

# Report on Promotion of Millets (Bajra) in Haryana

Under: ABY, Haryana



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## Background:

The year 2023 has been declared as the "International Year of the Millets" by the United Nations.



The millets have always been an integral part of food diet for centuries due to its plethora of health benefits. Moreover, millets require less water than paddy and wheat. They are very tolerant of heat (up to 64 degrees Celsius), drought and flood and it makes the crop an obvious choice for farmers in an era of climate change and depleting natural resources like groundwater. In Haryana most of the Gram Panchayats are over-exploited and water stressed due to excessive extraction of groundwater through tube wells for the development of Agriculture and particularly irrigation systems in this part is strongly dependent on groundwater resources. This Gram Panchayats However, due to aptness of this technology, Haryana state is moving into crisis zone, where even their current level of groundwater extraction is exceeding groundwater recharge and is therefore becoming unsustainable. To mitigate the existing water challenge in the State, Promotion of Millets in the State of Haryana along with awareness activities among the community is the need of hour.

## Introduction:

The State of Haryana aims at replacing high water-consuming crops with low water-consuming crops (i.e. Millets) has been kept as one of the important sub-indicators under DLI#4. In compliance of the above, SPMU



Haryana had procured around 550 Quintal of Hybrid Bajra Seeds from National Seeds Corporation Ltd, which has been distributed to farmers across the Gram Panchayats covered under Atal Bhujal Yojana, Haryana. One of the key aspects of Atal Bhujal is to bring in behavioural changes in the community from the prevailing attitude of water consumption to water conservation & smart water management. It is imperative that this message is driven across all levels, especially at the grass-root level, so that the objectives of the scheme are achieved. An important objective of distribution of millet seeds is to encourage farmers of commercial crops to shift to millet cultivation. A total of 14930 farmers were selected under 811 gram Panchayats where Bajra seeds had been distributed to the farmers. It is covered 36630.4 acre area of land, which will roughly save 106 MCM of groundwater.

#### Objective:

The primary objective of distributing Bajra seeds under the Atal Bhujal Yojana is to promote the cultivation of alternative crops that require less water and are well-suited to the agro-climatic conditions prevalent in the targeted regions. By encouraging farmers to diversify their cropping patterns and adopt drought-resistant crops like Bajra, the initiative aims to reduce the reliance on water-intensive crops and promote sustainable agricultural practices.



Dr Banwari Lal Honorable Minister Co-operation & Public Health  
Distributed Bajra Seed of ABY farmers at Block Level

The distribution of Bajra seeds under the Atal Bhujal Yojana is carried out through various channels, including Sarpanch, agricultural extension workers, government agencies, and local cooperatives.

### Implementation methodology:

- **Identification of Beneficiary Farmers:** DPMU & DIP with concerned Sarpanch identified the farmers through GP level meeting who was willing to participate in the Bajra cultivation program.
- **Procurement and Quality Assurance:** High-quality Bajra Bio-448 T/L seeds are procured from National Seed Corporation Ltd to ensure optimal germination and crop yield. Stringent quality assurance measures are implemented to maintain the standards of the distributed seeds.
- **Distribution and Training:** The Bajra seeds are distributed to the selected farmers along with comprehensive training and extension services organised by DPMU and provided by NSCs, These training sessions cover various aspects of Bajra cultivation, including land preparation, sowing techniques, irrigation methods, pest and disease management, and post-harvest practices.



- **Monitoring and Evaluation:** Regular monitoring and evaluation are conducted by the SPMU, DPMU and DIPs to assess the progress of Bajra cultivation among the beneficiary farmers. Field visits, data collection, and feedback mechanisms are employed to track the uptake of Bajra cultivation and address any challenges faced by the farmers.

The Atal Bhujal Yojana (ABY), Haryana has made significant strides in promoting the cultivation of Bajra seeds across various districts. The data provided showcases a detailed overview of the distribution of Bajra seeds, the number of beneficiaries, the area covered, and the yield obtained in each district.

