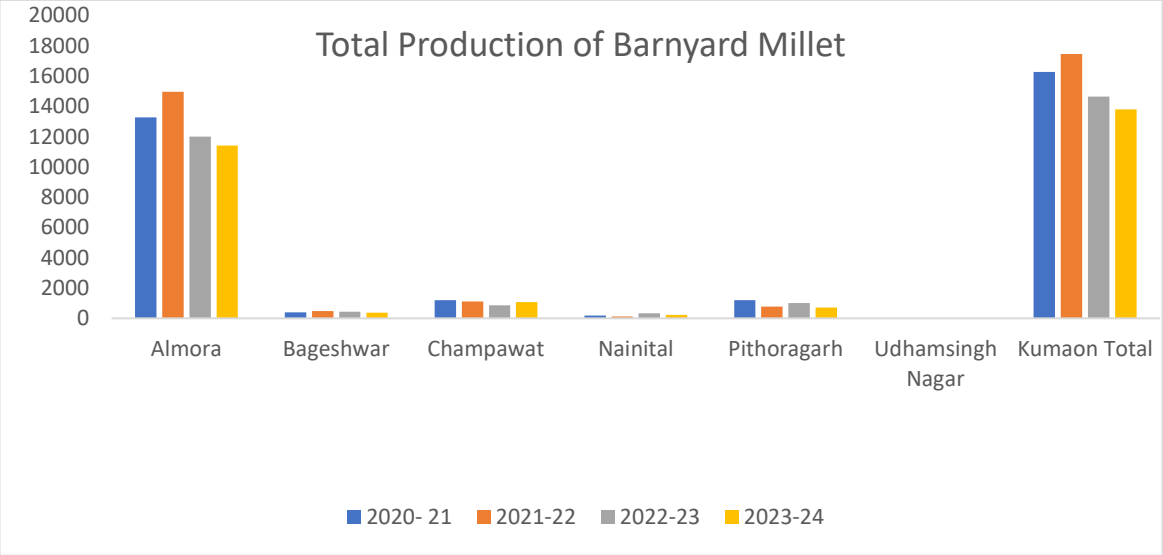
District wise production of finger millets in Kumaon region is reviewed in Table.1.7 The total production of finger millet in 2020-21 was 57327 metric tons in 2021-22 was 55529 metric tons in 2022-23 was 47462 metric tons and in 2023-24 was 40858 metric tons.

Table 1.8 Production of Barnyard Millets in last 4 Years (Metric tons)

S.No.	District	2020- 21	2021-22	2022-23	2023-24
1	Almora	13284	14964	12006	11420
2	Bageshwar	397	476	435	375
3	Champawat	1205	1114	868	1068

4	Nainital	179	125	328	217
5	Pithoragarh	1209	780	1010	715
6	Udhamsingh Nagar	-	-	-	-
	Kumaon Total	16274	17459	14647	13795
	Uttarakhand	57935	60569	53922	49845

Source: Govt. of Uttarakhand, Agriculture data 2023



District wise production of Barnyard millets in Kumaon region is reviewed in Table.1.8 The total production of Barnyard millet in 2020-21 was 16274 metric tons, in 2021-22 was 17459 metric tons, in 2022-23 was 14647 metric tons and in 2023-24 was 13795 metric tons.

Government schemes and Production:

The Government of Uttarakhand has start-up Millet mission on Feb 2023 to promote Finger Millet and Barnyard Millet. In order to improve the use of production refinement and marketing. The corporative societies can fix a minimum rate for purchasing and marketing of these two millets. This study is Important for the local agricultural economy and rural livelihood. The Study has following benefits:

Presently the awareness and survey programmes are proposed at Block and village level. Where the cultivation of Zugra and Maduwa is under progress. The awareness programme can be initiated at the block level school for primary level information.

Government of India declared the International Year of Millets on 3 March 2021 in 75th Convention of U.N. 70 Countries supported the declaration of India Government. At Present it is the need of us to explore the all possibilities of production and Marketing of Millets at the National level. At Present annually 170 lakh ton of Millets production in India. Which is 80% of the total production of the world. It is important to mention that there is only 20% of Millets are cultivated by the remaining countries in the world. It is clear that India stands at the 1st position in the production of Millets. But this production is based on the conditional agricultural practices of the Indian societies in different parts, States of regions having climatic conditions. In special Reference to the hilly areas of Uttarakhand the production of Millets along with the agricultural practices.

Conclusion:

Uttarakhand government is working towards providing an 80% subsidy on the millet seeds. The government has also started MSP to motivate the farmers to grow millets. Online payment education is provided to the farmers who are selling millet to the government to be distributed through the PDS. A book titled "Swaad ke saath Swasthya" has been launched by the government to educate the people about the nutritional value of millets. To ensure that farmers get good prices for producing millets, the MSP of millet in the state has been kept at Rs 35.78. Women Self-help group have been provided incentives of Rs 1.50 per kg of millet for purchasing millet from farmers at MSP.

Problems are existing are present:

The following main problems are existing are present:

1. Decrease in the production of Millets and productivity of the agricultural land.

2. Lack of sufficient facilities in the production of Millets and Marketing.

3. Farmers are not getting required cost or minimum labour cost.

4. The Millets production totally depends upon rain water but climate change is continuously affecting the production.

5. Migration and decreasing interest towards agriculture in the hilly area is also influencing the total production of Millets.

Suggestions:

1. To Identify the problems and challenges of the farmers in the production and marketing of the millets.

2. It is useful to remove the difficulties in production marketing and cost-effectiveness of the millets.

3. Efforts should be made to improve socio-economic environment of the farmers, healthy rural development and remove the problems related to unemployment.

4. To stop migration people should be influenced towards agriculture.

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