

FINAL TECHNICAL REPORT / RAPPORT TECHNIQUE FINAL

ANNEX 2.14 COMPREHENSIVE SUPPORT PACKAGE FOR MSMES IN MILLET SECTOR -A POLICY STUDY

FineTrain;

;

© 2018, DHAN FOUNDATION



This work is licensed under the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/legalcode>), which permits unrestricted use, distribution, and reproduction, provided the original work is properly credited.

Cette œuvre est mise à disposition selon les termes de la licence Creative Commons Attribution (<https://creativecommons.org/licenses/by/4.0/legalcode>), qui permet l'utilisation, la distribution et la reproduction sans restriction, pourvu que le mérite de la création originale soit adéquatement reconnu.

COMPREHENSIVE SUPPORT PACKAGE FOR MSMES IN MILLET SECTOR -A POLICY STUDY

A study commissioned by
DHAN Foundation



Under the aegis of
Scaling up Small Millet Post-harvest and Nutritious Food Products
Project

1	Executive Summary.....	4
2	Introduction	7
2.1	Millet enterprises.....	8
2.1.1	Millet enterprises by category	9
2.1.2	Millet enterprises by the investment size.....	10
2.1.3	Millet based enterprises: Key characteristics	11
3	Millet consumption.....	13
3.1	Consumers	13
3.1.1	Rural consumers	13
3.1.2	Urban consumer	14
3.2	Grocery stores and Supermarkets	14
3.3	FMCG companies	15
3.4	Institutional buyers	16
3.5	Conclusion.....	16
4	Key challenges of Millet Entrepreneurs.....	16
4.1	Access to market is poor	17
4.1.1	High cost of retail marketing.....	17
4.1.2	Limited products and stiff price based competition	17
4.1.3	Institutional markets haven't been explored	18
4.2	Need to upgrade technology to reduce process costs	18
4.2.1	Limited shelf life of the product.....	18
4.2.2	Lack of standards and regulations on product quality.....	19
4.3	Raw material quality is not standardised	19
4.3.1	Challenges for millet millers.....	19
4.3.2	Challenges for food enterprises	19
4.4	Lower access to capital, low volumes and low profitability	20
4.5	Conclusion.....	21
5	Existing policy framework for millet based enterprises	21
5.1	Policies that explicitly cover millets	22
5.1.1	Millet policies: Supply Side Support.....	22

5.1.2	Millet policies: Demand side support	22
5.2	Food processing policies that implicitly cover millets	24
5.2.1	Central Government Policies	24
5.2.2	State level policies.....	25
5.3	Best practices from other Industries	26
5.3.1	Product Quality Management – the Case of Spice Board.....	26
5.3.2	Bio fertilisers	27
5.3.3	Handlooms: Revival of Chanderi	28
5.3.4	Market Development of Oats	29
5.4	Conclusion.....	29
6	Policy Recommendations.....	31
6.1	Policy recommendations for state governments.....	31
6.1.1	Business development support.....	32
6.1.2	Business enabling support	37
6.1.3	Useful schemes from Ministry of MSME	41
6.2	Policy recommendations for central government	43
6.2.1	Set up a dedicated institution for millet development.....	43
6.2.2	Favourable taxation policy for millet sector	44
6.3	Conclusion.....	45
Annex 1:	Millet board	46
1)	Measures for boosting the demand	46
2)	Quality standards for grains and end products	51
3)	Provide incentives for development of processing machinery, establish standards and undertake related certification	52
4)	Cluster Development Programs	52
Annex 2:	List of people met	54
Annex 3:	Mechanism for receipt of incentives under PMEGP scheme	56
Annex 4:	Best Practices in providing customised incentives to specific industries/regions.....	57
Annex 5:	Ease of doing business - Best Practices from Telangana	58
Annex 6:	SFAC (Small Farmers Agri Business Consortium)	58
Annex 7:	Organics & Millet Trade fare, Bangalore	59

1 Executive Summary

DHAN Foundation has mandated FineTrain to develop a research paper to recommend a comprehensive policy package required for development of existing millet enterprises and to attract new enterprises in this sector.

Millets are a group of small-seeded grass, widely grown around the world as cereal crops. They are considered “Miracle grains” as they can grow under drought conditions and need much less water vis-à-vis other crops. Millets are more nutritious as compared to other cereals and their consumption can help in alleviating malnutrition that affects nearly 20 percent of the population of India¹. Given their role in addressing malnutrition and climate change, the Government of India and various state governments are looking to establish a vibrant millet based MSME sector that can help in making millets available to a wide range of consumers.

This report provides a framework to the central and state governments to develop a comprehensive policy to promote vibrant MSMEs in the millet sector. Our approach comprised secondary research and interaction with millet industry including millet enterprises, millet household and bulk consumers, incubators and government institutions that build millet related policies. We acknowledge support extended by DHAN Foundation in sharing their research reports on the sector and in facilitating meetings with millet enterprises in Tamil Nadu.

Industry Snapshot

Millets can broadly be divided into two categories: major millets comprising Sorghum (Jowar), Pearl millets (Bajra) and small millets (Finger millet (Ragi), Barnyard, Foxtail, kodo, Proso and little millet). The key millet growing states include Karnataka, Tamil Nadu, Andhra Pradesh, Maharashtra, Rajasthan, Telangana, Uttar Pradesh and Madhya Pradesh. Millet production has remained stagnant at around 17 million tonnes over the past 50 years and their per capita availability has declined steeply. Millet consumption in rural population has declined faster than that in urban population.

The millet processing industry is less than 10 years old and comprises around 435 food enterprises, over hundred millet millers and over one thousand SHG members/street vendors largely spread over South India. Millet enterprises can broadly be divided into two categories - millet processors and millet food based enterprises. Millet processors dehusk small millets and process it into rice. Millet food enterprises manufacture a number of products from millet grains including millet flour, Ready to Cook and Ready to eat products. Most of the millet enterprises are micro enterprises with an investment of under INR 20 lakh.

Challenges

The industry is nascent and faces a number of challenges, foremost among them being accessing the market. Millet markets have two different end users - rural and urban population. While rural customers are replacing millets with rice due to easy availability of rice through PDS and an aspiration to consume grains similar to their richer urban counterparts, urban customers are

¹ As per DHAN foundation report: Supporting Millets in India: Policy Review and Suggestions for Action

beginning to make a comeback to millets but find them expensive and inconvenient. Further, in the urban segment, millets would face stiff competition from a host of FMCG products such as oats that has garnered a significant market share of the breakfast cereal market in India within a decade of entry.

Millet products are expensive as compared to traditional products as demand is limited; this results in lower sales volumes, higher overheads and marketing costs than other grains. Given the low demand, production volumes remain small, which leads to lower profitability, and therefore make them unattractive for new entrants and investors in the sector.

Millet enterprises also need access to latest technology to reduce processing costs and improve product shelf life; there are no regulatory standards for the grains or certification standards for the machinery or end products. As such, degree of refinement in grains and millet-based ready-to-eat products varies significantly, and negatively impacts product experience. This also consequently impacts the demand negatively.

Existing Policy Framework

The government has launched various programmes from time to time for development of millet sector. These programmes were spearheaded by Ministry of Agriculture and largely focussed on improving the supply of millets. The implementation of programmes has varied among states and most states have not been able to create new processing capacity. One reason for this could be because of the lack of coordinated effort between the several implementation partners including Department of Agriculture of state governments, millet based incubators, and NGOs. While existing schemes have not lacked intent, the overall development of sector has been missing in absence of a strong central institution that can promote the sector and get various stake holders to work together for a common goal.

Nevertheless the experience of Karnataka, which has includes millets in its food processing policy and initiated distribution of millets through government schemes is instructive and worthy of emulation by other states. Orissa has also recently initiated a Millet Mission to include millets in government programs.

Recommendations

In order to create a vibrant millet MSME sector, policy related support from central as well as state governments would be required. Our recommendations for both sets of government are given below.

Policy recommendations for state governments: These can broadly be divided into following two categories

Business development support: These would be measures required for establishment and growth of individual enterprises of various types and scale. They include incentives for setting up a unit, facilitating access to funds and availability of technical knowledge.

- We recommend that governments identify districts where millet processing industry can be developed (based on proximity to market or raw material) and provide customised incentives to these districts. Such policies have been implemented by Government of Maharashtra and Karnataka that have classified their respective states into different zones based on level of development and provide higher subsidies to less developed areas.
- Access to bank funding can be facilitated by routing the government subsidies through the lending institutions, who can use it as collateral against business loans. Such a practice of providing subsidy to collateral free loans is already prevalent under loans distributed as part of PMEGP (Prime Minister Employment Generation Programme).
- Access to infrastructure and technical knowledge can be enhanced by setting up millet clusters which can be funded through Cluster Development Programme (CDP), a scheme promoted by ministry of MSME.

Business enabling support: This essentially refers to institutional and regulatory support needed for the growth of millet industry. These include a robust supply chain, a large and growing market, quality standards for the products and favourable tax related policies.

- The raw material availability and quality can be improved via promotion of best practices in farming through training Farmer Producer Organizations, establishing raw material and seed banks in millet clusters and certification of millet processing machinery through technical and research institutions. Additionally, the rural youth can be skilled in farm gate level cleaning and processing of millets via setting up millet livelihood incubators under A Scheme for promoting Innovation, Rural Industry & Entrepreneurship (ASPIRE).
- The market for millet products can be developed by organising buyer sellers meetings and organic fairs, where millet MSMEs can meet with potential customers directly. Further, millet research institutions can work with the industry to make the products more relevant/convenient and thereby more attractive to the urban consumer. In this regard, the industry can emulate the best practices from Handlooms, where design intervention has made the product modern/attractive and boosted its demand.
- Quality standards for the millet grains are currently under development. Further there is a need to establish regulations and certification standards to specify minimum composition of millets in end products that are labelled as millet based products.

Policy recommendation for the central government: we recommend that the central government sets up a Millet Board with an objective to assist state governments in designing and implementing millet related programmes. The board could work towards boosting demand for millets, developing quality guidelines for grains and for certification of related processing machinery, and end products, and for commissioning related research studies. While the existing schemes already provide funds for these objectives, they have to be utilised in a focused manner toward these objectives.

Demand outlook for the industry is improving with the enactment of the Food Security Act, 2013, which includes millets in the public distribution system. The implementation of the Act in various states is still pending. A strong central institution such as the Millet Board would also be able to assist state governments in setting up systems required for distribution of millets through government schemes such as Integrated Child Development Scheme (ICDS), school Mid-day Meal Programs, welfare hostels and eventually through the state Public distribution systems. In addition, the Board could encourage knowledge transfer from states such as Karnataka and Orissa to other states that desire to frame relevant policies/strategies for boosting millet demand.




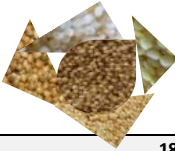
Taxation on millet based products has increased after implementation of GST, as branded grains attract 5% GST (previously nil) and some of the ready-to-eat products are taxed at 18% (previously 12-15%). There is a need to reduce the taxation to keep the early buyers motivated.

Relevant features of successful policies and strategies from the other industries could be adapted in this endeavour. For instance, the government can draw from other sectors such as organic fertilisers, handloom which also had strong roots in India but were losing their relevance. Supportive government policies for incentivising the entire value chain (bio fertilizers), support for market access and modernizing machinery (handloom) have not only revived these sectors but also attracted a number of new players.

2 Introduction

Millets are a group of small-seeded grass, widely grown around the world as cereal crops. Millets are reservoirs of protein, fibre, vitamins and minerals and are very nutritious. Millets are considered “Miracle grains” as they can grow under drought conditions and need much less water vis-à-vis other crops. For example, the rainfall needed for millets is around 30% of that of rice. India is the biggest producer of millets in the world with a production of around 17 million tonnes (around 17% of rice production in India) and it remains a staple food for millions of households.

Millets can broadly be divided into the following categories (see Table 1): major millets comprising Sorghum (Jowar), Pearl millet (Bajra), Finger millet (Ragi) and small millets (Barnyard, Foxtail, kodo, Proso and little millet). The key millet growing states include Karnataka, Tamil Nadu, Andhra Pradesh, Maharashtra, Rajasthan, Telangana, Uttar Pradesh and Madhya Pradesh.

Table 1: Production of millets (Lakh tonnes)					
	Jowar	Bajra	Ragi	Small Millets	Total
					
1961-66	88.48	39.51	18.88	18.89	166
2002-07	71.44	81.85	19.02	4.90	177
2008-09	72.46	88.87	20.04	4.45	186
2014-15	54.45	91.84	20.61	3.86	171

Source: Supporting millets in India, 2012 - A report by Dhan foundation, Policy perspective on mainstreaming small millets, a presentation by Indian Millet Research Institute

Millets were traditionally consumed by the farmers, who had them as part of their regular diet. However their production and cultivation has stagnated during past five decades due to policy preference in favour of wheat and rice in the form of subsidies and public distribution system (i.e., ration shops). Millets are beginning to make a comeback now, largely driven by concerns of climate change and rising incidence of lifestyle diseases. In order to cater to growing demand for millets, a new industry of millet based enterprises is coming up that sells millet grains and products.

Millet industry value chain is long, comprising a number of traders, resellers, which adds to the cost to the end consumer.