District Wise details of Bajra seed under ABY Haryana					
S.N	District	Seeds Quantity (In kg)	Total Beneficiaries	Area Covered (in acre)	Yield (in Qnt)
1	Bhiwani	14932	3788	9954.67	130350
2	Charki Dadri	5205	976	3470	44134
3	Faridabad	1516.5	490	1011	8914
4	Fatehabad	400.5	102	267	2318
5	Gurugram	4798.5	842	3199	26177
6	Kaithal	525	178	350	3132
7	Karnal	25.5	5	17	138.6
8	Kurukshetra	172.5	36	115	990.6
9	Mahendragarh	4309.1	1438	2872.73	35101
10	Palwal	10170.5	2064	6780.33	58859
11	Panipat	922.5	310	615	5224
12	Rewari	6394	2100	4262.67	36531
13	Sirsa	4836	2315	3224	28856
14	Yamunanagar	738	286	492	4085
<b>Grand Total</b>		<b>54945.6</b>	<b>14930</b>	<b>36630.4</b>	<b>384809</b>

District Wise Water Savings through Bajra Promotion under ABY Haryana							
S.N	District	Area Covered (in acre)	Major Crop	Major Crop WR	Alternate Crop	Bajra WR	Water Saved in Ham
1	Bhiwani	9954.67	Cotton	4030.2	Bajra	1410.6	2620
2	Charki Dadri	3470	Cotton	1404.9	Bajra	491.7	913
3	Faridabad	1011	Paddy	450.2	Bajra	143.3	307
4	Fatehabad	267	Paddy	118.9	Bajra	37.8	81
5	Gurugram	3199	Paddy	1424.7	Bajra	453.3	971
6	Kaithal	350	Paddy	155.9	Bajra	49.6	106
7	Karnal	17	Paddy	7.6	Bajra	2.4	5
8	Kurukshetra	115	Paddy	51.2	Bajra	16.3	35
9	Mahendragarh	2872.73	Paddy	1279.4	Bajra	407.1	872
10	Palwal	6780.33	Paddy	3019.6	Bajra	960.8	2059
11	Panipat	615	Paddy	273.9	Bajra	87.1	187
12	Rewari	4262.67	Paddy	1898.4	Bajra	604.0	1294
13	Sirsa	3224	Paddy	1435.8	Bajra	456.8	979
14	Yamunanagar	492	Paddy	219.1	Bajra	69.7	149
<b>Water Saved in Ham</b>							<b>10579.1</b>
<b>Water Saved in MCM</b>							<b>106</b>



## Cost Benefit Analysis:

Cost of cultivation (per Acre)			
Sl.No.	Particulars	Bajra-Bio-448 T/L	
		UoM	Amount (Rs)
A.	<b>Input Cost</b>		
I	Seed	1.5kg (Bi0-448) @ Rs 200 /kg	300
B	<b>Land Preparation &amp; Planting</b>		
I	Ploughing & Sowing		2100
C.	<b>Fertilizer &amp; Manure (including Labour)</b>		
I	DAP	01 bag @ Rs 1350/-	1350
II	Urea	1.5 bag @ Rs 380/bag	570
V.	Labour		200
D.	<b>Plant Protection</b>		
II.	Weedicide		250
III.	Labour		150
IV.	Irrigation Charges	2 Time	500
E.	<b>Harvesting &amp; Transportation</b>		
I.	Harvesting		2000
II.	Transportation / Threshring		2000
	<b>Total Expenditure</b>		<b>9420</b>
	Average yield in Qtl.	12 Qtl @ Rs 2500	
	Gross Income		<b>30,000</b>
	<b>Net Income</b>		<b>20,580</b>

## Socio Economic Impact:

The promotion of Bajra cultivation among farmers through incentive funds under Atal Bhujal Yojana has several socio-economic impacts:

- **Income Generation:** Bajra cultivation offers farmers an additional source of income. By diversifying their crops, farmers can spread their risks and potentially increase their overall income. As Bajra lower water requirements and resilience to adverse weather conditions make it an attractive option for farmers, particularly in regions facing water scarcity and climate variability.
- **Cost Reduction:** Bajra cultivation typically requires fewer inputs compared to water-intensive crops like rice or wheat. This includes reduced water usage, lower fertilizer and pesticide requirements, and decreased dependency on expensive irrigation systems. As a result, farmers can lower their production costs, improving their profit margins and financial sustainability.

