



# The State of India's Pulses Sector

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## ABSTRACT

Pulses are the cheapest source of protein for Indians – and thus a favoured food item nationwide. The Indian pulses sector, however, faces numerous challenges. Scrutiny of the sector increased sharply after price fluctuations in 2015-16 and the increase in import of pulses. Government interventions, as part of the anticipated supply response to the shortfall in availability of pulses, did not entirely mitigate the problem. The sector stands at a crossroads: supply

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constraints, an unstable policy environment, price variability, and rising import bills all contribute to questions over its future. Political compulsions have led to a preponderance of short-term solutions. This study by the Observer Research Foundation examines the country's pulses sector and concludes with policy recommendations for key aspects in the value chain of pulses production.

## I. INTRODUCTION

Pulses in India have recently become a topic of concern among policymakers. Members of the Opposition, for instance, have pointed to the 'exceptionally high' cost of certain pulses as an indication of high food inflation. As a consequence, the government has set up a committee on pulses, headed by Chief Economic Adviser Arvind Subramanian, to deliberate on the country's pulse production, trade and distribution. While a politically salient explanation for the price of pulses has always revolved around the phenomenon of hoarding, it is important to understand the market dynamics of the sector to address the problem, and various other factors that may be involved as well. In other words, issues in production, cultivation, distribution, importation and consumption need to be carefully examined.

### **Purpose**

It is widely accepted that significant agricultural reform is required in India in order for the country to be truly food secure. The pulses sector is just one of the many aspects that require urgent attention. It is important to note that pulses have an oversized importance in the Indian diet, as they are the primary source of protein for millions. The recent debate around pulses has assumed high political and emotional overtones, creating the need to discuss the issue in a coherent manner that seeks long-term solutions.

This study gathered the perspectives, suggestions and recommendations of various stakeholders. The industry perception – gathered in Mumbai in a roundtable consisting of millers, importers, retailers and academics – showed that the current interface between the government and the industry itself is not at its best, and needs to be repaired. Industry officials argued at length that there were substantial weaknesses in government policies related to pulses production and distribution, with examples ranging from heavy price controls to import restrictions.

The purpose of the Delhi round of discussion was to ascertain the perception of the central government, understand the reasoning behind some of the policies that the industry views as constricting, and discover avenues where the two sides could find common ground.

## Objectives

The following are the main objectives of ORF's study:

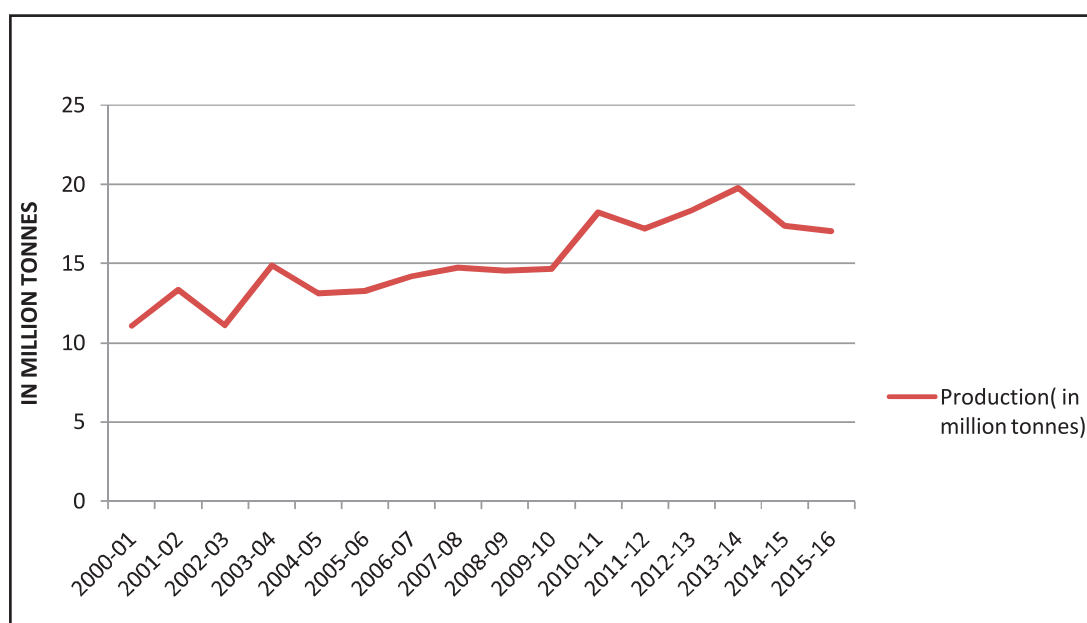
- To gather and gauge government views about the pulses sector in order to promote broader policy change.
- To understand the central government's perceptions, and those of associated departments, on existing policies, including recent controls on the industry.
- To research and discuss the prime causes of sharp price movements in some pulses as well as discuss challenges for both industry and government on pulses production and distribution.
- To discuss some of the regulatory regimes/controls – and their merits – for importers, producers and distributors.

## II. INDIA'S PULSES SECTOR: A BACKGROUNDER

### Production

India is the largest producer of pulses in the world with about a 24-percent share in the total global pulses production. Canada is the second largest (eight percent of global production), followed by Myanmar (six percent), China (six percent), and Brazil (four percent).<sup>1</sup>

**Figure 1:** Pulses Production (All India)



Source: Indian Institute of Pulses Research (ICAR) Data Book<sup>2</sup>

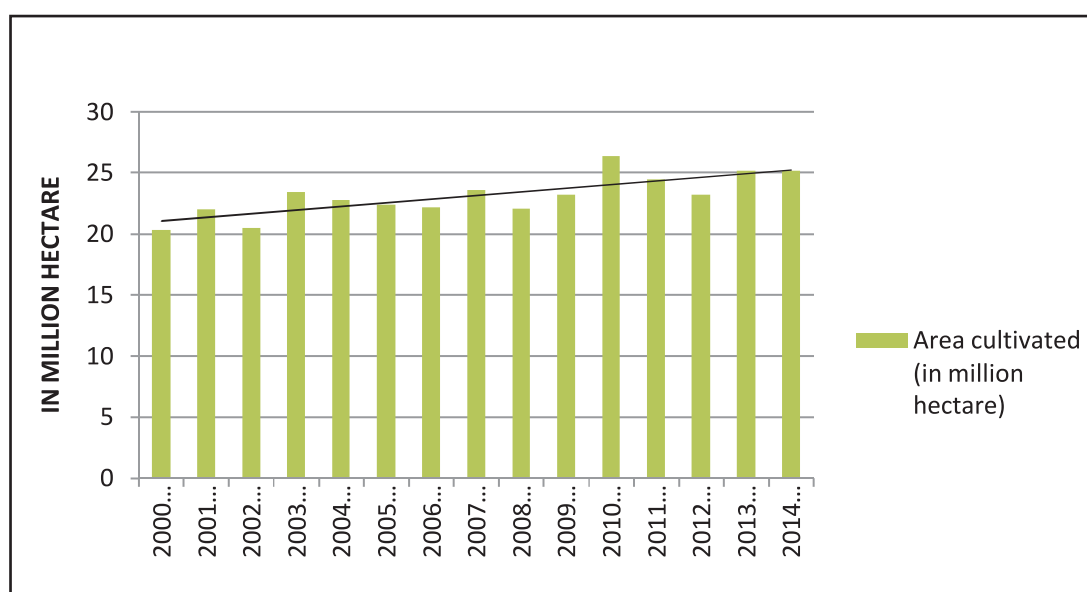
Pulses production in India has been historically low. Since 2000-01, the production has only grown by six million tonnes, reaching 16.47 million tonnes in 2015-16.<sup>3</sup> It peaked in 2013-14 at 19.25 million tonnes<sup>4</sup> but has since gone down

due to, among other reasons, erratic weather conditions and the current policy regime.