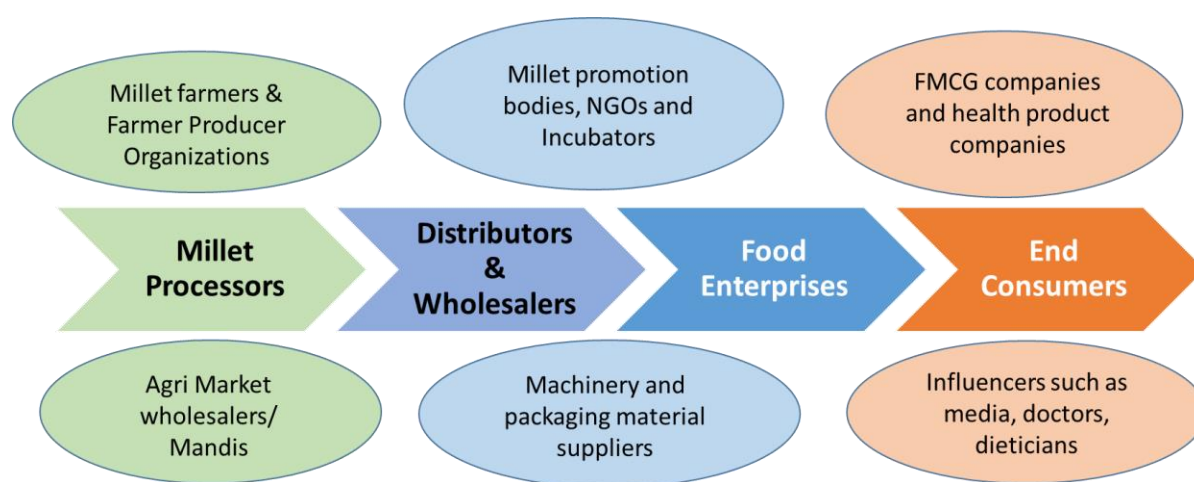


Figure 1: Stakeholders in the Entire Millet Value Chain

Millet crops are harvested twice a year in March and in November/December. The farmers sell it to wholesalers/stockists in the *mandi*, who then supply it to the millers. The millers sell the clean grain to wholesalers and retail shops. Millet food enterprises typically purchase the grain from the nearby market and not directly from processors as the quantity required is small and therefore there is not significant cost difference between wholesaler and processors price.

2.1 Millet enterprises

The millet processing industry is less than 10 years old and comprises around 435 food enterprises, over 100 millet millers and over 1000 SHG members/street vendors largely spread over South India.

Table 2: Millet Industry Snapshot		
Millet Food Enterprises	Single person enterprises	>1000
	Micro enterprises	>400
Millet Millers	Exclusive millets processors	>10
	Rice miller/other Millers (who also process millets)	1
Source: DHAN Foundation and FineTrain Research		

2.1.1 Millet enterprises by category

There are four broad categories of millet based enterprises; millet processors, food enterprises traders and organic product companies as described below.

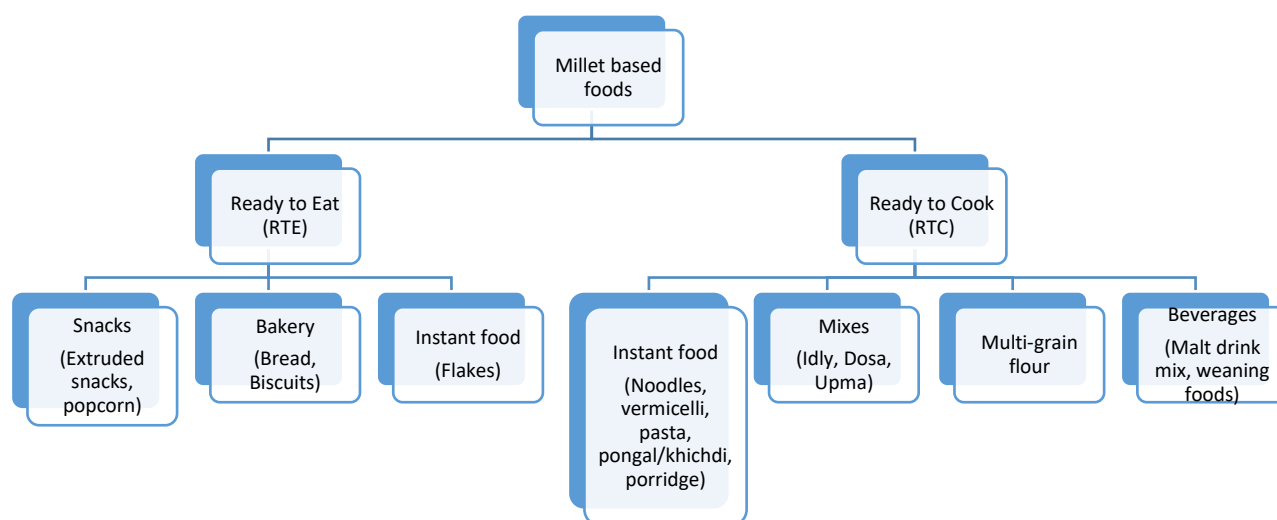
Millet processors: These refer to small millers that de husk the grain, sort and grade, and polish it. Major millets and finger millet don't have the husk and so do not need dehulling and only have to be cleaned. Smaller millets need specific processing machinery to remove the hull. These can be processed into fully polished or unpolished grains. The unpolished grains are nutritionally superior to polished grains, as the process of polishing/husk bran also removes the nutritional content.

The average processing capacity of a miller of unpolished grain is between 2-3 tonne per day and investment can be around INR 10 lakh or more. There are more than 10 millers in South India that mill unpolished rice .

The capacity of mill that provides fully polished rice is much higher at 10-20 tonnes per day; setting up such a mill would require an investment of over Rs. 2 crore. These millers typically sell their products to supermarkets /large distributors who brand the product in their own name. There are around 70 such millers in the country.

Millet food manufacturers: These enterprises manufacture a number of products from millet rice and grains including millet flour, Ready to Cook and Ready to eat products ((Figure 2). The enterprise size is highly variable and can range from home based business to a fully equipped enterprise that has both millet milling as well as product manufacturing. These enterprises sell their products in their brand name. Some of them also provide contract manufacturing for other brands.

Figure 2: Millet based valued added products



Traders: Traders procure grains, products and sell them under their brand name or like a commodity. These include supermarkets, and a number of local players across the country. Most of the traders deal in a number of commodities.

Health food /organic product companies: These enterprises sell a number of organic or health products along with millet based products. These include companies such as Sresta Natural Bio products Pvt Ltd (sells under their brand 24 Mantra) and Southern Health Foods Pvt Ltd (Manna foods).

2.1.2 Millet enterprises by the investment size

Millet enterprises can be divided into cottage industry, micro, small and medium enterprises.

Cottage enterprise: These are typically run by women /single person from their homes. They usually get trained via an NGO/government sponsored programme and sell their goods in the neighbourhood shops/to people known to them. The investment in such enterprises is typically less than Rs. 1 lakh.

Micro enterprise: Most of the millet enterprises fall in this category; these can be a small millet mill (under 5 tonnes per day) or a food enterprise. Average investment is less than Rs. 20 lakh. Such enterprises usually have independent premises and they may also have a retail outlet to sell their goods. These enterprises typically employ up to 5 people.

Small enterprise: These include a millet mill or a food enterprise that manufactures a number of products. Such enterprises have a larger factory (as compared to micro enterprises) with a separate storage area for raw material and grain. These enterprises may also have a vehicle for transporting their goods to market. They typically employ 5-10 people, including one sales person. The investment in such enterprises would be under Rs. 1 crore

Medium enterprises: These refer to health food/organic food companies that sell branded products including millets.

2.1.3 Millet based enterprises: Key characteristics

2.1.3.1 Millet based food market is largely unexplored, demand for millet based product is limited to a few cities

Millet based convenience food market is in a nascent stage, as the awareness about millet based product is low and market has limited products. So far only a few millets (Sorghum, Finger millet and Foxtail millet) have been utilized to develop products, thus leaving entire range of millets to be utilised.

Our interaction with millet consumers indicate that demand for millets among urban educated population is rising. The urban population is looking for convenient tasty and affordable products that retain goodness of millets. For example, Ahobilam foods, a three year old, Hyderabad based millet restaurant has seen an increase of more than 300 per cent in its sales over the past three years. The company, which began its operations as a grain shop, started serving millet meals, as people who bought millets found it difficult to cook them and were looking for convenient options to consume millets.

The demand for millets is concentrated in few select cities in Tamil Nadu, Karnataka and Andhra Pradesh. In these cities, millet products are largely sold as organic, premium products in organic shops and super market stores.

2.1.3.2 Millet based enterprise clusters are developing in select cities

Millet based food enterprise clusters are developing in South India in Coimbatore, Madurai, Bangalore and Hyderabad due to availability of millet training institutes in these regions. The Agriculture Universities such as Tamil Nadu Agriculture University, Pro Jay Shankar Telangana State agricultural University, Hyderabad and Indian Institute of Millet Research, Hyderabad regularly conduct entrepreneurship development programmes and offer technical support for millet entrepreneurs, thus resulting in creation of new enterprises.

2.1.3.3 Millet processing industry has cost disadvantages as compared to other mainstream cereals

Millet processing capacities are smaller vis-à-vis other grains, resulting in higher processing costs. Further, the yield is lower, as the processing technology is still evolving.

Table 3: Millet Mills vs Other Grain Mills

Type of Mill	Commercial Capacity (Tons per day)	Yield (%)	Consumption/ Annum (Million Tons)	Comments
Wheat	70 to 120	95-97	86.5	About 1,100 medium to large organized flour mills with milling capacity of about 25 million tons; remaining capacity is by small unorganized mills.
Rice	160 to 600	65	104.3	82,000 registered mills
Dal	50 to 100	74	16.5	
Small Millets	5 to 20	50 to 60	17	About 100 (10 exclusive small millet millers and 70 millers who also have rice mills)
Sources: <i>Worldgrain.com, Sidbi.in, and FineTrain research</i>				

The price of millets is more volatile as compared to other mainstream cereal crops. For example, the price of Ragi/other millets sometimes varies by more than 20-30 per cent in a quarter and this volatility discourages processors from storing large quantity of grain and doesn't allow them to take advantage of bulk pricing.

2.1.3.4 Millet industry is dominated by cottage and micro enterprises.

As a millet enterprise can be started with a capital of under Rs. 10 lakh, most of the millet enterprises are micro or small enterprises. The small scale of operations results in higher overhead costs and poor access to markets. For example, many millet based food enterprises buy their rice from retail market (instead of directly buying from the processors), thus paying higher price to the extent of up to 10 per cent of the raw material cost. Similarly, the selling costs (supermarket listing, distribution commissions) are also prohibitive as these are distributed across fewer products.

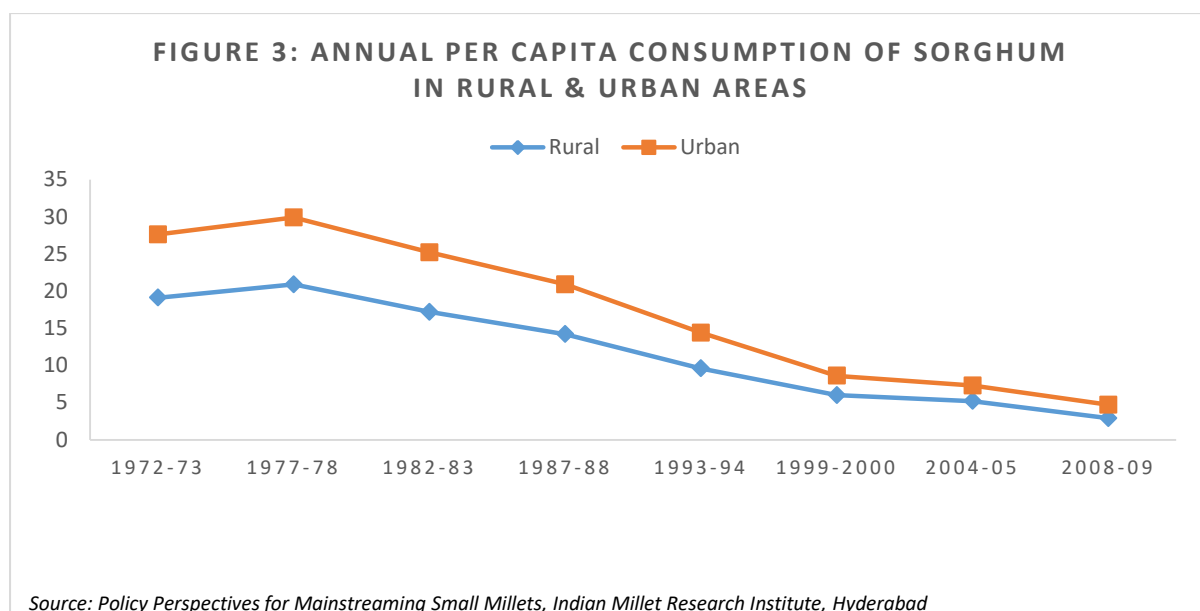
2.1.3.5 Existing Government policies do not cover millets adequately

Currently millet processing does not find a place in the food processing policies of state or central governments. The major incentives of food processing policies are directed towards horticulture, dairy, poultry, agriculture (rice, groundnuts and other mainstream crops). Also, many state government policies do not provide any incentives to grain processing activities such as rice mill, wheat mill and dal mills as there is already a surplus capacity in these industries.