- **Water Conservation:** Bajra required 400 mm water makes it a valuable crop in regions facing water scarcity. By promoting Bajra cultivation, initiatives under Atal Bhujal Yojana contribute to water conservation efforts, reducing the strain on groundwater reserves and promoting sustainable water management practices.
- **Enhanced Food Security:** Bajra is a nutritious crop rich in essential nutrients such as iron, protein, and fibre. By growing Bajra, farmers can improve their household food security by diversifying their diets and ensuring access to nutritious food for their families. Additionally, surplus Bajra production can be sold or stored for consumption during lean periods, further enhancing food security at the community level.
- **Empowerment of Smallholder Farmers:** Bajra cultivation can empower smallholder farmers by providing them with a viable and sustainable livelihood option. Unlike some high-input crops, Bajra can be grown with relatively simple farming techniques and minimal external inputs, making it accessible to resource-constrained farmers. By participating in Bajra cultivation initiatives, smallholder farmers can improve their economic prospects and enhance their overall well-being.
- **Environmental Sustainability:** Bajra cultivation promotes environmentally sustainable agricultural practices. Its lower water and input requirements reduce pressure on natural resources and minimize environmental degradation. By adopting Bajra cultivation, farmers contribute to the conservation of soil fertility, biodiversity, and ecosystem health, ensuring the long-term viability of agricultural production systems.
- **Community Development:** The promotion of Bajra cultivation fosters community development by creating opportunities for collective action and cooperation among farmers. Through shared knowledge, resources, and support networks, farmers can work together to overcome common challenges and maximize the benefits of Bajra cultivation. This sense of community solidarity strengthens social cohesion and resilience in rural areas.

Overall, the socio-economic impact of Bajra cultivation among farmers is substantial, encompassing income generation, cost reduction, water conservation, food security, empowerment, environmental sustainability, and community development. By promoting Bajra cultivation, under Atal Bhujal Yojana contribute to the holistic development and well-

being of farming communities, particularly in regions facing water scarcity and climate change challenges.

#### **Feedback from farmers:**

Farmers reported that the yield of Bajra Bio-448 exceeded that of previous years and other varieties grown in the region, and they found the yield satisfactory. They appreciated this variety's resilience to drought conditions, highlighting its ability to endure water scarcity. Additionally, they noted that Bajra Bio-448 showed resistance to pests and diseases while requiring lower inputs compared to other crops. Marketing was facilitated by the attractive appearance of the grains from this variety.

#### **Challenges and Lessons Learned:**

Bhiwani emerges as one of the leading districts in terms of both seeds quantity and beneficiaries, with a substantial area covered and a high yield. Similarly, districts like Mahendergarh, Palwal, and Rewari have also shown remarkable performance, with significant seed distribution and impressive yields.

Charki Dadri, Faridabad, and Gurugram have also made noteworthy contributions to Bajra cultivation, although on a slightly smaller scale compared to other districts. It's evident that efforts are being made to distribute seeds and support farmers across various regions, ensuring a widespread adoption of Bajra cultivation.

However, there are some districts like Karnal and Yamunanagar where the quantities distributed are relatively low. These districts might benefit from additional support and resources to enhance their contribution to Bajra cultivation.

Overall, the data reflects a positive trend towards promoting Bajra cultivation under the ABY scheme in Haryana. By continuing to provide support, resources, and guidance to farmers, the Aby Haryana can further boost Bajra production, contributing to the agricultural growth and prosperity of the region.