One of India's biggest problems is the relatively low yields, compared with every other major pulse producing nation in the world. The 19.27 million metric tonnes of pulses produced in India in 2013-14 comes from approximately 25.23 million hectares of land.<sup>5</sup>

Since 2000, the area under cultivation of pulses has risen by an estimated five million hectares. In 2000-01, it was 20.35 million hectares. In 2014-15, the area under cultivation of pulses was recorded at 25.3 million. The largest increase in area under cultivation was recorded in 2010-11 when the total area had increased to 26.4 million hectares. There has been a decline since.<sup>6</sup> Comparatively, the area under cultivation in the countries mentioned earlier are: Brazil - 3.2 million hectares; Myanmar- 3.7 million ha; Canada- 2.8 million ha; and China - 2.9 million ha.<sup>7</sup>

**Figure 2:** Area Under Cultivation for Pulses (All India)



Source: Indian Institute of Pulses Research (ICAR) Data Book

The comparison is significant in terms of yield per area under cultivation. The highest yield recorded in India was in 2012-13 with 789 kg per ha. In comparison, Canada produces pulses at an average yield of 2,500 kg per ha, Myanmar records 1324.7 kg per ha, China 1,500 kg per ha, and Brazil 1030.2 kg per ha.<sup>8</sup>

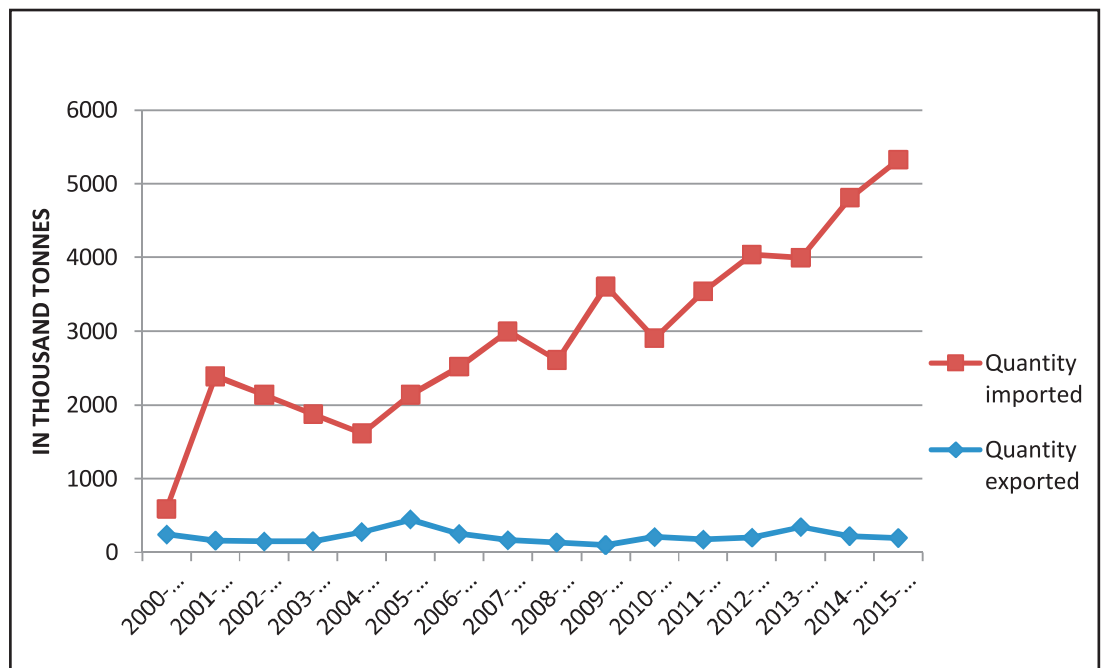
While India's yields have been steadily increasing over the last decade and a half (with the trend line showing a rather marginal increase), the large difference between average yields in India and other producers demonstrates why India's larger area under cultivation is not the ideal indicator of the strength of its pulses production.

## Trade

Ironically, India is also the largest importer of pulses in the world, despite having the largest area of land under pulses cultivation (26 million ha).<sup>9</sup> Imports of pulses into India were recorded at 16.74 lakh Metric Tonnes (MT) in 2012-13 while exports barely exceeded 0.66 lakh MT.<sup>10</sup> Unpredictable weather and low yield of pulses in the country require large imports to meet the demands from an increasingly less poor population that is diversifying its diet. For example, the total availability of pulses (production + imports – exports)<sup>11</sup> in the country in 2015-16 was 22 million tonnes and even that was not enough to satisfy domestic demand in the country, causing intermittent shortages and subsequent price rises. In the same year, import dependency stood at 21 percent of consumption.<sup>12</sup> India is in the process of signing a Memorandum of Understanding (MOU) with Myanmar to import 100,000 tonnes of pulses annually.<sup>13</sup> Further, the government has signed contracts for importing four lakh tonnes of pulses to add to the buffer stock. India has signed an MoU with Mozambique for the import of pulses. The MoU aims to promote the production of Tur and other pulses in Mozambique by encouraging progressive increase in the trading of these pulses. The MOU includes targets for exports of Tur and other pulses from Mozambique to India for five financial years and will double the trade from 100,000 tonnes in 2016-17 to 200,000 tonnes in 2020-21.<sup>14</sup>

Incidentally, as economic theory would predict, it appears that imports have helped cool off some of the inflationary trends, especially recently when the increased demand for pulses were not met, given a drastic fall in domestic supply.