Given the nascent nature of the industry and vast growth potential, millet processing needs a comprehensive policy that can address its needs including investment in millet processing capacity, awareness building about health benefits of millets and building market linkages.

3 Millet consumption

Millet production has remained stagnant over the past forty years, while population has more than doubled², as a result per capita availability has declined steeply. Millet consumption in rural population has declined faster than that in urban population as can be seen in the Figure 3.



We tried understanding the reasons behind the decline in millet consumption by interviewing all stakeholders of millet sector including household and institutional consumers, FMCG companies, millet traders and grocery stores and millet entrepreneurs. Our analysis and observations are provided below.

3.1 Consumers

3.1.1 Rural consumers

The rural population consumes millets as part of daily meal. Major millets such as Jowar and Bajra are consumed as *rottis*; Ragi is consumed as a health drink/breakfast snack and small millets are consumed in the form of rice. Some of the reasons that can explain decline in millet consumption among them are as under:

1. **Rice is aspirational and convenient:** Rural consumers are not aware of nutritional superiority of millets over rice. Rice and wheat based products are considered aspirational, modern etc. Also, rice is relatively easier to cook as compared to millets.
2. **Millets are not available in cities:** Rural consumers eat less millets after migrating to city as millets are not available in the neighbourhood grocery store. Also, people who bring their grains from the village to city do not find a flour mill in their neighbourhood.

² Population of India was around 553 million in 1975, and 1309 million in 2015 according to Census of India

3.1.2 Urban consumer

Urban health conscious consumers who are aware of the goodness of millets and is consuming multi grain flour, oats, etc. also find it difficult to use millets as part of their regular food.

1. Lack of tasty and convenient Ready to eat millet products

There is **dearth of products** that can compete with traditional products in terms of taste and ease of cooking. For example, millet *upma* takes much longer to cook as compared to wheat upma and has to be made tasty /presentable by adding vegetables/pulses and millet *sevai* has to be soaked and steamed before cooking.

2. Millet products are expensive

Millet based products are targeted at upper middle class buyer and are out of reach of common man. The table below highlights the premium customer has to pay for purchasing millet based products.

Table 4: Price comparison: Millet and Traditional products (Rs/kg)						
Items	Wheat products	Rice products	Millet products		Millets organic products	
Whole grain	17.30	38.50	Bajra	46.00	Bajra	98.00
			Jowar	60.00	Jowar	78.00
			Ragi	60.00	Ragi	70.00
Flours	45.00	40.00	Bajra	70.00	Bajra	120.00
			Jowar	70.00	Jowar	120.00
			Ragi	70.00	Ragi	120.00
Rava	50.00	44.00	Bajra	68.00	Bajra	135.00
			Jowar	90.00	Jowar	n.a
			Ragi	77.00	Ragi	166.67
Source: Bigbasket.com, Amazon grocery, PlaceofOrigin.in, richmillet.com.						

Source: Bigbasket.com, Amazon grocery, PlaceofOrigin.in, richmillet.com.

3.2 Grocery stores and Supermarkets

Millets are sold only in specific grocery shops and supermarkets and not in neighbourhood *kirana* store. The grocery stores were generally positive about millet demand.

- Millet Demand is seasonal:** For example, Ragi is consumed during summers and Jowar/Bajra during winters. These shops have regular clientele, who are either people who have been traditionally having millet *rottis* or health conscious people who have been recommended millets by their doctor/dietician. According to the shop owners, the demand for the grains is rising – while earlier they had customers who mostly bought millets for use as animal feed, in the past three years, consumers have also been buying millets for their own food consumption as well.
- Millet offtake is limited:** Super markets sell millets in their own brand name such as Ratandeep/Harvest Fresh. However, the quantities of these grains are still insignificant compared to rice/wheat based products. Supermarkets are also displaying a number of Ready to cook and Ready to eat products. Some of the traditional products such as millet *dosa* mix or health mix are doing well, but many other products do not get adequate sales and have to be returned.

3.3 FMCG companies

FMCG companies offer limited range of millet based goods (Table 5). While many FMCG companies including ITC, Britannia have made technology transfer agreements with millet based research institutes such as IIMR, ICRISAT, most of them haven't yet launched these products in the market. The reasons for limited usage of millets are provided below.

Table 5: Popular brands in Millet business			
Sl. No.	Companies	Millet based products	Content of millets (in %)
1	Britannia	Ragi Cookies	33% of Ragi
		Nutrichoice multigrain biscuits	14% (oats, Soy, Barley, Ragi, Maize, Bengal gram)
2	Kellog's	Ragi Chocos	28.3% of Ragi
3	MTR	Ragi Dosa mix	28% of Ragi
4	Patanjali	Multigrain <i>dalia</i>	33% of Millets
		Ragi/Finger millet powder	90% of Ragi
		Multi grain biscuits	4% of Jowar
5	Quaker	Quaker Oats Plus - Multigrain Advantage	Oats (60%), Wheat Flakes (18%), Barley Flakes (15%), Ragi Flakes (5%)

1. **Need for large volumes:** In order to make and market a millet based variant, the company must see the potential to sell at least 100 tonnes per month. Millet based products are expensive vis-à-vis regular products and that can limit their sales; further the taste of the product is also not easily accepted. For example Bambino, a Hyderabad based vermicelli manufacturer had launched Ragi variant of vermicelli in the past, but the product did not take off.
2. **Need to keep the taste and product benefits intact:** For adding millets to existing/successful products, the taste and feel of the product should remain intact. This would mean that millets are added only to a small extent. For example, the multigrain flour provided by FMCG

companies contains very little millet, as addition of millet may result in change in the softness of *rottis* or in their ease of preparation.

3.4 Institutional buyers

Institutional buyers refer to state governments, office canteens, hospitals and restaurants. These channels offer an opportunity to do bulk sales without incurring significant marketing costs.

Office canteens: These canteens typically offer subsidised food and vendors are reimbursed a fixed amount per meal. For example, the budget for breakfast (comprising three items) ranges from Rs. 25-60 per person per day and vendors are paid 15-45 days after submission of the bill. As such the vendor does not have any incentives to add millets to his menu, unless there is a demand from the customers and they are willing to pay higher price for healthier products.

Milk is sold through dispensers and there is no provision to add Ragi malt or any other health mix.

Targeting corporates that either have higher breakfast budgets or allow vendors to sell on cash and carry basis may be an option.

Government schools: Various State governments have started adding millets to the mid-day meal and one such experiment is being carried out by Akshay Patra Foundation that supplies food to many government schools. They have recently started providing millet biscuits and snacks to children, as part of their evening snack. We spoke to one such entrepreneur who is supplying millet biscuits to 450 schools in Telangana and is able to sell around 10 tonnes per month. As such, selling through schools for mid-day meals or snacks seems a viable option to get big volumes.

3.5 Conclusion

Based on the above, two factors seem to be playing a key role in determining millet consumption:

- Millets are being marketed to the urban educated class as premium health food, while their traditional rural consumers that consumed them in large quantities are weaning away from millets. The goodness of millets and their advantages over traditional grains are not known to the traditional customers. There is a need to reposition millets as aspirational food to the rural customers.
- Millets are mostly sold through FMCG route, where the product price is marked up to 50%, making them unaffordable for the customers. There is a need to set up marketing network, whereby the millets can be directly sold to consumers via corporate canteens, schools, hospitals and exhibitions.

4 Key challenges of Millet Entrepreneurs

Accessing the market remains the biggest challenge for millet based enterprises. The cost of reaching retail markets is very high due to commissions in the retail chain, and follow ups needed for recovery. While retail marketing is expensive, institutional markets require dedicated resources for multiple meetings and facility inspection.

Additionally, millet based enterprises also face challenges related to technology, finance and accessing raw material.

4.1 Access to market is poor

Millets are largely sold through retail network, comprising the traditional distributor and grocery stores as well as supermarkets. Millets compete with a host of other products including wheat and rice based products and grains such as oats that are marketed by large FMCG companies with high advertising budgets. As such, millets face following market challenges.

4.1.1 High cost of retail marketing

The commissions for the retail chain comprise up to 50 per cent of the MRP (10% for the distributor and 25-35% for the retail chain and 5% for the sales representatives' salary/incentives). Further, the credit period for such sales is usually 30 to 45 days; recovery remains a challenge and a dedicated resource has to be deployed for the same. Many entrepreneurs choose to do lower cash/advance sales rather than taking the risk of credit sales.

Supermarkets charge one time vendor listing fee of around Rs. 10,000 per SKU (stock keeping unit or pack size), which alone can be around Rs. 20,000-30,000 per product depending on the number of packaging sizes. Assuming that an enterprise has about 10 products, the listing fee can be around Rs. 2-3 lakhs, as much as monthly sales of the enterprise. Supermarkets also demand that one additional sales person be deployed by the millet company to educate customer about the product.

The commissions and marketing costs add to the product price and make millets even more expensive vis-à-vis traditional products, thus preventing their uptake.

4.1.2 Limited products and stiff price based competition

Millet entrepreneurs are developing products on their own and have very little institutional support for new recipe development or for enhancing shelf life of their products. Therefore, there is limited range of millet food products available, with most companies focussing on health mixes and *dosa* mixes. As a result, there is stiff price-based competition in products such as Ragi malt, a popular product in south India. Given the competition, the companies have found it difficult to increase prices, even after the increase in taxation post GST, which increased the taxes on health supplements to 18 per cent from 14.5 per cent tax under VAT. Investment in product innovation to develop differentiated products has worked very well for Anu Greens, an enterprise that develops millet based medicinal products (see Box 1).

Box 1: Anu Greens

Anu Green is a Madurai based millet food enterprise, started 7 years ago. The current turnover 4-5 tonnes per month. The company has a product portfolio of about 45 products including a lot of innovative products such as millet based coffee, medicinal products such as foxtail millet with cotton seed milk. Anu green has been able to identify a niche and build differentiated products by mixing millets in herbal medicines. It has also used a variety of sales channel including organic shops, direct marketing to households through pamphlet distribution and setting up stalls near parks where people come for their morning walk.

4.1.3 Institutional markets haven't been explored

Millet producers /entrepreneurs haven't yet explored the institutional markets such as school canteens, office canteens, hospitals, colleges etc. Institutional sales is a time consuming process, as it involves multiple rounds of meetings/price negotiations and facility inspection. Also institutions prefer relatively bigger players who have the infrastructure to meet their large orders and can supply the products at cost competitive rates.

In order to target institutional market, millet entrepreneurs must invest in infrastructure and quality control processes required for large scale of operations. Further, their products must be cost competitive and therefore they need to buy and process in bulk to minimise overheads. Most of the millet enterprises are micro enterprises and cannot afford to set up such facilities on their own. A cluster level product development centre with common production and packaging facilities would be needed to facilitate institutional sales. The Agriculture University of Hyderabad has a millet incubation centre equipped with cleaning, processing and packaging machinery, which is being used by a number of millet enterprises.

Access to institutional customers can be improved via participating in national level/state level exhibitions of agriculture and organic products. The expenses for participating in such exhibitions could be financed under the scheme of market development assistance offered by ministry of MSME. For example, the International Organics and Millets Trade Fair organised in Bangalore has been reportedly useful for a number of millet entrepreneurs who have received inquiries from large institutions.

4.2 Need to upgrade technology to reduce process costs

While major millets can be easily processed, the processing technology for small millets is still evolving. These millets have an inedible husk which needs to be removed. The current de-hulling machines are improvised versions of paddy processing machinery. As a result, average yield in the de-hulling process for small millets is less than optimum and can be improved significantly. Lower de-hulling yield results in more inputs per tonne of output and increases the cost of de-hulled grain.

In addition, millet enterprises also need support related to product development and quality related regulations as described below.

4.2.1 Limited shelf life of the product

The shelf life of de-hulled millet grains is limited (up to 2-3 months), after which these are attacked by pests or turn rancid. As a result, shelf life of millet based products such as cookies, snacks, ready to eat and ready to cook products is also limited. The shelf life and quality of grains can be enhanced by following good manufacturing practices such as washing the grains and drying them before further processing. These practices have helped Fibro Foods, a manufacturer of value added food products in Salem (see box 2) maintain quality standards.

Box 2: Fibro Foods

Fibro foods is food enterprise from Salem, Tamil Nadu. Its owner worked in a multinational corporation in Singapore prior to starting Fibro foods and he wanted to bring best manufacturing practices to millets. Fibro foods aims to offer top quality products and has invested in technology and processes for quality maintenance.

1. The grains are thoroughly washed before use and then they are dried in a solar dryer, the technology for which has been obtained from IIT Kharagpur
2. The conventional roaster has been modified, so that roasting is uniform and grains do not get overheated
3. The factory is GMP certified and the company is looking to enter contract manufacturing market for large organic product companies

4.2.2 Lack of standards and regulations on product quality

Currently there are no quality standard and disclosure norms for small millet grains (rice, grits/semolina and flour) with regards to rice polishing. For example, fully polished millet rice (which has no bran and is lower on nutrition as compared to unpolished rice) is also marketed as millet rice.

Similarly, for ready to eat or ready to cook products, there are no guidelines related to product composition for defining a product as a millet based product. It is common to see products labelled as Millet Muesli/Millet biscuits with less than 10 per cent millet content.