#### **Conclusion:**

The distribution of Bajra seeds under the Atal Bhujal Yojana has emerged as a successful intervention to promote sustainable agriculture and groundwater management. By encouraging crop diversification and promoting the cultivation of drought-resistant crops like Bajra Bio-448 T/L the initiative has contributed to the conservation of water resources,



enhancement of farm incomes, and improvement of soil health. Continued efforts and support are essential to scale up such interventions and ensure their long-term sustainability and impact on rural livelihoods and environmental sustainability.

### **Recommendations:**

Based on the findings and experiences, provide recommendations for enhancing the effectiveness and scalability of Bajra seed distribution under ABY. Suggest policy measures, institutional support, and capacity-building initiatives to promote sustainable agriculture and water conservation practices.

### **Caste Study:**

### **Promoting Crop Diversification: The Bajra Cultivation Model**

#### **Introduction:**

District Sirsa, located in the state of Haryana, has traditionally been known for its predominant cultivation of Rice and Wheat. However, in recent years, efforts to promote crop diversification have gained momentum under Atal Bhujal Yojana, leading to the successful adoption of millet crops in the region. Initially It was



observed that farmers in this region were cultivating paddy with the help of flood irrigation method, which was consuming a huge quantity of groundwater. To address the aforesaid problem Atal Bhujal yojana has provided to beneficiary through extensive awareness campaigns, training programs, and the provision of Bajra seed by Atal Bhujal Yojana encouraged farmers to consider cultivating Bajra as an alternative to traditional crops. Bajra known for their resilience in adverse climatic conditions and minimal water requirements, were identified as a suitable choice for the semi-arid agro-climatic conditions of District Sirsa.

**Title: A Tale of Agricultural Innovation:  
Rakesh, the Visionary Farmer from Sirsa,  
Haryana**

In Keahrwala village, Rania, Sirsa district of Haryana, resides Sh. Rakesh, a beacon of inspiration for farmers far and wide. Son of Sh.Sahib Ram, he inherited farming from his ancestors also have a passion for innovating agriculture to increase his income and wishes to create a sustainable agriculture regime to leave a legacy of fertile land with abundant water for agriculture. With nearly 10 acres of fertile land



under his stewardship, Rakesh has always been on a quest for innovative farming practices.

Traditionally, Sh.Rakesh had been cultivating paddy, a staple crop in the region, before transitioning to Bajra. However, a pivotal moment came during his participation in the Atal Bhujal Yojana Gram Panchayat meeting. It was here that he was struck by the looming spectre of groundwater depletion, a crisis threatening the very foundation of agriculture in the region.

He recognized the urgent need to conserve water while sustaining agricultural productivity. Thus, he made the audacious decision to lead the charge in embracing millet, particularly Bajra, on his farm spanning 5 acres. The shift to Bajra wasn't merely a change in crop; it symbolized a paradigm shift in Sh.Rakesh's farming ethos. With meticulous care and unwavering dedication, he nurtured his Bajra fields, employing modern techniques of water management and conservation. Through drip irrigation and judicious water usage, Sh. Rakesh demonstrated that bountiful yields could be achieved without compromising on sustainability. Sh. Rakesh's Bajra fields flourished, yielding an impressive 10 quintals per acre. He confidently brought his yield to the local mandi, where the quality of his Bajra spoke volumes. With a rate of 2500 Rs/q, his produce commanded a premium in the market, fetching him a handsome return on his investment.

Through his visionary leadership and unwavering commitment to sustainability, Sh. Rakesh not only secured his own future but also paved the way for a brighter, more resilient agricultural sector in Haryana.

In farming history, Sh. Rakesh's tale stands as a testament to the transformative power of determination, innovation, and environmental stewardship. He is not just a farmer; he is a visionary, a pioneer, and an inspiration for generations to come.