**Figure 3: Import Vs Export of Pulses**



Source: Indian Institute of Pulses Research (ICAR) Data Book

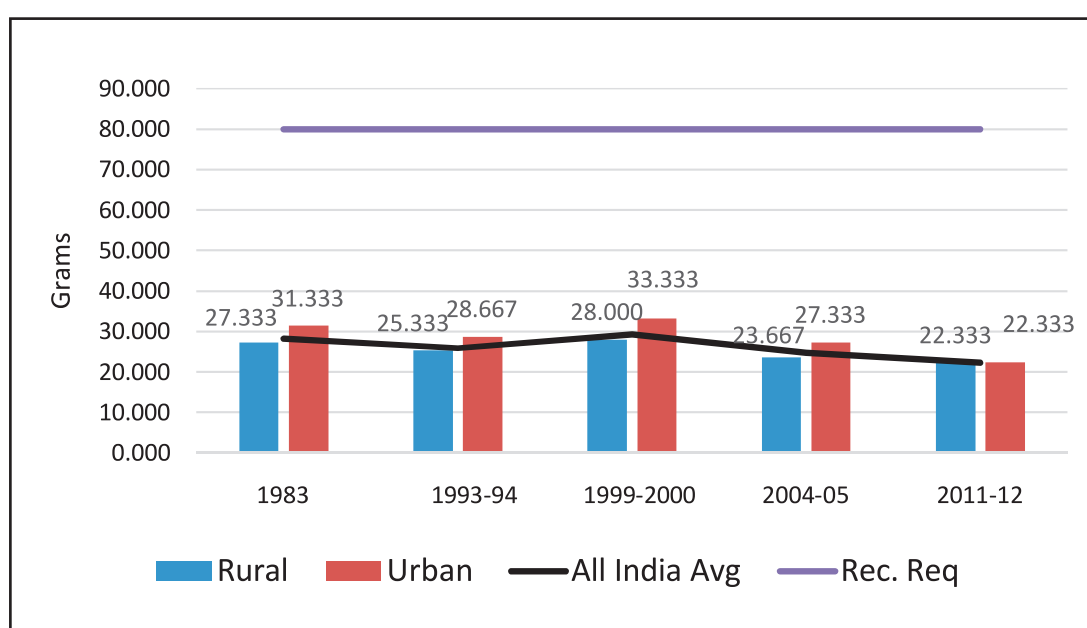


## Consumption

There exists a large gap between what is produced and imported in India and the actual consumption demand. According to statistics from the Ministry of Agriculture, in 2015-16 the average per capita pulse consumption was 21.8 kg.<sup>15</sup> In 2015, the 17 million tonnes (MT) of pulses produced along with the five MT imported was still nearly 5.1 MT less than the actual domestic pulses demand.<sup>16</sup> In 2016 the average demand is estimated to be around 23.32 MT, whereas average production is around 16.47 MT according to the fourth advance estimates.<sup>17</sup> The average imports for 2016 are 5.53 MT. This shortage in supply is one of the primary reasons for the increase in prices of pulses in the last five years. In fact, the average monthly expenditure since 2011 has increased by 12.75 percent, year-on-year,<sup>18</sup> recorded last year at Rs. 158.8 per month for a mere 1.8 kgs of pulses.<sup>19</sup>

For India, the shortage means that many households cannot consume pulses, a preferred source of protein, at the normative dietary requirement level set by the World Health Organization (WHO) at 80 grams of protein per person per day. This would mean that every household of four should consume 3.84 kg of pulses a month.<sup>20</sup> India, as of 2015-16, consumes not even half that amount. In 2011-12, during the course of the major round of National Sample Survey (NSS) on consumer expenditure, the level of consumption was even lower at only 22.3 grams a day.<sup>21</sup> Moreover, there are large disparities in the consumption of pulses between rural and urban areas, within different regions and states, as well as between different religious and ethnic groups and income classes.

**Figure 4:** Daily Consumption of Pulses India Vs Daily Recommended Requirement (Rural + Urban)



Source: ORF analysis @ORFDataLabs 2016. Based on several rounds of consumption expenditure, National Sample Survey (NSS).

## Government policies and plans

Partial recognition of the need to develop pulses in India at all levels starting from production and ending with consumption has pushed successive central governments towards creating some policies and incentives in the sector. The following is an overview of the major Indian policies and programs that are supported by the central government:

### *Integrated scheme of Oilseeds, Pulses, Oil-Palm & Maize (ISOPOM)*

ISOPOM is a culmination of policies on four crops—oilseeds, pulses, oil-palm and maize— implemented in April 2004. It has proved to be helpful for pulses production by introducing various initiatives like the provision of flexibility in fund utilisation to the determination of crops of growers' own choice. It has also supported the use of innovative measures in production,<sup>22</sup> and provided breeder seeds as well as certified seeds for pulses, seed assistance at INR 500 per quintal, among others.

### *National Food Security Mission (NFSM) – Pulses*

NFSM-Pulses contributes significantly to the production of pulses in India. It is an integrated effort of the state extension system, National Agricultural Research Systems (NARS) and ICRISAT. Implemented in 2007-08, it has covered 16 pulses producing states and about 97.5 percent pulse areas in the country since then. It helped in restoring soil fertility, created awareness about improved crop production technology in states like Andhra Pradesh, Assam, Bihar, Chhattisgarh, Uttar Pradesh, West Bengal, and others. It also provided financial assistance on various measures like distribution of certified seeds for pulses, integrated pest management technology, and water application tools like sprinkler sets. The initiative was wholly funded by the Agriculture department of the Union ministry. Based on the Chinese model for food security, the Indian government has also supported PPP-model leased land in foreign countries to supplement indigenous production.

**Table 1:** Annual Financial Status of the National Food Security Mission

<b>Year</b>	<b>Fund released</b> (INR crores)	<b>Expenditure incurred</b> (INR crores)
2007-08	103.65	36.50
2008-09	270.15	242.69
2009-10	373.98	399.77
2010-11	312.88	359.61
2011-12	468.20	395.32
2012-13	619.08	249.50
<b>Total</b>	<b>2147.94</b>	<b>1683.39</b>

Source: Progress Report of National Food Security Mission (NFSM), Govt. of India<sup>23</sup>

Between 2007-08 and 2012-13, the Union Ministry released funds worth INR 2,147.94 crore, out of which 78.37 percent were spent.<sup>24</sup>

#### *Merger of Pulses component of ISOPOM with NFSM-Pulses*

Both ISOPOM and NFSM-Pulses had limitations. In particular, they could not cover all the major incentives for pulses production individually. To overcome that problem, the pulses component of both ISOPOM and NFSM were merged,<sup>25</sup> and the entity focused on the following:

- Distribution of seed mini-kits
- Block demonstration
- Supply of pipes for carrying water from source to the field
- Supply of plant protection chemical and weedicides
- Supply of rhizobium culture/phosphate solubilising bacteria
- Involvement of private sector in other activities

#### *Accelerated Pulses Production Programme (A3P)*

Launched in 2010-11 under NFSM, A3P's main objective is to demonstrate plant nutrient and plant protection-centric improved technologies of pulses crops, especially chickpea, black gram, green gram and lentils. It was funded by the Union Ministry of Agriculture. Its areas of operation include states like Andhra Pradesh, Assam, Haryana, Bihar, UP and Maharashtra. The programme is implemented under the guidance of Commissioners/Directors of Agriculture of pulses-producing states and government institutes, namely, the National Centre for Integrated Pest Management (NCIPM) of Indian Council of Agricultural Research (ICAR).<sup>26</sup>

Out of the INR 780.72 crore released under the A3P scheme in 2010/11-2012/13, nearly 80 percent were spent for improving and upgrading technologies of pulses.<sup>27</sup>

#### *Special initiatives for pulses and oilseeds in dry land areas of 60,000 villages programme under RKVY 2010-11*

Under this approach, vital equipment such as tractors, rotavators and ridge furrow planter – along with working capital at 6,000 designated watershed centric locations – were provided in 2010-11 to a nominated agency for providing custom hiring services to pulses and oilseeds growers of 10 adjoining villages in a hub and spoke model covering 60,000 villages. A total of INR 300 crore were allocated for implementation in 2010-11 against which INR 287.57 crore were utilised (95.86 percent.)<sup>28</sup>



*Creation of buffer stocks*

The Cabinet committee on economic affairs gave its approval for the procurement of about 50,000 tonnes of pulses from the *khariif* crop and one lakh tonne out of arrivals of *rabi* crop in 2015-16.<sup>29</sup> The government has now targeted a buffer stock of two million tonnes.<sup>30</sup> Maintenance of this two million buffer stock limit at all times was considered by several stakeholders to be essential if India is to avoid sudden shortages that would lead to a price spike.