4.3 Raw material quality is not standardised

4.3.1 Challenges for millet millers

Small millets purchased for de-hulling, often have mud/inert particles which can make up to as much as 10% of the grains. The contamination of raw material increases the raw material cost for millet processors.

The small millet de-hulling and cleaning process requires manual intervention, thus restricting the capacity/volumes that can be handled. For example, while a de-huller can handle 500 kg per hour, the cleaning/sorting is limited to 100/200 kg per hour, thus creating a bottleneck in the capacity.

The price of millets is very volatile and can vary a lot among states and during season. Such high volatility also limits the amount of grain that can be stocked by the processor.

4.3.2 Challenges for food enterprises

Unlike paddy rice that comes in different varieties, there are no grades for millets. The raw material often has unhulled grains, weed seeds, small stones, and may be pest infested. This

presents a challenge for food enterprises as they need to spend additional time and effort in cleaning the grain.

4.4 Lower access to capital, low volumes and low profitability

The capital requirements of millet based enterprises are small, a millet mill can be started in less than Rs. 20 lakh and a homebased food enterprise requires less than Rs. 1 lakh. However, entrepreneurs find it difficult to get a collateral free bank loan for starting or expanding the business.

While loans under Rs. 10 lakh are sometimes available under Mudra scheme, the enterprises needing larger loans typically do not succeed unless they have a collateral. There is complete lack of awareness about the schemes and programmes of ministry of food processing and food processing policies of state governments. These programmes offer around 25% to 35% subsidies on capital investment and civil work construction cost and can significantly ease the financial burden on the enterprise.

Since the industry is new with most players being less than 10 years old, many millet enterprises are not profitable yet. Profitability and payback period depends on the scale of operations. For a food enterprise with investment of around Rs. 320 lakhs, a monthly volumes of at least 4-5 tonnes are needed for achieving breakeven and it can take up to 3-4 years to achieve breakeven (see Table 6).

Table 6: Breakeven volumes per month for a typical millet food enterprise		
	Costs (INR)	Assumptions
Rent	10,000	Rent per month
Manpower	93,000	2 labour@ Rs. 300 per day, one admin staff @Rs. 25,000 per month and owner salary of Rs. 50,000 per month
Electricity/other overheads	5,000	
Interest/depreciation	25,000	For a fixed investment of Rs. 20 lakhs
Fixed expenses	1,33,000	
MRP (Rs/kg)	150	
Price to the distributor (Rs/kg)	100	50% mark up on the basic price

Price net of GST (Rs/kg)	95	5% GST
Raw material (Rs/kg)	50	Millet flour@Rs. 40/kg and other products
Packaging (Rs/kg)	15	Packaging of Rs. 3 for 200 gm
Gross margin (Rs/kg)	35	
Volumes (kg/month) for breaking even	3,800	

4.5 Conclusion

In order to increase demand, millet price to the end customer must decrease. There are a number of factors that contribute to the millet prices including processing technology, large number of intermediaries in millet value chain and limited number of millet based food products. Specifically millet entrepreneur needs support in the following areas:

1. **Generating demand for millets in rural customers:** As agricultural population is the largest consumer of millets, there is a need to boost rural demand for millets through creating awareness about goodness of millets and including it in the public distribution system. Further, farmers have to be incentivised to cultivate millets so as to increase their availability.
2. **Facilitating institutional sale of millets:** The FMCG route is not viable for millet entrepreneur and there is a need to connect him directly to the bulk customer.
3. **Product Development support:** The entrepreneurs need technical support to increase the hulling efficiency, shelf life of the product, develop a variety of convenient and tasty products that are suited for urban consumer.
4. **Developing supply chain for millet industry:** The supply chain of the industry has to be strengthened by improving the raw material quality and availability around the year.

5 Existing policy framework for millet based enterprises

The existing policy framework for millets can broadly be divided into two categories - policies that explicitly support millets and policies that encompass millets along with other products. For example, food processing policies of state governments offer incentives for grain processing including millet grains.

This chapter discusses both categories of policies and also provides examples from other sectors which may be relevant for the millet industry.

5.1 Policies that explicitly cover millets

These policies can be divided into demand promotion and supply promotion policies. Unfortunately, none of these have been able to promote millet enterprises.

5.1.1 Millet policies: Supply Side Support

Initiative for Nutritional Security through Intensive Millets Promotion (INSIMP)

INSIMP, the first national comprehensive scheme for millets development, was introduced in 2011, under “Rashtriya Krishi Vikas Yojana” (RKVY). INSIMP was an integrated scheme to boost millet production and value added processing. The scheme covered a number of activities including raising awareness, demonstration of new technology, farm mechanization and other initiatives including setting up processing capacity.

INSIMP is now merged with National Food Security Mission (NFSM) and millets are covered under NFSM-coarse cereals, which is being implemented in 182 districts across all states. The costs incurred under the scheme are shared by the centre and states in the ratio of 60:40.

INSIMP has not resulted in creation of significant processing infrastructure due to lack of expertise in value added processing among the ground level staff that administer the scheme and unavailability of standardised processing machinery.

Rainfed Area Development Programme (RADP)

Rainfed Area Development Programme (RADP) was launched during the year 2011- 2012, as a sub scheme of Rashtriya Krishi Vikas Yojana (RKVY) to address the needs of rain fed areas. It assists farmers in improving the productivity of existing cropping patterns and in diversifying production. RADP provides a subsidy on inputs (such as seeds, fertiliser, and manure) for Recommended Cropping Systems (RCS) and millets based crops are eligible for subsidy. RADP does not provide any incentives to set up millet based enterprises.

Crop insurance scheme

Pradhan Mantri Fasal Beema Yojana (PMFBY) was started in 2016, after merging various crop insurance schemes such as National Agricultural Insurance Scheme (NAIS) and Weather Based crop Insurance Scheme (WBCIS). The Objective is to provide insurance coverage and financial support to farmers in the event of crop failure as a result of natural calamities, pests and diseases. PMFBY provides subsidised premium rates for specified crops including major millets. The scheme is not available for small millets as the database on inputs required for crop loss calculation is not readily available.

5.1.2 Millet policies: Demand side support

Inclusion of coarse cereals under Food Security Bill: The National Food Security Act, 2013 (also known as Right to Food Act), governs the framework of distribution of subsidised grains under PDS and government welfare schemes. The Act holds promise for augmenting millet demand as distribution under PDS can lead to a significant increase in its consumption.

Under the provisions of the bill, beneficiaries are entitled to purchase 5 kilograms per eligible person per month of cereals such as rice @ Rs. 3 per Kg; wheat @ Rs.2 per Kg and coarse cereals at Rs. 1 per kg.

So far only Karnataka has made large scale attempts to include millets in the PDS and it has met with mixed results (see Box 3). The state is only distributing the grains that can be directly sourced from farmers and not rice (dehulled grain) as their shelf life is lower. Karnataka started distributing finger millet (Ragi) in South Karnataka (Mandya and Tumkur) and sorghum (Jowar) in North Karnataka ((Dharwad and Gadag) through PDS in 2013-14. In order to assess the challenges involved in PDS distribution, a research study³ was undertaken M S Swaminathan Research Foundation, key finding

Box 3: Millets in PDS - Karnataka

Millet procurement

Procurement started in FY 2014, but there was limited success, due to declining Ragi production in the targeted districts. The area under millets had been consistently falling, due to declining profitability vis-a-vis other competing crops (Rice, Cotton, Maize, and Sunflower).

The government then increased the MSP of Ragi and Jowar from Rs.1500/quintal and Rs.1800/quintal in FY 2014 to Rs.2000/qlt and Rs.2300/qlt respectively in FY 2015. MSP of Ragi was further increased to Rs.2250/qlt in FY 16. The government also dis-incentivised cultivation of paddy by stopping distribution of paddy seeds. Subsequently, the procurement of millets increased to around 1.5 lakh tonnes (as against requirement of around 1.8 lakh tonnes) in 2015-16.

Key learnings

- Procuring large quantities for PDS was a challenge, as less than 5% of the actual production came to the APMC market. Farmers keep most of the grain for their own needs and also to use it to trade for other goods. Remaining was either directly sold to other farmers or to neighbourhood store.
- Attractive MSP is the prerequisite for incentivising cultivation of millet crops. Further, Farmer should feel assured (through repeated experience) that the MSP will be offered and honoured at the time of harvest. Payment terms must be attractive too. Delays in payment can turn off (if it is longer than 60 days) the farmers.
- The procurement window should be long enough so as to ensure that crops have been harvested, this is relevant if more than one cereal is being procured and their harvest time are different.
- Procurement/distribution of millets needs a lot of piloting before it can be launched on a viable scale to sort out issues related to ease of procurement, price and grain distribution.

of the study are provided in (Box 3.)

Mission Millet: The Government of India is planning to launch Mission Millet⁴, a comprehensive scheme for promotion of millets. The scheme is expected to boost millet processing by making standardised millet processing machinery available to entrepreneurs. The technology support for the

³ Introduction of Millets in PDS: Lessons from Karnataka, June 2017, M S Swaminathan Research Foundation

⁴ Based on discussion with Professor B. Dayakar Rao from Indian Millet Research Institute, Hyderabad

scheme will be provided by Indian Institute of Millet Research (IIMR), an apex millet research institution, promoted by Indian council of Agriculture Research (ICAR).

Unlike earlier millet based schemes which were only implemented through the Department of Agriculture, Mission Millet will be rolled out through a number of ministries such as Ministry of Health and Ministry of Women and Child Development so that millet becomes an integral part of their programmes and can be promoted as nutri-cereals that can boost health.

5.2 Food processing policies that implicitly cover millets

5.2.1 Central Government Policies

The Ministry of Food Processing offers a number of programmes for creation of food processing infrastructure and enhancement of primary and secondary processing capacity. While, these policies do not explicitly cover millets, the incentives are available for an entire range of industries including millet processing. As can be seen from Table 7, millet processing units can also avail of this scheme, provided they are located in the food parks that have been set up under the scheme.

Table 7: Food processing policy of GOI ⁵				
Scheme	Components	Description	Pattern of assistance	Relevance to Millets
Pradhan Mantri Kisan Sampada Yojana	The Mega Food Park Scheme	Incentives to establish cluster level food park which will house collection centres, primary processing centres, central processing centres and food incubation and development centres.	50% of the project cost (excluding land cost) for general areas and 75% of the project cost (excluding land value) for NE, Himalayan, ITDP areas and islands.	None of the three schemes discussed above exclude millets. The eligible list of activities includes drying, de-husking, de-hulling, splitting, flavour enhancing, etc. In order to avail the benefits, the unit has to be set in any of the food parks assisted under the scheme.
	Scheme for Creation / Expansion of Food Processing / Preservation Capacities	Aimed at building capacities of processing units that undertake value addition and/ or enhance shelf life of the products.	Incentives equal to 35% (general areas) and 50% (N.E. states, Himalayan states and ITDP areas and islands) of the cost of plant & machinery and technical civil work* .Subject to a maximum of Rs. 5 Crores.	
	Scheme for Creation of Backward and	Financial assistance for setting up primary processing centres/ collection centres at farm		

⁵ Source: Ministry of Food Processing (<http://mofpi.nic.in/>)

	Forward Linkages for processed food industry	as well as modern retail outlets along with connectivity through insulated/ refrigerated transport.	
*Technical civil work does not include compound wall, office building etc.			

5.2.2 State level policies

The food processing activities are covered under industry promotion policies of the states (see Table

Table 8: Coverage of millets under State food processing policies				
Sl no.	Name of the Policy	Components	Description	Relevance to millets
1	Karnataka Agri Business & Food Processing Policy , 2015	Investment promotion subsidy	Investment promotion subsidy @ 35% of fixed assets for MSME (capped at INR 65 lakh)	Processing industries include grain milling & manufacturing value added products from cereals such as Maize, Wheat, Paddy, Millets, Pulse Seeds etc.
		Technological upgradation subsidy	Subsidy for technology adoption from recognized national labs, 50% of the cost (max INR 1 lakh)	
2	Telangana State Food Processing and Preservation Policy, 2017	Creation, modernisation & expansion of Food Processing Units	Grant-in-aid of 35% of project cost, up to 4 crores per project. Cost would include Land, P&M and technical civil work.	Eligible projects include all food processing industries except rice mills, aerated water units, ice-factories not linked to food processing, packaged drinking water units, soft drinks units, pan masala units and traditional Jaggery units.
		Promotion of Innovation & adoption of industry best practices	All food processing units and preservation facilities would be eligible for 50% grant (up to Rs. 5 lacs) on the expenses incurred for participating in domestic and global best practice certifications.	
3	AP Food Processing Policy, 2015-20	Scheme for Food Parks	50% of the project cost subjected to maximum of Rs. 20 Crores for small and Rs. 50 Crores for Mega food parks.	Eligible projects include all food processing industries; except rice mills, aerated water units, ice-factories not linked to food processing, packaged drinking water units, soft drinks units, pan masala units, traditional Jaggery units, Dal Mills, Flour mills, excluding roller flour mills, Pan masala, supari, gutka, Groundnut oil expellers, excluding refineries
		New Processing Units	25% of project cost (Plant & Machinery and technical civil work), subject to a maximum of Rs. 5 Crores	
		Technology upgradation	25% of new/ upgraded equipment cost, subject to a maximum of Rs. 5 Crores	
		Food processor's waste management units in identified clusters	50% of Project cost up to Rs. 2 Crs. (Plant & Machinery and technical civil work)	
		Setting up Primary Processing & Collection centres at farm level	50% of Project cost up to Rs. 2.50 Crs (Plant & Machinery and technical civil work)	
4	Rajasthan Agro-Processing & Agri-Marketing Promotion Policy, 2015	Post harvest activities, Animal feed manufacturing and Agro processing	Interest subsidy of 5 % for enterprises that do not fall under purview of VAT/CST etc . For enterprises with VAT liabilities: Investment subsidy equal to 30% -60% of VAT and CST paid over 7 years and employment subsidy of 20% of VAT/CST paid over 7 years	Post harvest activities: Eligible activities include preparation of crops for primary markets; cleaning, trimming, grading, disinfecting. Agro processing : manufactring breakfast items from cereals is covered
5	Gujarat Comprehensive Agro Business Policy, 2016-21	Agro and Food Processing Units	25% of eligible project cost, subject to maximum Rs. 50.00 lakhs	Eligible units- that add value to both food & non-food agriculture products by processing or by improving shelf life or by creating market linkages
		Creating Primary Processing Centres / Collection Centres in rural areas	25% of eligible project cost, subject to maximum Rs. 250.00 lakhs	
* Project cost includes cost of building and plant and machinery and related assets				

8). In addition, some states also offer food processing policies. Most states do not explicitly cover millets; the only exception is Karnataka, which mentions millets as a category separately in its agro processing policy and also offers a separate organic products and millet policy. Millet processing is eligible for incentives across all states.

Best practices from other Industries

Millets can draw examples from other sectors such as spices for institutional structure and quality standards, and organic fertilisers, handloom which also had strong roots in India but were losing their relevance. Supportive government policies have not only revived these sectors but also attracted a number of new players. In addition, the explosive growth of the oats market just in the last decade in India offers insights in market development strategy.

5.2.3 Product Quality Management – the Case of Spice Board

Despite being a major exporter of spices globally, India continues to struggle with quality issues related to contamination, hygiene and pesticide residues. The Spice Board of India, an organisation set up to facilitate export of Indian spices, is taking the following measures to ensure product quality.

5.2.3.1 Assistance to farmers for growing quality product

Subsidies for mechanization of agricultural practices

Subsidies are given for implementation of mechanised farming in field, installing drying units, boiling units, distillation units, and various value addition machinery.

Training to farmers and exporters

Spice board also conducts training classes on the use of Integrated Pest Management (IPM) and to impart knowledge of good agriculture practices and good hygiene methods to farmers and exporters. For example, training programs on analysing presence of illegal dyes in spice products or training programmes on microbiological analysis of spices/spice products are conducted regularly.

Compulsory inspection

All the chillies, turmeric, chilli products and turmeric powder exported from India are inspected by the Spice Board. The board has set up a network laboratories in metro centres in spice growing regions such as Kochi, Guntur, Mumbai and Chennai. These laboratories assist farmers and exporters and also analyse the samples collected by the board for quality testing.

5.2.3.2 Assistance to spice processing unit

The board has established crop specific Spices Park in major spice growing and market centres in the country. These parks provide common infrastructure facilities for both postharvest and processing operations of spices and spice products like cleaning, grading, sorting, grinding, packing and warehousing. They are typically located near cultivation areas, so that entrepreneurs can directly procure from farmers thus removing intermediaries. Some of the

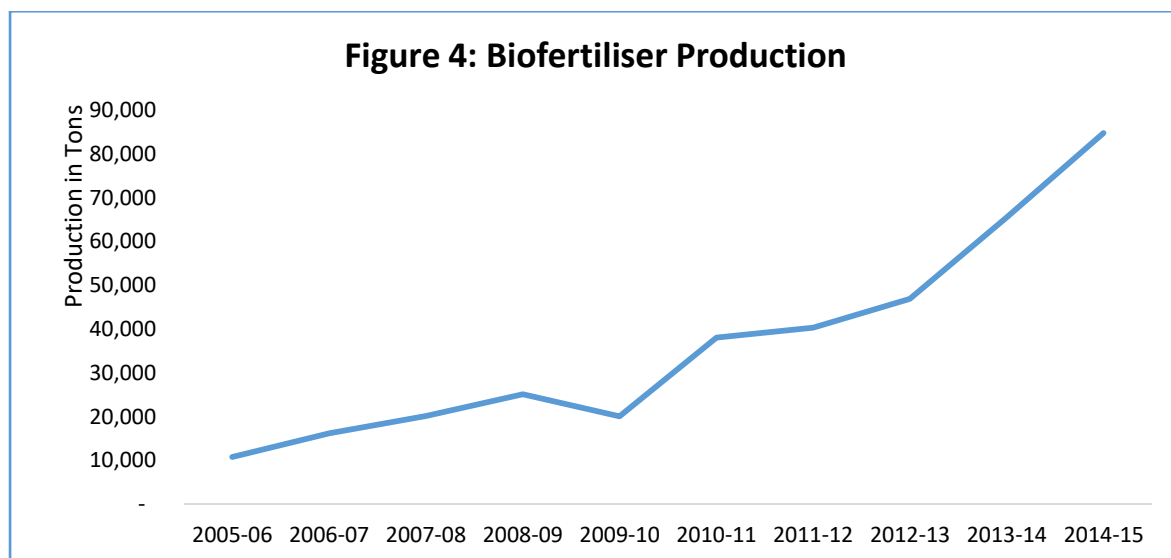
parks established by the board include Chhindwara, Madhya Pradesh for chilli and garlic, Puttady Kerala for small cardamom and pepper, Jodhpur Rajasthan for cumin and pepper.

5.2.3.3 Setting up international standards for quality

Spice Board of India is collaborating with Codex⁶, an international organisation that develops standards for food products, to develop safety standards for spices. It heads the Codex Committee on Spices and Culinary herbs. Codex has so far adopted three standards for pepper, cumin and thyme.

5.2.4 Bio fertilisers

Bio Fertilisers are a category of non-chemical fertiliser that help plants grow by taking nutrient from the atmosphere and making those available to the plant. Popular bio fertilisers include Nitrogen fixing fertilisers such as Rhizobium or Phosphate solubilizing fertilisers such as *phosphaticum*. While these fertilisers have been there since ages, their usage had not increased due to lack of awareness about their goodness vis-à-vis chemical fertiliser and their slow impact on plants growth.



Over the past 20 years, the need for bringing back organic fertilisers has been widely felt so as to improve soil productivity and resilience to weather adverse conditions. The government took a series of steps to improve the availability of organic fertiliser (includes manure/compost and bio fertiliser), incentivise consumer to use them and put regulations and standards to maintain quality. The Ministry of Agriculture included organic fertilisers in various central schemes meant for use of fertiliser such as National Mission for Sustainable Agriculture (NMSA), Mission for Integrated Development of Horticulture (MIDH), Rashtriya Krishi Vikas Yojana (RKVY) and Network Project on

⁶ Codex is an international organisation under FAO (Food and Agriculture Organization of the United Nations) and WHO (World Health Organization) to set up international standards on food products so as to protect consumer's health and ensure fair trade. Codex provides guidelines on issues such as moisture content, food additives, pesticide residue, labelling that impact food safety of consumer products.

⁷ <http://ncof.dacnet.nic.in/>

Organic Farming under Indian Council for Agricultural Research (ICAR). On the ground level, the following initiatives were taken to address the demand and supply of these fertilisers:

Incentives for end users: Farmers are offered guidance on application of organic fertilisers and such fertilisers are distributed at subsidised rates to farmers.

Regulation and quality standards: In 2006, the Organic and Bio fertilisers were brought into preview of Fertiliser control order, thus requiring distributors and dealers to obtain necessary registration and license from state authorities

Incentives to manufacturers: The following Incentives are provided to entrepreneurs to set up such units:

- a) Under National Project on Organic Farming (NPOF), financial assistance is provided as credit linked back ended subsidy through NABARD for setting up of fruit/vegetable waste / agro-waste compost unit @ 33% of the total cost of project up to Rs.60 lakh per unit and @ 25% of the total cost of project up to Rs.40 lakh per unit of bio-fertilizer bio-pesticides production units.
- b) Under National Horticulture Mission (NHM), financial assistance is provided for setting up vermi compost production units @ 50% of the cost subject to a maximum of Rs.30,000 per beneficiary.

Agriculture universities: Agriculture universities double up as Krishi Vigyan Kendra that help farmers in a number of ways including crop selection, crop production know how and assistance in soil testing.

With the above initiatives, awareness among farmers about organic and bio fertilisers has increased resulting in an increase in bio fertilizer consumption. The sector has attracted new players; large established players such as Coromandel International Limited and Zuari Fertilisers and Chemicals Limited also now offer organic fertilisers as part of their product portfolio.

5.2.5 Handlooms: Revival of Chanderi

Handloom sector is one of the largest employer in India, second only to agriculture in the number of rural livelihoods. Chanderi is a famous handloom weave from Madhya Pradesh, and the Chanderi cluster is known for its high quality saris. The cluster, which had turnover of less than Rs. 20 crore in 2002, has sales of over Rs. 100 crore at present.

In the year 2002, the cluster had about 4,000 working looms providing direct and indirect employment to about 18,000 people and an estimated annual turnover of Rs. 15 crore. The issues facing the cluster included declining sales and profitability, limited access to market, credit and lack of design inputs and old technology.

In 2003, a cluster development programme, a scheme by ministry of MSME, was organised by UNIDO. During the next three years, the programme made the following interventions:

Formation of Self-help groups: UNIDO mobilised individual weavers into collectives, starting with Self Help Groups (SHGs). The SHGs were then converted into an apex level federation called Bunker Vikas Sansthan, Chanderi (BVSC)

Strengthening inputs and infrastructure: The product quality and scale of operations was improved by introducing new technology in the weaving and pre and post-weaving process, availability of better yarn and access to new designs. Common infrastructure such as storage sheds and small-scale dyeing units were also developed.

Capacity building: A number of training programs were organised for skill-building of weavers to weave better products and to improve their business skills to play managerial roles in the enterprises /federations that were being created.

Market linkages: UNIDO connected weavers to bulk institutional buyers in both domestic and export markets. For example, the weavers were connected with Fab India, which started buying significant quantities from them.

UNIDO interventions were followed by another set of similar interventions by Department of Handlooms, which further strengthened the infrastructure, raw material access and market linkages. Recently Chanderi weavers have also benefitted from Chanderiyaan, a digital resource centre that allows weavers to create unique designs faster, thus saving their processing time.

5.2.6 Market Development of Oats

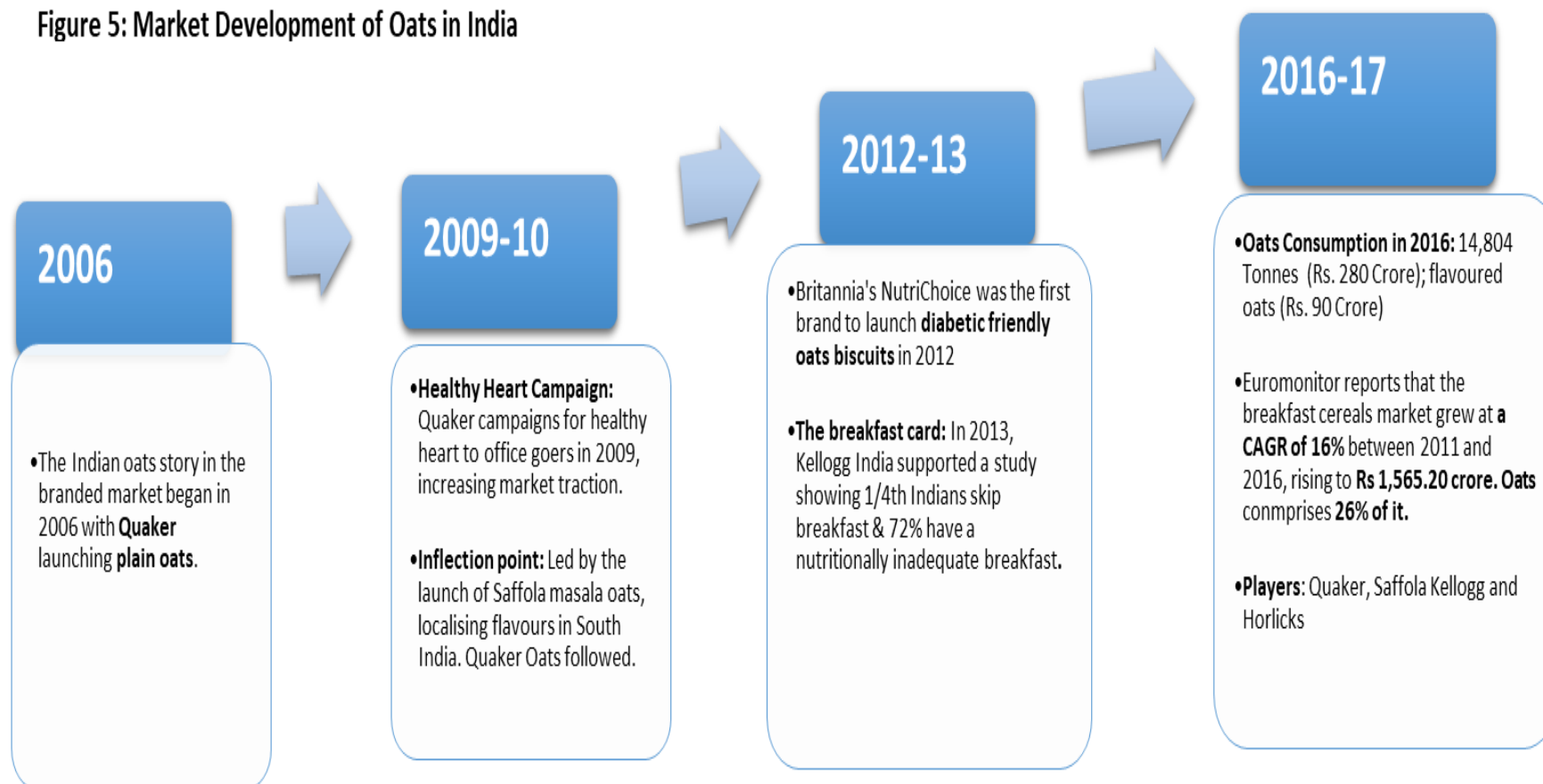
The fast growth of the demand for Oats⁸ also offers good lessons for boosting demand of millets. Oats entered Indian market only in 2006, but they now account for 26% share of breakfast cereals market. Oats have become popular as their manufacturers were able to localise the taste and made them both convenient and tasty (See figure 5). Further, oats are also popular with FMCG companies who use them in biscuits and health drinks.