The recent measures announced by the government on procurement have aimed to encourage Indian farmers to move towards production of pulses. The recent report of the government committee on pulses production and distribution, chaired by the Chief Economic Adviser, argued that an increase in the minimum support prices would include various externalities and reflect the true social value of pulses production. The MSP for expensive pulses varieties, this winter, may be set at INR 550 per quintal, which is a 16-percent hike from the previous year.<sup>31</sup>

The Pradhan Mantri Fasal Bima Yojna aimed at providing financial assistance to farmers as well as encouraging them to use modern agricultural practices is also a helpful step. To increase the short-term supply of pulses, the Union Government extended 'zero import duty' scheme on all pulses (except gram and lentils) without an end date.<sup>32</sup>

### III. CHALLENGES FOR THE PULSES SECTOR

#### **Production**

Production is the foremost step in reforming the pulses debate and outlook in the country. Without addressing the challenges in production, no other corrective policy measures will suffice in any other aspect of the entire supply chain. Production of pulses is contingent on the economic viability of the crop. Revisions in the Minimum Support Price (MSP) are insufficient to encourage farmers to choose pulses over other cash crops in the absence of a stable and reliable procurement platform.

#### *Productivity and Yield*

Pulses have traditionally been grown in combination with sugarcane, wheat, and rice crops or on non-irrigated lands – a trend that has changed only due to the recent shortfall in supplies. India's pattern of smaller landholdings is also considered a major drawback for pulses production. India will struggle to reap the benefits of economies of scale given the current landholding pattern.

Efforts have been made to overcome this difficulty, without drastic legal changes. Certain 'cooperative farming' practices in parts of Maharashtra demonstrate successful pulses production without involving large landholdings. However, overall, production of pulses in India, in terms of quantity per hectare

lags behind developed nations like Canada, Australia – but even Myanmar, or Eastern African nations which do not use modern farming techniques to increase their yield.

For Indian farmers to increase yields and production over the long term, there needs to be a wholesale adoption of mechanised and modern farming techniques. This would require robust interventions from the government.

Overall, the basic problem is that farmers are not incentivised to take up pulses production, even with MSPs attached to each variety. Rice and wheat are clearly the farmers' preference, given their market viability and export potential. Pulses, with minimal export opportunities and highly volatile market prices, are not viewed by farmers as a source of income that will be stable enough throughout the year.

#### *Low technology and scientific knowledge, erratic rainfall*

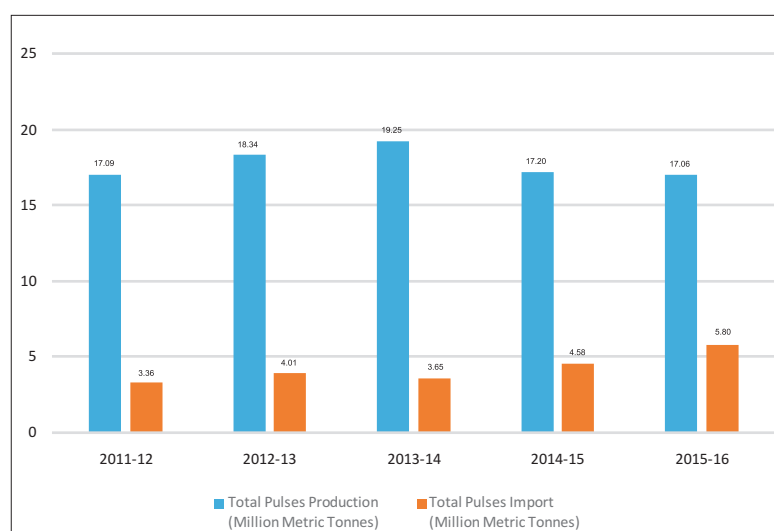
Production is also faced with the challenge of shortages of high yielding and pest-resistant seeds, inefficiency in traditional farming practices and high cost of farming inputs (fertilizers, electricity, machinery, among others).

Climate change, “weird weather”, and irregular monsoons have contributed to a significant drop in production of pulses – not just in India but also in Myanmar and the East African nations like Mozambique from which India imports a huge quantity of pulses. Thus climatic conditions have further worsened the shortages – and helped contribute to the eventual hike in prices.

### **Imports**

India has been importing pulses since 1977. In the early 1990s India imported 469,000 tonnes;<sup>33</sup> today it imports 5.7 million tonnes.<sup>34</sup> Due to the consistent decline in domestic production and increased consumption, imports in the country have been increasing and to a large extent have also ensured stabilisation of prices of pulses in the country.

**Figure 5:** Pulses Production and Imports in India



Source: India Pulses and Grains Association (IPGA)<sup>35</sup>

However, importers also face immense obstacles in ensuring a seamless supply of their consignments into the country. Some of the constraints are the following:

#### *Institutional bottlenecks*

It is a puzzle that imported pulses are placed in the “high risk food items” list by the Director General of Foreign Trade (DGFT) based on advice by Ministry of Health and Family Welfare.<sup>36</sup> Importers have spoken of instances when a single vessel carrying 50,000 tonnes of loose bulk cargo discharges cargo at two ports; in such cases, the Food Safety and Standards Authority of India has sampled the cargo at both ports. The results of the tests of all these samples can take eight to 15 days and the cargo has to remain within the port till then, resulting in storage costs being paid to the port, which increases costs all the way down the chain to the consumer. In certain cities like Kolkata, the FSSAI results can take between 15 to 21 days due to fewer FSSAI laboratories being available. A significant proportion of the cargo can get spoilt due to these delays.

#### *Infrastructure*

Basic infrastructure problems arising from inadequate storage to port handling facilities cause not only massive delays in pulses reaching the various markets but loss of products as well. Mumbai (Mumbai Port Trust and JNPT) receive close to 50 percent of total pulse imports of the country and is the gateway to Western, Central and Northern India. The port, however, has limited capacity and deals with multiple issues. First, pulses are a seasonal product and almost 50 percent of the total imports arrive between October and January. This leads to bunching vessels at ports, resulting in congestion and subsequent delays. Second, the draft (dredging) at the Mumbai port is inadequate to receive the size and shape of grain ships. These ships are thus limited to the outer harbour and cargo is discharged mid-stream via barges. The port facilities, with respect to machinery and storage, were adequate for the requirements at the time of construction 40 years ago but with the increase of imports across sectors, the port is unable to handle the load. While JNPT receives all the container traffic, all bulk cargo arrives at Mumbai Port Trust (MbPT). Storage facilities, which are critical for pulses and grains, is at its worst in MbPT.