5.3 Conclusion

While existing schemes have not lacked intent, the implementation has largely been limited to aspects related to millet cultivation. The Millet sector can benefit from the above best practices in organic fertiliser and handloom sectors, where the government intervention for incentivising the entire value chain (bio fertilizers), support for market access and modernizing machinery (handloom) have not only revived these sectors but also attracted a number of new players.

⁸ Source: News articles from Businessline.com (June, 2015), Business standard (January, 2013), Brand equity (October, 2017), Marico's presentation on New Product Launches and Brand Restages in FY 17

Figure 5: Market Development of Oats in India



6 Policy Recommendations

The millet value chain is still nascent and needs support on various aspects to reach a threshold level. Since MSMEs play a significant role in making millets widely available across the sections of the society, they need comprehensive support from both state governments as well as central government. Our recommendations for the policy framework are given below.

6.1 Policy recommendations for state governments

The required policy measures can be broadly divided into following two categories:

- Business development support: Measures required for establishment and growth of individual enterprises of various types and scale. These include incentives for setting up a unit, ease of obtaining approvals, availability of technical knowledge and access to markets.
- Business enabling support: Institutional and regulatory support needed for the growth of millet industry as such. These include a robust supply chain, a large and growing market and quality standards for the product.

These measures have been provided in Tables 8 and 9, followed by a detailed discussion on schemes from the Ministry of MSME that can be used to fund the millet promotion programmes.

6.1.1 Business development support

Table 9: Business development support needed for millet enterprises

Sl. No.	Aspects	Major issues/constraints faced by MSMEs	How this is dealt in other food sectors/ other sectors?	What existing policy support can be deployed here?	Suggestions for additional or new policy support?
1	Establishment of the business unit	Capital investment for machinery and infrastructure	Most states provide incentives to new enterprises, including 25-25% subsidy on plant and civil construction cost. Some states such as Telangana/AP /Karnataka/ have identified their focus sectors or underdeveloped regions, these receive more incentives or have a dedicated policy (See Annex 4).	Explicitly mention millet processing as part of industries eligible for incentives	Make millets a priority sector for the state and identify districts where millet processing industry can come up, provide customised incentives to these districts. Customised incentives for technology start-ups in the area of millet machinery manufacturing
		Access to credit - inability to pledge assets for guarantee	Stand up India, CGTMSE (Credit Guarantee Trust for Micro and Small Enterprises), Mudra for collateral free loans Incentives from Central government under Food processing scheme /PMEGP directly	Mudra loans are easier to obtain vis a vis other collateral free loans as Mudra loan targets are strictly	The state to provide assurance to banks about timely disbursal of subsidy and link the subsidy disbursal to loan account, the amount can be used to either prepay the loan or serve as collateral

			<p>get disbursed to the loan account and hence act as a collateral (See Annex 3)</p> <p>In sectors such as Engineering Goods, Plastics, the machinery supplier has tie ups with non-banking finance companies, thus enabling easy access to funds to the machine purchaser</p> <p>Equity grant and Credit Guarantee Scheme extended by SFAC (Small Farmers Agri Business Consortium) through banks for agri-business (Annex 6)</p>	<p>monitored</p> <p>Avail of SFAC scheme for millet enterprises (See annexure 6)</p>	<p>Assist in banking tie up with clusters or with machinery suppliers</p> <p>Provide awareness about credit score, importance of transacting through bank account in availing a bank loan. Such trainings are regularly organised by industry bodies and can be funded by NSIC (National Small Industries Corporation)</p>
--	--	--	--	--	--

2	Acquiring Technical know how	<p><u>Needed on:</u></p> <p>(i) Farm gate level cleaning, product development, packaging, food safety and hygiene</p> <p>(ii) Business management (finance, marketing, human resources, accounts and compliances etc.)</p>	<p><u>Technical resource centres:</u></p> <p>There are sector specific training intuitions such as IIP⁹ for packaging, CIPET¹⁰ for plastics and NIFTEM¹¹ for food processing and MANAGE¹² for agriculture</p> <p>Ministry of MSME offers a funding support to technical intuitions for setting up incubators</p> <p>MSME development institutes (MSME di) /NSIC also provide funds to industry associations for conducting training programs on business skills</p> <p>Agri universities in Bangalore, Coimbatore, Hyderabad have millet training centres and are providing technical guidance to millet entrepreneurs</p>	<p>Avail of A Scheme for promoting Innovation, Rural Industry & Entrepreneurship (ASPIRE) to set up livelihood incubators</p> <p>Enterprise creation in the area of seed management, farm gate level processing and storage and machinery development should be the key deliverable for the incubators</p>	<p>Organise millet enterprises into clusters or create industry associations.</p> <p>Actively work with MSME development institutes and NSIC to avail of their schemes</p> <p>Collaboration with IIP, MANAGE, NIFTEM to start new courses on millet processing and to skill rural youth in millet cleaning/processing</p> <p>Set up training centres in agricultural universities on the lines of training institutes in in Bangalore, Coimbatore, Hyderabad</p>
---	------------------------------	--	--	--	--

⁹ Indian Institute of Packaging

¹⁰ Central Institute of Plastics Engineering & Technology

¹¹ National Institute of Food Technology Entrepreneurship and Management

¹² National Institute of Agricultural Extension Management,

3	Compliances with government protocols/Ease of doing business	<p>Too many protocols to be followed with different Government departments</p> <p>Obtaining certifications such as Food safety, GST</p> <p>Filing monthly returns for GST</p> <p>Filing stock statement for banks</p>	<p>Single window system for ease of complying with Government protocols, most states have either started single window system or are in the process of bringing it. The single window system is yet to perform 100% in most states</p> <p>Enterprises using the facilities of incubation centres find it easier to get food safety approval, as the incubator premises are already certified</p> <p>Industry association such as ALEAP (Association of Lady Entrepreneurs of Andhra Pradesh) assist their members in meeting government requirements</p> <p>Sector bodies such as Plastic Export Promotion Council and Council for Leather Exports regularly conduct programmes on quality and regulatory requirements</p>	<p>Make the single window system efficient</p> <p>Provide timelines for getting approvals on the website of the department of industries, as done by Government of Telangana (see Annex 5).</p> <p>Training on good manufacturing practices, these can be funded by MSME di/NSIC</p> <p>Conduct such programmes through DICs and MSME di</p>	<p>Clusters with common facilities can have food safety certificate for the cluster as such.</p> <p>Clusters to collaborate with FSSAI for training programme and obtaining certification (see page 42 for details on cluster development programme) for their members</p> <p>Millet clusters or the Millet Council/Board can work with a large CA firm to offer GST filling services</p>
---	--	---	--	--	---

			MSME di and District Industry Centres (DIC) also conduct such programmes		
4	Marketing	Difficulties to enter the regular market channel	<p>Market Development Assistance (MDA) by Ministry of MSME which offers partial reimbursement of expenses incurred for participation in exhibitions. This is typically routed through NSIC or MSME Di.</p> <p>Telangana offers millet based snacks and biscuits as part of mid-day meal to Government schools</p>	<p>Register millet enterprises with NSIC/MSME di to avail of MDA.</p> <p>Facilitate bulk sale in government programmes such as mid-day meal and Integrated Child Development Schemes (ICDS)</p>	<p>Marketing through government outlets like the case of Karpagam shops in Tamil Nadu, and through tribal department outlets in some states; common marketing infrastructure at each district or bigger towns</p> <p>Organising organic fairs so that enterprises can meet customers</p>

6.1.2 Business enabling support

Table 10: Business enabling support needed for millet enterprises					
Sl. No.	Enabling support measures	The major issues/constraints faced by MSMEs	How this is dealt in other food sectors/other sectors?	What existing policy support can be deployed here?	What suggestion for additional or new policy support?
1	Organised supply chain for millets	<p>Poor quality raw material; no assurance of supply</p> <p>Lack of skilled manpower for cleaning, grading and processing of small millets at farm gate level</p>	<p>Export oriented sectors such as spices , leather and textiles have dedicated institutions to assist the entire value chain members in quality management</p> <p>MSME clusters such as Imitation jewellery cluster in Machlipatnam, AP have set up a raw material bank that buys in bulk on behalf of the cluster members</p> <p>Deccan Development Society, an NGO in Telangana assists its farmer members in quality management of their produce and also buys back the same from them.</p>	<p>CDP schemes to set up clusters and the raw material bank</p> <p>NFSM for FPO promotion to mechanize the farming</p> <p>NFSM to promote <i>micro enterprises in seed management, farm level processing and storage</i></p>	<p>Set up millet council/board for development of quality across the value chain</p> <p>Certification of millet milling machinery by technical institutions</p> <p>Declare MSP for small millets as well, work with insurance companies to include small millets in crop insurance scheme</p>

2	Market size	<p>Inadequate demand</p> <p>Marketing through retail channels not viable</p> <p>Products not considered modern</p> <p>Millet not used in Government programmes</p>	<p>Handlooms cluster schemes have been successful in making handlooms contemporary and thus generating their demand</p> <p>NSIC regularly organises buyer seller meet for MSMEs to meet institutional customers, these are routed through clusters/industry associations</p> <p>In some food sectors such as biscuits, FMCG companies sub contract their manufacturing to the vendors ,</p> <p>Karnataka has a separate policy for government organises an annual event called Organics and Millet international trade fair. (see annex 7 for details)</p> <p>Karnataka and Orissa have started using millets in Government schemes.</p>	<p>Use NSIC schemes to organise buyer –seller meet</p> <p>Organise vendor development programmes and invite large FMCG companies to interact with MSMEs</p> <p>Adopt best practices from Karnataka (available in chapter 5) for distributing grains under PDS</p>	<p>Develop millet entrepreneurs associations/clusters, a formal institution that can organise market promotion programmes</p> <p>Large scale promotion to generate demand,</p> <p>Organising big events like Organics and Millets event organized by Government of Karnataka.</p> <p>Support in product development through incubators.</p> <p>Incentivise usage of millet based recipes with hotels and street food vendors (see page 42 for more details)</p>
---	-------------	--	--	---	---

3	Technical back up and handholding support	Incubator support has been discussed in the table 8, on business development support measures.			
4	High cost of packaging	<p>Packaging critical to maintain the shelf life/taste</p> <p>High per unit packaging cost – up to 10 per cent of the MRP</p> <p>Significant investment in working capital as large number of packs have to be developed across all category and sizes of products</p>	<p>Common packaging infrastructure can be set up as part of cluster development schemes</p> <p>Marketing products in one brand. For example Girijan Co-operative Corporation (Andhra Pradesh) markets the products made by tribals, under the name of Girijan.</p>	<p>Use the Cluster development scheme to set up common packaging infrastructure</p> <p>Collaborate with Indian Institute of Packaging to explore competitively priced packaging</p>	<p>The cluster products can be marketed under a common brand thus increasing volumes and lowering per unit packaging costs</p>
5	High individual cost of establishing processing facilities	The low sales volumes (less than 10 tonnes per month) do not	Food parks with common processing facilities that can be hired by the entrepreneurs have already been set	Provide millet processing facilities in existing food parks or set up exclusive parks for millet	Common manufacturing facilities for hiring at cluster level

		justify investment in modern facilities, where daily capacity may be upwards of 10 tonnes.	up across the country	enterprises The design clinic scheme run by Ministry of MSME can be availed to develop efficient processing machinery	The common facilities should include de hulling and grading machinery, roasting, pulverizing, extrusion and packaging machinery.
7	Product standards	Use of sufficient share of millets in the product composition	ISI standards for a number of food products including fortified salt/milk are already available and new standards are being developed For example NIN (national institute of nutrition) has developed technology for double fortified salt to meet iron and sodium deficiencies.		Collaborate with Agmark or NIN to develop standards for millet as a separate category, specify minimum percentage of millets in the product Create stringent guidelines for usage of the word “millet” in FMCG products.
		Lack of polishing standards	Agmark (Indian) and Codex (international) standards are available for paddy (husked rice, parboiled rice and milled rice).		Collaborate with Agmark to develop millet rice related standards

6.1.3 Useful schemes from Ministry of MSME

Ministry of MSME offers a number of schemes that can be availed of to support millet MSMEs. These schemes are operated by MSME development institutes and NSIC, a summary of these schemes is given in Table 10.