Building new storage facilities at MbPT requires high capital inputs and is reliant on licenses from the Bombay Municipal Corporation (BMC) and other relevant authorities. More often than not, the project is stalled by bureaucratic red-tape and unnecessary delays on account of confusing—and even contradictory—regulations.

As with other goods, physical connectivity of the ports to the hinterland remains a problem. Instead of rail, the pulses trade relies heavily on road transportation, which is both slow and inefficient.

*Manpower Capacity*

With limited government manpower available, hiring of private labour is a tedious process and requires several permissions and approvals from government authorities, and training in port procedures. Governance and management of the port is also clumsy: land grabs and corruption are frequent; cargo security is not guaranteed; and dilapidated infrastructure exacerbates the problems. For example, leaks in roofs of sheds have the potential of spoiling large quantities of stored products.

*Stock limitations – By quantity*

Pulses were previously exempt from stock limits across the value chain. In October 2015, however, stock limits were imposed on imported pulses through the value chain (except for the first importer).<sup>37</sup> The intervention was aimed at keeping prices under control and to avoid hoarding. In September 2016, the stock limit has been extended for another year till September 2017.

The trade has argued that imposition of the stock limit has neither eased supply nor reduced prices – and that it has in fact choked the supply chain, leading to further shortages.

Several specific aspects of the stock limits may have contributed to this counter-productive effect. For example, the limit is set at an all-India level for each trader, rather than locally. In case the trader has stocks in different parts of the country, it is too easy for the cumulative quantity of such stocks to cross 350 tonnes, the limit.

The stock limit regulation also fails to take into account the natural “bunchiness” of the imports. Over half of the total imports arrive in India in the September to February period, given worldwide patterns of pulses cropping. Naturally, a limit that fails to take this natural pattern into account will cause supply choking. Importers have to buy in large quantities to be able to supply across the year; and so the movement of these stocks down the chain gets hampered due to the limits.

*Stock Limitations – By time period*

The government has been considering a 45-day time limit on first importers to dispose imported stocks. Both importers and millers have argued strongly against the plan. Importers have pointed out that consignments can vary from 100 metric tonnes in containers to 55,000 metric tonnes in bulk vessels. Distributing such quantities within a stipulated time period is difficult to envision, given current physical infrastructure constraints. Even if those are eased, the rest of the value chain is bound by quantity stock limits in any case. Meanwhile, given the

seasonality of pulses harvesting, imports bunched up in the winter months will have to be held at ports – in particular, Mumbai and JNPT, where over half of the imports come in.

Industry sources estimate that the private sector has already contracted three million tonnes of various pulses to arrive from September 2016 to January 2017. In the event of a time limit being imposed on importers, they have spoken of the strong possibility that these contracts will be cancelled—which will then pull down imports and create further shortage in the market.

### **Distribution**

The Indian milling industry has grown over the years to 15,000 mills with a capacity of 10-30 tonnes/day.<sup>38</sup> However, the industry is confronted with frequent unavailability of raw materials due to crop failures, inefficient milling techniques and practices, tedious procurement processes, and a lack of working capital needed for modernisation.

The stock limits question is problematic for millers, too. They are subject to a stock limit that is essentially equal to 1/9th of three years' average milling capacity. In other words, the entire milling process is slowed down, owing to millers' inability to keep enough stock for the entire process on hand.

The revenue constraints for millers can be seen from the following calculations. The average milling capacity of small and medium-size mills is around 20 metric tonnes per day and for the larger mills around 100 metric tonnes per day. To ensure that there is ample raw material available, mills need to maintain a floating stock of around 90 days, i.e., between 1800 MT to 9000 MT.<sup>39</sup> Given the existing stock limit, millers cannot maintain such high levels of stock. Millers typically have seven days stock under processing and need at least 15 days processed stock to maintain a steady supply for the value chain. In any case, there are significant losses in the milling process: for Tur, Moong and Urad, for example, millers generally incur a 30-percent processing loss and a 10-percent loss due to brokens and rejections. Thus if millers are unable to hold enough floating stock and have to wait for one batch to be processed and sold before buying the next batch of stock, given the limits imposed, a cyclical pattern of shortages is established.

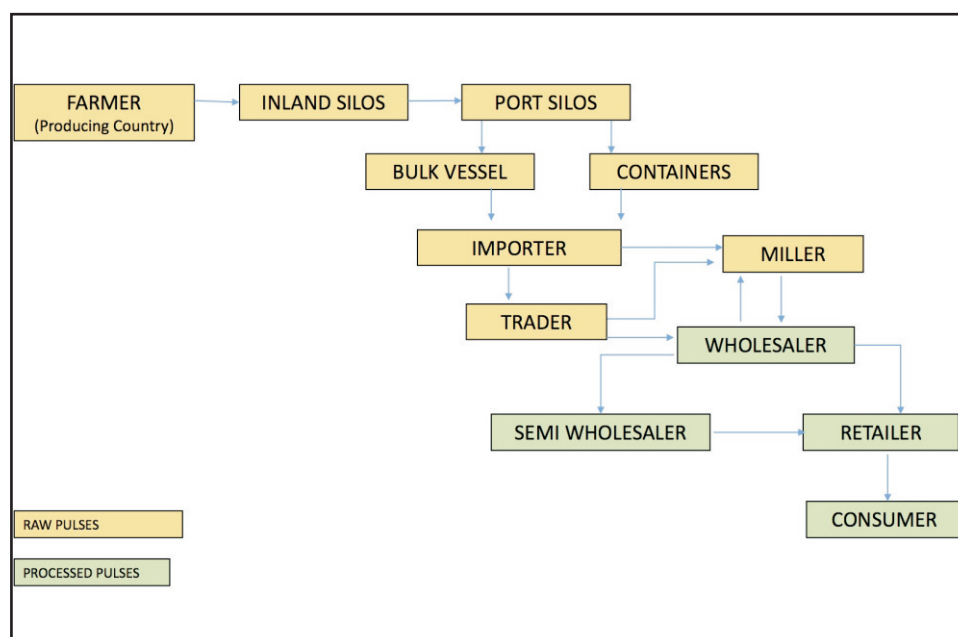
#### *Unstable policy environment*

The sector requires a stable policy environment for attracting more investments, particularly, for modernisation to improve efficiency. Market deregulation might be needed to increase the flow of quality capital. Practices need to be explored that can bring down the conversion cost of the pulses – from a raw state to a finished product. For this, the entire value chain should be studied and the factors that



constrain growth/production at each point must be understood. For reference, given below is the value chain of imported pulses.

**Figure 6:** Value Chain of Imported Pulses



Source: India Pulses and Grains Association (IPGA)

### *High Capital costs and Low returns*

Wastage in the value chain is highest during warehousing. Inadequate infrastructure – storage facilities, transportation and others is responsible for a significant percentage of economic losses. However, high capital costs for reducing wastage and slow rate of return have deterred investments in the sector.

### *Storage and distribution bottlenecks*

Even with respect to domestic pulses, storage is a critical issue. Like production, storage houses, too, have to undergo a degree of modernisation. Pulses cannot be stored for a year or two as they go bad in a span of only a few months. Distribution is also affected by taxation. *Mandi* taxes have negatively affected the prices and contributed to the spike. There is a criticism that the proposed Goods and Services Tax (GST) is unclear on how agricultural commodities will be charged and even the state governments seem to be unsure about it. Such confusions or potential bottlenecks should be dealt with immediately. There have been calls for greater intergovernmental coordination and cooperation. In order to improve distribution, there is also a suggestion that venture capitalists and other private entities must be allowed to take part to ensure a degree of efficiency. For this to happen, these venture capitalists and investors must be accorded a stable investment environment, free of red-tape. Government interlocutors insisted that the modernisation of Indian agriculture was a priority, but a stable policy environment is essential for such modernisation.

## Consumption

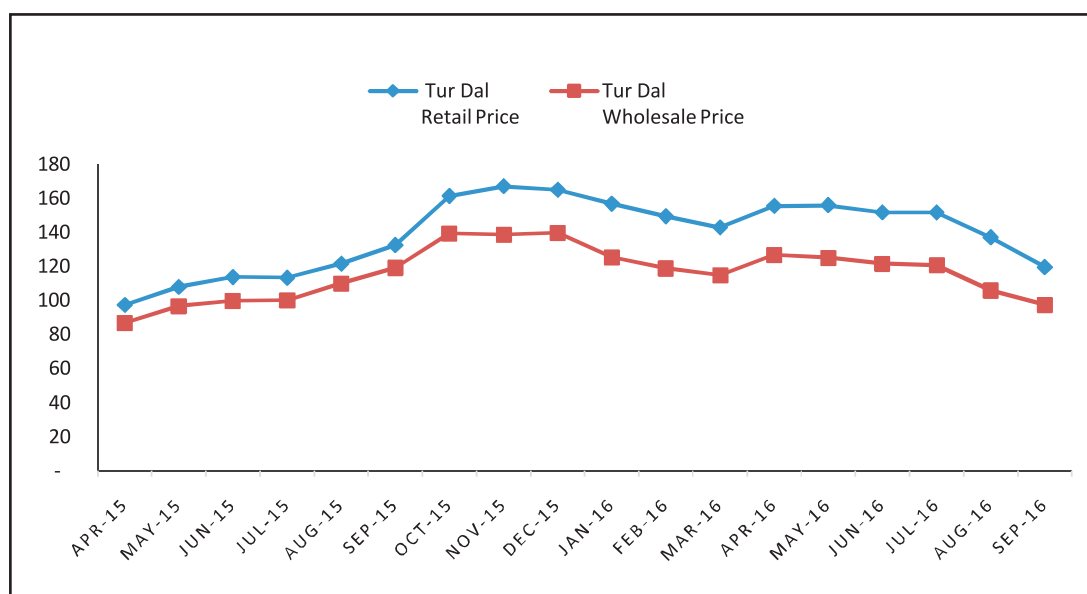
### *Differentials in retail price*

For various reasons, there is a significant difference between the wholesale and retail shelf prices of pulses across the country, especially in the main metros. Despite the reduced price at the government shops and increased supply, many consumers did not benefit from lower prices in a timely fashion. In cases, the price difference has been between 50 percent and 80 percent.

The government amended the metrology rules in September 7, 2016, which allows it to fix retail prices of essential commodities such as pulses and sugar in extraordinary situations. Currently, there are measures to control wholesalers and importers – but not retailers. While such price-fixing can be counter-productive in all cases, the particular divergence in the application of anti-fixing regulations in this case is puzzling.

Retailers have pointed to high rental costs and complex marketing problems – as well as menu costs – as responsible for the wedge between wholesale and retail prices. The government must keep a close eye on the wedge between these prices, if it is to frame policy for the sector appropriately.

**Figure 7:** Retail and Wholesale Price Differential of Tur Dal



\*Data Source: Ministry of Consumer Affairs 2016.

([http://fcainfoweb.nic.in/pmsver2/reports/Variation\\_Report.aspx](http://fcainfoweb.nic.in/pmsver2/reports/Variation_Report.aspx))

## Perceptions and Policies

### *Lack of scientific research and knowhow*

It is agreed by the industry experts that research and development in the field of pulses is a necessary step for the government. There are only a few organisations

currently working on agricultural research such as the Indian Institute of Pulses Research and Indian Council of Agricultural Research. Further impetus needs to be given to the development of high-yield, pest- and weather-resistant seeds or agricultural methods that improve the production of pulses.

Shared learning of effective processes and methods of pulses production among different pulse producing countries should be explored for the scope of replication. For example, Canada within a decade went from having a below-average output of pulses in the early 1900s to becoming the second highest pulse producer in the world by increasing investments in modern agricultural methods. Perhaps, an investment model can be developed on similar lines. For instance, accessibility and affordability of the seeds to the farmers is of primary importance in the Indian setting of pulses production.

#### *Price controls*

As an example of the policy consequences of the pulses prices spike, the Maharashtra government's proposal for the implementation of the Maharashtra Price Control Act is noteworthy. This is a significant deviation from free market principles. The general principles on such controls seem doubly applicable in this case, and will constitute a serious challenge: For one, short-term price controls are frequently counter-productive and take the attention away from fundamental sectoral challenges. Moreover, the capacity of the state to monitor and implement price control is inadequate. Instead, the existing state capacity should be used to maintain free market principles and make the environment more conducive for competition.

#### *Perception deficit*

Importers, traders, millers and retailers – and several government interlocutors – all agreed that there was a big gap between the perceived problems in the sector and its real challenges. However, pushed by a “sensational” media narrative, the government felt forced to make short-term and ad-hoc interventions – which, as discussed, are generally counter-productive. There are few domain experts in the media, and governments are often prone to knee-jerk reactions. In the absence of technical knowhow, reliable data and information, and miscommunication between relevant stakeholders, political responses have been shaped by perceptions. The conversation on pulses production, imports and marketing needs to be simplified and made more transparent to the common voter.

## **IV. CONCLUSION AND POLICY RECOMMENDATIONS**

The challenge in production, milling, distribution and import is not unique to the pulses sector and signals towards a larger economy-wide problem. There are

several unaddressed issues and a wider economic and political lens is needed to understand the actual state of pulse production in the country. For example, why has the per capita consumption of pulses remained so far below the recommended average over all these years? Can the pulses be replaced by other cheaper, more competitive and efficient source of proteins? If so, how will this impact domestic production of pulses? How should the industry and government prepare for this?