Table 10: Schemes from Ministry of MSME		
Scheme name	Support provided	Remarks
Market Development Assistance (MDA)	<p>Reimbursement of stall charges and fare (to and fro to the destination) for participating in exhibitions</p> <p>Reimbursement of expenses incurred towards bar coding</p>	<p>The scheme is executed by NSIC or MSME di. The reimbursement varies depending on the nature of exhibition domestic/international)</p> <p>These schemes are typically routed through industry associations. These associations spread the information on upcoming exhibitions to their members and pass on the details on interested members to the NSIC/MSME di.</p> <p>This assistance is also provided to industry associations for taking the MSME delegates to foreign countries</p>
Cluster Development Programme (CDP)	Funding support for creation of common infrastructure for a group of MSMEs	<p>The MSMEs need to come together and form a cluster, a minimum of 20 members is needed to form a cluster. The MSMEs can hire a professional company such as Foundation of MSME clusters or MSME development institute to help them form a cluster.</p> <p>The cluster members need to commission a diagnostic study to see the feasibility of setting up a cluster.</p>

		<p>The diagnostic study has to be submitted to Ministry of MSME to seek their approval for funding the cluster development programme.</p> <p>The funding is available for conducting a diagnostic study about cluster feasibility, creation of common infrastructure such as effluent treatment plant, raw material banks, and civil work related to construction of the common infrastructure such as roads, power connections, etc.</p> <p>.</p>
Design Clinic	Funding support for organising design workshops/seminar and consulting MSMES	<p>The scheme is implemented by NID (National Institute of Design). The interesting feature of the scheme is subsidised consultation for MSME on product design.</p> <p>The entrepreneurs need to submit their design requirements online on the website of design clinic (http://www.designclinicsmsme.org) and they are connected to interested designers.</p>
<p>A Scheme for promoting Innovation, Rural Industry & Entrepreneurship (ASPIRE)</p> <p>Support for setting up Livelihood Business Incubators</p>	<p>Funding the machinery of the incubator</p> <p>The incubators are divided in two categories: Livelihood Business Incubators and Technology Business Incubators</p>	<p>The grant is available to both government institutions as well as private incubators (in partnership with government institutions, for example Coir Board for coir related incubators)</p> <p>Funding is provided for the machinery, the land is typically provided by the state government.</p>

		<p>Funding support for Government Incubators</p> <p>Grant of 100% of cost of machinery (excluding land/infrastructure) or Rs. 1 crore, whichever is less</p> <p>Funding support for private incubators</p> <p>Grant of 50% of cost of machinery (excluding land/infrastructure) or Rs. 50 lakhs, whichever is less</p>
--	--	--

6.2 Policy recommendations for central government

The central government can accelerate the growth of the sector by setting up a dedicated millet institution that can result in collaboration among various state bodies working for millet industry. Further, the government also needs to reduce taxation on millet based products, so as to boost their consumption. More details on our recommendations are provided below.

6.2.1 Set up a dedicated institution for millet development

In order to implement the policy measures discussed above, we recommend setting up a dedicated institution on the lines of Spice Board. The millet schemes have been spearheaded by Ministry of Agriculture, where the ground level staff is experienced in agriculture related activities such as cultivation. Therefore, value added processing and marketing related aspects of millets have been neglected. Further, the implementation of the programme has had varied success depending on the political will of the state government. For example some states such as Karnataka, Odisha, etc., have taken the lead, while others have lagged behind. Similarly there are different state level and national level autonomous research institutions, which are functioning independently of each other.

Millets are a diverse crop, with 8 varieties, grown in 8 states and two market segments (urban and rural) that require different products and supply chain. The sector has immense demand potential, as can be seen by the rapid growth in number of enterprises that have entered the sector in past three years. Given the large needs of the sector, there is a need to set up a centralised institution that can ensure that implementation of scheme across states meets the overall policy goals.

We recommend that a centralised institution i.e., a Millet Board be set up on the lines of Spice Board. Such an institution can result in collaboration among various state bodies working for millet industry and will boost related public and private investments. Its functions could cover the following:

- Boosting demand through various awareness programs and incentives
- Establishment of food safety standards for grains and end products
- Provide incentives for development of processing machinery
- Establishment of certification standards for machinery and certification of machinery through technical institutions
- Promotion of millet enterprises and funding cluster development programmes

A detailed discussion on each of the above points is available in Annexure 1.

6.2.2 Favourable taxation policy for millet sector

The taxation on millet based value added products has increased after implementation of GST. The branded grain attract a GST of 5% and value added products (instant mix), etc. attract a GST of 18%.

Table 11: Higher taxation under GST

Headings	Items	GST	VAT
Dietary foods & health supplements	Malts	18%	12 to 14.5 % across South India
	Health drinks	18%	
Instant mixes	Idly powder	18%	
	<i>Payasam</i> mix	18%	
Grains	Branded	5%	0%
	Non-Branded	0%	0%

The instant mixes and health mixes have been impacted very unfavourably, due to an increase in taxation and lack of availability of input credit as there is no GST on unbranded grain or flour. Millet entrepreneurs are unable to pass on higher taxation to the end customer, due to limited demand of their product and stiff competition from FMCG products. As a result, their profitability is significantly eroded. Also, many millet enterprises that are not in the ambit of GST as their annual turnover is less than Rs. 20 lakhs, also have to file and pay GST as their customers (supermarkets/restaurants) want all their vendors to have GST.

We recommend that government should first establish millet as a separate category of products by specifying minimum per cent age of millet contents required for a product to be labelled as millet product. The taxation on such products needs to be minimal, keeping in mind their ability to provide nutrition at affordable cost to a large population.

6.3 Conclusion

In order to create a vibrant millet MSME sector, policy related support from central as well as state governments would be required. The states need to create infrastructure and build market linkages to create an enabling environment. The central government can assist states in designing and implementing millet related policies via setting up a dedicated millet institution.

Policy measures for states

- Business development support: Measures required for establishment and growth of individual enterprises of various types and scale. These include incentives for setting up a unit, ease of obtaining approvals, availability of technical knowledge and access to markets.
- Business enabling support: Institutional and regulatory support needed for the growth of millet industry as such. These include a robust supply chain, a large and growing market, quality standards for the products and favourable tax related policies.

Policy measure for the central government

Implementing millet based programme currently is a challenge due to diverse nature of grains and a number of implementing bodies including agriculture department of states, millet research institutions and NGOs involves in millet promotion. Therefore a centralised institution that can push millet agenda across institutions, offer assistance in developing market and processing technology is the need of the hour.

A number of schemes of Ministry of MSME are available and can be used by the proposed Millet Board to set up the infrastructure needed to create new enterprises as well as strengthen the existing ones.

The implementation of GST has eroded profitability of millet enterprises, particularly those who manufacture ready to eat mixes, health mixes etc. A favourable taxation policy will go a long way in boosting the demand of these products and strengthening millet entrepreneurs.

Annex 1: Millet board

A Millet Board can be set up on the lines of Spice Board. Such an institution can result in collaboration among various state bodies working for millet industry and will boost related public and private investments. Its functions could cover the following:

- 1) Boosting demand through various awareness programs and incentives
- 2) Establishment of food safety standards for grains and end products
- 3) Provide incentives for development of processing machinery
- 4) Establishment of certification standards for machinery and certification of machinery through qualified regional institutions
- 5) Promotion of millet enterprises and funding cluster development programmes

Each of these is discussed in the following sections.

1) Measures for boosting the demand

The millet production is low at around 17 percent of the production of rice and its per capital consumption has been declining rapidly in rural areas. Among urban areas, the demand for millets is limited to a few cities such as Chennai, Bangalore and Hyderabad. The demand for millet based value added products from the urban segment is less than 1 percent¹³ of the total millet production in the country. As such there is a great potential to enhance the demand in both the urban and rural segments.

A) Rural Segment

- **Milletts have to be positioned as aspirational food:** The awareness of goodness of millets and its nutritional superiority over traditional grains has to be spread. Since millet based schemes have separate allocation for boosting awareness, those funds can be used to promote millets as nutri-cereals. A state level television campaign on the lines of national campaign for promoting egg consumption or tourism promotion can also be developed to spread awareness and bring recall for millet based products.
- **Setting up processing centres:** in order to increase the availability of millets, processing centres have to be set up in every village level block with equipment such de-huller, pulveriser and packaging unit. The existing schemes such as NFSM have allocated funds for setting up such centres, a strong implementation support at the rural/block level is needed.
- **Inclusion of millets in Government programmes:** Millets should be included in the state nutrition programmes such as ICDS (Integrated Child Development Scheme), MDM (Mid-Day Meal scheme), welfare hostels and eventually in PDS. It may be instructive to draw

¹³ The millet production in India is around 17 million tonnes. The millet consumption in urban market has been estimated based on the sales of millet food enterprises, the number of enterprises is 500 and average yearly sale is around 50 tonnes.

insights from the millet mission being implemented by Government of Orrisa (See Box 4).

The Food Security Act 2013, has already made it mandatory to distribute millets as part of PDS and government schemes. However, as seen in case Karnataka, these schemes need large number of iteration/piloting to ensure that adequate quantity is available and procurement systems are working.

The proposed Millet Board could assist the state governments in pushing the millet through government procurement and public distribution systems.

B) Urban Segment

Millet based products are consumed only in a few cities in South India, which have strong demand for organic products. These are sold in premium stores and are consumed only by a selected few. In order to make millets popular in urban areas, millets have to be consumed as part of regular breakfast/meal and millet products need to provide similar level of convenience offered by rice/wheat based products (see Table 10). The processing technology (discussed separately) has already been established to offer multigrain products, where millet make up 20-30% of the product volume without altering the convenience significantly.

Incentives to street food vendors and Restaurants and Corporates

Since millets are a new product category, demonstrations in the form of ready to eat products provide high recall and incentives for the customers to cook it at home. Street food as well as hotels/restaurant present a big opportunity to demonstrate the taste and usability of millets.

The policy could incentivise street vendors to use millets in their food preparations; vendors can be given subsidised grains (so as to ensure that cost of millets is not higher than rice/wheat) and offered training to modify their products to include millets. Similarly restaurants should be encouraged to use millets in their traditional recipes.

In order to encourage corporates to use millet in their office canteens, the government could link expenditure on millet procurement/consumption as part of CSR budgets.

Incentives for FMCG companies to adopt millets

FMCG companies can play a large role in spreading awareness of millets through large scale medial advertising as well as through their vast retail network.

Some of the challenges faced by FMCG companies include lack of product related standards and unavailability of established supply chain for large scale raw material procurement. The incentives towards boosting millet processing technology and building supply chain should address these concerns. Further large scale processing capacities would also bring down the cost of millets, thus making them more attractive to FMCG companies.

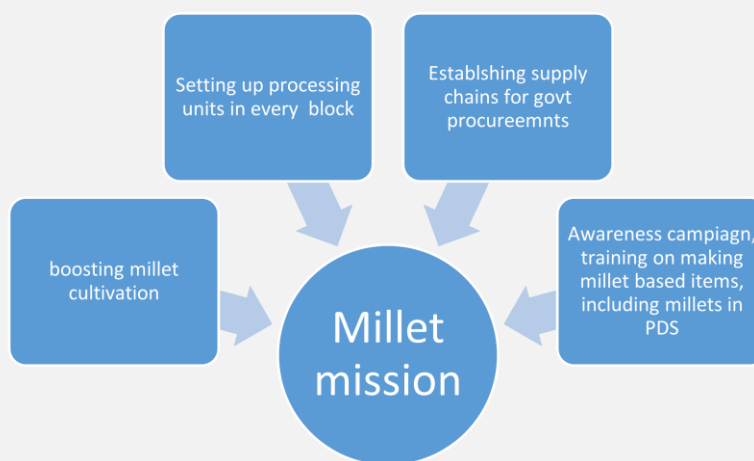
Table 1: Constraints and Measures needed across the value chain

	Farmer	Dehuller/Miller	Food Enterprise	Customers
Constraints/ Challenges	<ul style="list-style-type: none"> • Millet cultivation is not profitable 	<ul style="list-style-type: none"> • De-hulling /milling technology inefficient • Lack of standards for millet grains • Lower production levels resulting in high overheads 	<ul style="list-style-type: none"> • Lower volumes resulting in high overheads • High cost of retail marketing • Lack of technical support for product development • Lower shelf life of raw material as well as end products • Lack of standards and disclosure guidelines for finished products • Unattractive packages • Low level of market promotional efforts • Low level of business managerial skills 	<p>Rural</p> <ul style="list-style-type: none"> • Perception of millets as poor man's food • Unavailability of millets in neighbourhood stores as well as through government schemes <p>Urban</p> <ul style="list-style-type: none"> • Unavailability of affordable and convenient products • Appealing food products • Mind set of being the low social status Hygienic and food safety issues
Recommendations	<ul style="list-style-type: none"> • Boosting millet demand should increase profitability of millet cultivation • Enhance the 	<ul style="list-style-type: none"> • Incentives for research development and certification of millet machinery through authorised 	<ul style="list-style-type: none"> • Cluster development programmes to facilitate product development support, common manufacturing and marketing • Access to institutional markets through inclusion of millets in government programmes and 	<ul style="list-style-type: none"> • Build awareness about nutrition aspects of millet (like National Egg Campaign) • Assist states in piloting millets in government schemes • Incentivise street vendor and restaurants to use millets

	competitiveness of millets productivity compared to other cereals and cash crops	regional institutes <ul style="list-style-type: none"> • Develop separate food safety standards for each millet grain 	and in corporate canteens	
--	--	--	---------------------------	--

Box: Millet Mission in Odisha

Odisha government launched 'Millet Mission' in order to secure nutrition and mitigate droughts in the southern districts of Nuapada, Kalahandi, Koraput, Malkangiri, Rayagada, Gajapati and Kandhamal. The programme looks to improve the millet-based cultivation and household consumption of millets by 25%. The programme has four components that cover millet cultivation, setting up processing capacity, building supply chain and market creation.



The programme is being spearheaded by Directorate of Agriculture and Food Production and is being implemented through WASSAN (an NGO) and Nabakrushna Choudhury Centre for Development Studies, a research body under ICAR

Table 2 Popular traditional products in key millet growing states

State	Millets grown	Traditional food items	Potential millet based version
Madhya Pradesh	Small millets, Jowar	Poha, Paratha, Dalia, Upma, Rottis	Millet version of the traditional products, where millet is 20-30% of the content. The product's ease of handling has to be retained
Rajasthan	Bajra		
Maharashtra	Jowar		
Karnataka	Ragi, Jowar	Idli, Dosa, Vermicelli, Upma, Bisibelebath, Pongal, Rottis	
Tamil Nadu	Small millets, Ragi		
Andhra Pradesh/ Telangana	Ragi, Jowar		

2) Quality standards for grains and end products

i. Quality standards for grains

Grain quality determines the quality of processed products through the value added activities such as milling and baking. The quality standards for grain and dehulled grain (rice) are evolving. Recently, FSSAI has issued draft standards for Pearl millet grains, specifying the moisture, presence of extraneous matter, presence of damaged grains etc. These standards are not mandatory and other grains have not been included yet.

There is a need to develop separate FSSAI standards for all types of millet grains; also, disclosure requirements about the level of processing and presence of bran in the rice (polished/unpolished rice) need to be made mandatory.

Awareness about using FSSAI certified milling facilities has to be increased among traders, as many of them procure grain from non-compliant mills and pack them in FSSAI compliant premises.

ii. Quality standards for ready to cook and ready to eat products

The category is evolving fast and needs strict guidelines to protect consumer interest and maintain the enthusiasm of early customers. Since the industry does not need much capital to begin with, a number of small players with little access to infrastructure, hygienic storage practices have entered it. The products made from such factories lack the required fineness/convenience.

For example millet vermicelli can be made through small scale machinery, where it is not precooked. Such vermicelli would be required to be pre-soaked and its cooking time would also be longer. However, vermicelli when made through large scale machines where it is precooked, would be easier to cook and would require shorter cooking time. Similarly millet based snacks can have a peculiar smell if hygienic practices of washing and cleaning the rice have not been adopted. Disclosure guidelines on the process of manufacturing, type of grain used, product composition, shelf life, etc., need to be developed and enforced strictly.

Millet's chemical properties are different from those of rice/wheat. For example millets are gluten free and hence do not lend themselves easily in products such as *rottis*. Therefore a pure millet *aata* (flour) will not provide a similar experience like wheat *aata*, however it is nutritionally superior to the wheat *aata*. Such disclosures about the product usability will result in rationalisation of customer expectations and would be good for the industry in the long term.

3) Provide incentives for development of processing machinery, establish standards and undertake related certification

Incentives are needed for development of post-harvest technologies and value added product manufacturing. In addition, the Millet Board may need to develop certification standards for such machinery and to certify machinery.

While the technology for major millets is well established, support is needed for processing of small millets, where the currently available machinery for manufacturing unpolished rice is of small size (less than 2 tonnes per day) and dehulling yield is suboptimal. Millet processors need access to machinery that can improve yield and bring down their processing costs. Some of these entrepreneurs have purchased imported machinery from Japan and Germany and are trying to tweak the machinery to meet their requirements. Research into the type of machinery needed and establishment of regulatory standards or the same would facilitate such endeavours.

Millet machinery manufacturers for smaller millets have developed these machines through their experience and customer feedback. These manufacturers would be able to improvise their products further if they are given inputs by domain experts such as millet based research institutes. As such, there is a need to increase collaboration between research institutes and machinery developers and all machinery should be certified by the Millet Board via regional institutions.

In this regard, the proposed Mission Millet plans to facilitate manufacturing of standardised millet processing machinery under the guidance of IIMR. These machines would be fabricated by a number of local machinery fabricators. This is a welcome development.

4) Cluster Development Programs

Several home based and micro enterprises are clustered in Coimbatore, Madurai and Bangalore where access to training facilities is available from agricultural universities. Home based enterprises are mostly run by women, with some support from NGOs. Their scale of operations is very small and hence overhead costs per unit are high. Such enterprises need access to common manufacturing and marketing facilities to reduce their overheads and improve their access to technology and raw material. Micro enterprises need technical support in product development as well as access to raw material bank so as to lower their procurement costs.

Both types of enterprises would benefit from related cluster development programmes that should provide common manufacturing facility, brand and raw material procurement and centralised packaging facility.

Such cluster development programmes are already being implemented by NGOs, although on a smaller scale. For example Ramasamy Chinnammal Trust (RCT)¹⁴, provides support to women in setting up millet based enterprises through the following services¹⁵:

- Formation of Self Help Groups (SHGs), guiding and credit linkage to Banks
- Skill development training
- Promoting the habit of saving for better future.
- Insurance matters

The policy should make it easier for NGOs and other providers to obtain funding for setting up training cum production and marketing centres.

¹⁴ An NGO run by Dr. Saraswathy Eswaran, a retired professor from Tamil Nadu Agricultural University

¹⁵ Based on discussion with Dr. Sawaswati Eswaran

Annex 2: List of people met

Name	Organisation	Type of enterprise	Phone number
Dr. Hemavati	Millet Incubation and processing centre, Professor Jaishankar Agricultural University, Hyderabad	Incubator	9849280806
Mr. Sanjay Kumar	Millet bowl, Hyderabad	Food enterprise	8008142786
Mrs. Urmila	Atchaya foods, Madurai	Food enterprise	9843092008
Mrs. Anuradha	Anu Green, Madurai	Food enterprise	9655065944
Mrs. Nagalakshmi	JJJ millets, Madurai	Food enterprise	8428234626
Mr. Srikanthan	Thai enterprise, Trichy	Food enterprise with a retail shop	9629352604
V.Sivaramakrishnan	Srivari Agencies, Trichy	Millet miller, Rice miller and value added food product manufacturer	9843083040
Mr. Manivanan	Fibro Foods, Salem	Food enterprise	8883466611
Dr. Saraswathy Eswaran	RCT, Coimbatore	NGO	9944799995
Mr. Subramani	Portman Foods, Coimbatore	Food enterprise	994031499
Mr. Jayaraman	Salem	Millet miller	9943177241
Mr.Vishnu	Navadha foods,	Millet miller	

	Coimbatore		
Mr. Ranjit Kumar	Street vendor, Salem	Street vendor	9787807080
Mrs. Reshma	Reshma food products, Coimbatore	Food enterprise	
Professor Dayakar Rao	IIMR, Hyderabad	Incubator	9963288838
Canteen manager	S&P Global	Corporate canteen- consumer	
Dr. Aniket	R&D centre of Bambino Agro Industries Limited, Hyderabad	FMCG –bulk user	040 27176403
Dr. Prabhakar	All India Coordinated Research project on small millets	Research institution	9860821217
Mr. Dinesh	Earth 360 Eco Ventures Pvt Limited, Kadiri, Andhra Pradesh 515591	Millet enterprise	9440870875
Mr. Ramesh Kumar	Amirdham Traditional Foods, Chennai	Millet enterprise	8778545676
Mr. Chandrasekaran	Kalanjiam Thozhilagam Limited (KTL)	Business support service provider	7373759706

Annex 3: Mechanism for receipt of incentives under PMEGP scheme

PMEGP is a scheme for promoting micro enterprises, the scheme facilitates establishment of micro enterprises (up to investment of Rs. 25 lakhs). The project is funded through a combination of government subsidy (15-30% of the investment), bank loan and entrepreneurs contribution.

1. Entrepreneur applies to PMEGP, the District Industry Center (DIC) is the implementing body
2. Once selected , he is directed to a bank near his location
3. Bank sanctions the loan and disburses the loan, sometimes the loan is disbursed in instalments, with banks disbursing the second instalment after receipt of subsidy
4. The subsidy is received in the same account and used to pay off the loan, thereby reducing the interest charged to the MSME

The response to PMEGP has been mixed, as banks are sceptical of collateral free lending to first time entrepreneurs who have no training/track record.

Such schemes would work better if the government handholds the entrepreneurs for the first 3 years , thereby increasing chances of survival of the enterprise and lower default rate.

Annex 4: Best Practices in providing customised incentives to specific industries/regions

The Andhra Pradesh Government has identified 10 focus sectors including life sciences, Food processing, Textiles, Apparels, Electronic and information Technology, Petroleum based products, Energy, Mineral based industry and leather. These focus sectors have been mapped to districts based on their potential synergies. The development policies of the government are based on the needs of these sectors, for example the food processing parks are being developed in near Nellore, Chittoor, and Kadapa.

The Karnataka government has divided the state into two areas: Hyderabad-Karnataka Taluks and other Taluks. Each of this area is divided into four zones based on their industrial development. The entrepreneurs setting up units in least developed zones get more incentives as compared to others who are setting up industries in developed zones (see table below).

Karnataka: Investment subsidy as % of value of Fixed assets			
Area	Micro	Small	Medium
Hyderabad Karnataka Taluk			
Zone 1	30%, Max 18 Lakhs	25%, Max 45 Lakhs	20%, Rs 55 Lakh
Zone 2	25%, Max 15 Lakh	20%, Max 40 Lakhs	15%, Rs 50 Lakh
Other than Hyderabad –Karnataka Taluk			
Zone 1	25%, Max 15 Lakh	25%, Max 40 Lakhs	20%, Rs 50 Lakh
Zone 2	20%, Max 12 Lakh	20%, Max 30 Lakhs	15%, Rs 40akh
Zone 3	15%, Max 19 Lakh	15%, Max 20 Lakhs	10%, Rs 30 Lakh
Zone 4	Nil	Nil	Nil

Annex 5: Ease of doing business - Best Practices from Telangana

Telangana topped the yearly state-wise ranking on assessment of implementation of the 'Business Reforms Action Plan' (BRAP) in 2017. Some of the best practices in the area of easing the processing of obtaining industrial approvals are as under

The government has set up single window system for obtaining Industrial clearances. This system called the Telangana State Industrial Project Approval and Self-certification System (TS-iPASS). (TS-iPASS) is supported by TS-iPass act, which provides applicants/entrepreneurs a right to timely clearance. The timelines for getting the clearances are mentioned on the TS iPass website

The industrial approvals can be obtained by submissions of a common application, thus reducing the need to fill separate forms for obtaining different approvals.

Annex 6: SFAC (Small Farmers Agri Business Consortium)

SFAC is a Society promoted by department of agriculture, government of India, with an objective of increasing incomes of small and marginal farmers. It runs a number of programmes including organising Kisan *mandis* to help farmers meet buyers and providing funding to Farmer Producer companies (FPCs) through equity grant scheme and credit guarantee fund scheme. SFAC also operates a scheme called VCA (venture capital assistance) to provide soft loan (loan with lower interest rates) to agribusiness ventures that develop assured market for farmers and thereby support their incomes.

The loan is provided to meet the financing gap in the projects, where bank loan and promoter equity together are not enough to meet the project cost. The entrepreneurs need to apply for the SFAC assistance to the lending institution along with the loan application. The maximum amount of soft loan that is available through such SFAC typically is under Rs. 50 lakhs.

More information on SFAC assistance can be obtained on <http://sfacindia.com/UploadFile/Statistics/SFAC%20VCA%20Guideline.pdf>

Annex 7: Organics & Millet Trade fair, Bangalore

Organic and millet trade fair is an annual event organised by Department of agriculture, government of Karnataka to connect producers of organic and millet based products to consumers.

Karnataka government has been actively promoting organic and millet products in the state through a number of initiatives including developing an organic and millet product policy, promoting millet cultivation via providing attractive prices to millet farmers and distribution of millets in PDS. The millet trade fare completes the value chain by bringing the entire millet stakeholder and consumers together.

Millet trade fare is a three day event, which includes conferences, panel discussions, B to B meetings, culinary demonstrations and training sessions. The fare was recently organised in January 2018 and it was widely advertised through road shows in India and abroad, mini fares in a number of districts in Karnataka such as Tumkur, Mysore, Hassan, Kolar and Bangalore, press meats and orientation session with retailers, marketers, and traders.

The fare saw participation of more than 250 organisations including farmer associations, millet enterprises, technical institutions, corporates etc. The millet entrepreneurs found this fare useful in gaining access to large distributors, corporates and supermarkets¹⁶.

¹⁶ As per our discussion with a number of millet entrepreneurs in Tamil Nadu