## **Policy Recommendations**

### *Production, inputs and surrounding policies*

- The first step in improving the state of the sector is to scale up domestic production by both enhancing effectiveness and efficiency in farming practices. At the moment, among the leading pulse producers in the world, India is the lowest in terms of yield per hectare.
- The current structure of Minimum Support Prices (MSPs) is outdated and counter-productive. It does not reflect modern necessities and the incentive requirements for farmers. It strongly favours wheat and rice, in which India has a comfortable surplus, at the cost of produce like pulses which are in chronic shortage. If the government will persist with MSPs as a mechanism to incentivise farmers, it cannot shift production to favour pulses over other cash crops unless it revises the relative MSP for pulses. Note that fixing the relative MSP itself will not be enough; the MSP has to be made available to farmers. Rice and wheat procurement is deep and broad, and most farmers can access it. This is not the case with pulses. That needs to be corrected on an urgent basis.
- In addition, pulses exports should always be allowed, so Indian farmers can benefit from the world market. Currently, the volatility in returns makes farmers wary of switching to pulses production. Access to world markets would reduce such volatility. If farmers are to be particularly incentivised to switch to pulses, then the government should free them from dependence on their local Agricultural Produce Marketing Committee (APMC) market. Selling produce only at the local APMC market restricts farmers to the rates that they get from there – which could be below the prices for the same product in another APMC within the same state or another state. The e-mandi approach pioneered by Karnataka – being extended nationwide – is a good alternative, in that the prices for various agri-commodities at all the state APMCs are available to the farmer on a single screen and a farmer is free to sell to any of the APMCs within the state. For pulses, the government could explore a pilot scheme that integrates all the APMCs within the country on a single platform and allows farmers to choose where he wants to sell his pulses and get the best price. This would require less political capital, and serve as proof of concept for larger agricultural marketing reform.

- Given India's intermittent weather and climatic conditions and continuing issues with pests and crop destruction, the government should look to invest in scientific research in higher quality seed production. Seeds that are protected against fluctuating weather patterns and that are pest-resistant could make pulse production more secure and thus attractive. Moreover, seeds that can be used in non-irrigated areas require less water.
- Finally, the government must endeavour to ensure the availability of seeds of pulses for farmers interested in growing these crops. Tax and subsidy incentives should be given to those farming operations that invest in pulses production.

#### *Overseas farming*

- The government has already started engagement with Brazil and some countries in Africa for lease or cooperative farming. This will enable the country to access larger production centres for pulses. These overseas engagements should be continued and further scaled up to other countries like Argentina.

#### *Infrastructure and Storage*

- With wastage as one of the primary concerns of importers and warehousing in the country, storage infrastructure has to be improved. Storage facilities aimed at pulses must be incentivised by the government in the manner that cold storage for fruits and vegetables has been.
- The infrastructure at ports handling large quantities of pulses imports has to be enhanced. Port facilities, especially Mumbai, must reflect modern-day requirements. The government should analyse the data over the last 15 years on pulse imports to ascertain what the current requirement at these ports is and aim to predict, based on trends, the future requirement as well.
- Infrastructure development in ports and trade facilities must be streamlined to remove institutional and jurisdictional bottlenecks and impediments. The control of development of infrastructure should be given to one authority which will be able to approve, monitor and evaluate development of such facilities. The single body authority must also bring in subject experts and industry stakeholders to stay current on the changing needs of the pulses import sector.
- FSSAI testing should be reformed. Ideally, once the FSSAI sampling and testing is done at the first port-of-discharge, no FSSAI sampling or testing should be required at the second port-of-discharge.
- The sampling requirement of the imported material is outdated and needs not only quick revision to facilitate import of non-risk or semi-risk food items



such as pulses but extensive digitisation and streamlining of FSSAI testing so that perishable products do not get spoilt due to delays.

- Port infrastructure improvement should also include overall capacity enhancement. At the moment, even the largest ports in India are able to handle only a few cargo ships at a time. While plans for capacity increase are available on paper, no action has been taken to improve these conditions. Enhancements like dredging of channels, additional piers and offloading facilities and trained manpower to handle increasing pulse imports are needed immediately.
- Fluid transport networks need to be encouraged, wherein imports arriving by sea are easily linked with other modes of transportation for quick and efficient distribution and delivery. The lack of such multi-modal networks results in long delays that can severely affect the health of the product and results in wastage as well.

#### *Trade Facilitation and Stockpiling*

- Institutional frameworks dealing directly with pulses are in dire need of reform. For example, given the large import of pulses arriving in India every year between October and January, having only four officers for testing at port facilities is too small a number to be able to release products in a timely and efficient manner. Institutions dealing with pulses, especially in imports must begin to reform to echo modern requirements and not be limited to the constraints of the era when these regulations and policies were first written. Increasing yearly trade volumes requires update of both the infrastructure facilities as well as the manpower assigned to deal with larger volumes.
- Pulses imported in their raw form cannot be consumed directly and require to undergo a milling process. Given the long process before pulses are consumed, it is bewildering as to why pulses remain on the high-risk list in imports. This requires testing every batch, which is a time-consuming and cumbersome. The government must understand that given the numerous stages of processing and cooking before consumption, the classification of pulses as high-risk imports must be immediately withdrawn.
- Stock limits regulations are counter-productive and need to be re-examined. This is urgent, if existing imports contracts are to be maintained – a cancellation of a significant proportion of the planned three million tonnes of imports for the winter of 2016-17 would have an immense and problematic impact on prices going forward. Stock limits need to be revisited so that the bunched-up imports in winter can be pushed through the entire supply chain at the proper pace to ensure that there are no local shortages. Stock limits only make (limited) sense in the April-September months – and even there should be focused on local stocks.

- The government has begun to create buffer stocks in pulses this year. There needs to be a mechanism that ensures a “first in first out” approach. Some experts also suggested that some 1700-1900 tonnes worth of pulses should be kept as a floating or buffer stock which could be brought in to reduce volatility in prices if there is a loss of pulses due to unforeseen circumstances. Grading and labelling of the available stock must take place, thus allowing for a more proper price determination which could introduce an element of stability.

#### *Special monitoring agency*

It is important that the government is always aware of the existing stocks, imports and the likely demand in the market, especially during times of likely shortages or high demand. It is key to have a special monitoring agency that is the repository of the import contracts registered in the country and updates data real-time, sharing it with all the stakeholders in government. A private-public partnership model is suitable for such an agency. Producers', farmers', importers', wholesalers', millers' and retailers' associations should be tapped by the Ministry of Consumer Affairs to work together on data collation and sharing.

#### *Streamlining marketing*

- The various taxes and restrictions imposed on pulses in India among different states make pulses distribution difficult. For Indian-grown pulses to remain competitive in the face of large imports, marketing practices and policies must be revamped and streamlined. The government's recent passing of the GST bill and its subsequent implementation will reduce some of the marketing bottlenecks by providing some uniformity to indirect taxes imposed on pulses – but further streamlining is needed to bring all pulses to a level-playing field. By not attempting to reduce the cost of domestically grown pulses, the disparity between import and homegrown pulses will remain, pushing consumers toward the cheaper product. This, in turn, can have a direct impact on the production and distribution operations in pulses in the country.
- The question of inclusion of pulses in the Public Distribution System needs further exploration. It is true that a wheat- and rice-heavy PDS is insufficient nutritionally, and also fails to meet the needs of the modern Indian consumer. More certain government procurement of pulses for the PDS would also be a huge incentive for the Indian farmer to switch to pulses from wheat and rice – causing them to also adopt more advanced technologies and better seeds. On the other hand, the PDS itself is being criticised as being inefficient. A via media between these constraints must be found that allows for the distortions of the agricultural sector by the current PDS to end.

*Consumer behaviour*

- There is increasing diversity in India's two-dozen-strong basket of pulses – many of which are considerably cheaper than the pulses varieties most subject to price spikes. As a consequence, many consumers are shifting to these pulses which are equivalent in protein and nutritional content to the more traditional choices. For example, Tamil Nadu, a large consumer of Arhar/Tur due to its traditional use in Sambhar and Idli, has seamlessly shifted to green lentils. Several of such shifts have followed initiatives by state governments. However, where traditional biases are strong and such initiatives from the state governments are absent, consumers tend to not substitute cheaper for more expensive pulses. Efforts to educate consumers about various varieties of pulses should be studied and encouraged.


*Avoidance of Price Controls*

- Both state and central governments are moving towards imposing various price controls or price levels on pulses as a result of concerns about rising prices. While this move is easy to understand from a consumer's short-term point of view, the associated economics in imposing price controls on pulses can be detrimental to the entire sector – and to consumers in the medium- to long-term. Price control will effectively undercut normal demand and supply dynamics and move away from free-market principles. The rise and fall of prices based on supply and demand is what in most cases provide incentives for farmers, millers and importers to continue operations.
- Seasonal profits cannot be a reason for price controls. Adding price controls with the aim of reducing profits during peak seasons will, in the long term, provide disincentives to industry stakeholders, refreshing current problems in the sector. Farmers, millers and importers who depend on the revenue they earn from high demand periods will scale back operations. This will impact not only the production, distribution and supply of pulses but will affect the consumer in the long run.

*Changing the Narrative*

- Perhaps most important, the narrative surrounding pulses in India is under-informed and overwrought. The problems of the sector extend beyond temporary price spikes, and the reasons for those problems extend beyond the old issue of “hoarding”. The pulses sector is the canonical example of a complex supply chain that can be easily distorted by politically inspired short-termism – with detrimental long-term consequences. More conversation between stakeholders – politicians, the industry, farmers and the media – is needed. Industry stakeholders must look to convince the government on the

real issues affecting pulses; and the narrative presented to the public, which is often a one-sided version, must focus instead on the ground realities of the sector, and on efforts towards genuine long-term solutions.

- If the conversation around pulses can be simplified, made less technical and shifted toward some of the real reasons as listed above, then it will serve as a marker for other such controversial debates. 

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**ENDNOTES**

1. Food and Agricultural Organisation. "Trends in worldwide production, consumption and trade of Pulses." FAO Statistical Handbooks. (Italy: FAO, 2016).
2. Indian Institute of Pulses Research. E-Pulses Databook. Accessed 10 June 2016. <http://www.iipr.res.in/e-pulse-data-book-country-wise.html>
3. R.P Singh. "Status Paper on Pulses." Directorate of Pulses Development. (Bhopal: Ministry of Agriculture, 2013).
4. Indian Institute of Pulses Research. E-Pulses Databook. Accessed 10 June 2016. <http://www.iipr.res.in/e-pulse-data-book-country-wise.html>.
5. Press Information Bureau. Meeting of consultative committee of the Ministry of Agriculture and Farmers welfare related to National Food Security Mission. (New-Delhi: Ministry of Agriculture, 2016).
6. Indian Pulses and Grains Association. Pulse import and export trade. Accessed 20 July 2016. <http://www.ipga.co.in/pulses-trade-import-export..>
7. Food and Agricultural Organisation. The Food and Agriculture Organization Database. Accessed 20 July 2016 <http://www.fao.org/statistics/en/>
8. The Food and Agriculture Organization Database. Accessed 20 July 2016. <http://www.fao.org/statistics/en/>
9. National Council of Applied Economic Research. India's Pulses Scenario. (New Delhi: NCAER, 2014).
10. Indian Pulses and Grains Association. Pulse import and export trade. Accessed 20 June 2016. <http://www.ipga.co.in/pulses-trade-import-export>
11. Indian Pulses and Grains Association. Pulse import and export trade. Accessed 20 June 2016. <http://www.ipga.co.in/pulses-trade-import-export>
12. ASSOCHAM India. "India may need to import 10 million tonnes of pulses to tame prices: Assocham Study". (New Delhi: Assocham, 2015).
13. Press Trust of India. "Government contracts 4.06 lakh tonnes of pulses for import. India Today, November 23, 2015.
14. Press Information Bureau."Cabinet approves import of pulses through long-term contract with Mozambique". Accessed on 20 September 2016. <http://pib.nic.in/newsite/PrintRelease.aspx?relid=146807>
15. ASSOCHAM India. "India may need to import 10 million tonnes of pulses to tame prices: Assocham Study". (New Delhi: Assocham, 2015).
16. Ibid.
17. Ministry of Agriculture. "Fourth Advance Estimates of Production of Foodgrains for 2015-16." Agriculture statistics division. Accessed 15 June 2016. [http://eands.dacnet.nic.in/Advance\\_Estimate/4th\\_Adv2016-17Eng.pdf](http://eands.dacnet.nic.in/Advance_Estimate/4th_Adv2016-17Eng.pdf).
18. ORF calculation based on data from "India may need to import 10 million tonnes of pulses to tame prices: Assocham Study" Assocham. (New Delhi: ASSOCHAM, 2015).
19. Ibid.
20. ORF calculation based on WHO recommended standard daily requirement and household definition in Census 2011.
21. National Sample Survey. Major Rounds on Consumption Expenditure 1983, 1993-94, 1999-2000, 2004-05, 2011-12. India Datalabs@orf
22. Directorate of Pulses Development. Integrated Scheme of Oilseeds, Pulses, Oilpalm, and Maize. Accessed 20 June 2016. <http://dpd.dacnet.nic.in/npdp/default.htm>.
23. Ministry of Agriculture. Progress Report on Pulses – 2013-14. National Food Security Mission. Government of India. Accessed on 20 July 2016. <http://nfsm.gov.in/progressreport.aspx>
24. R.P Singh. Status Paper on Pulses. Directorate of Pulses Development. (Bhopal: Ministry of Agriculture, 2013).



25. Ministry of Agriculture. "National Food Security Mission. Operational Guidelines."(New Delhi: Government of India, 2012).
26. Ministry of Agriculture. Accelerated Pulses Programme Operational Guidelines. National Food Security Mission. Government of India. Accessed on 20 July 2016. <http://nfsm.gov.in/Pulses/A3Pguidelines.pdf>
27. R.P Singh. Status Paper on Pulses. Directorate of Pulses Development. (Bhopal: Ministry of Agriculture, 2013).
28. Directorate of Pulses Development. Profile. Accessed 20 July 2016. <http://dpd.dacnet.nic.in/profile.htm>
29. Ministry of Agriculture. 'Agricultural Situation in India', January 2016, Vol. LXXII, No. 10, Ministry of Agriculture and Farmers Welfare, (New Delhi: Govt. of India, 2016).
30. Arvind Subramanian. "Incentivising Pulses Production Through Minimum Support Price (MSP) and Related Policies. Ministry of Finance." (New-Delhi: Government of India, 2016).
31. Hindustan Times. Government Hikes Minimum Support Prices for Pulses to Boost Outputs. Hindustan Times, November 16, 2016.
32. National Portal of India. Pradhan Mantri Fasal Bima Yojna. Department of Agriculture Cooperation and Farmers Welfare. Accessed 1 September 2016. <https://india.gov.in/spotlight/pradhan-mantri-fasal-bima-yojana#tab=tab-1>.
33. IndiaStat. Foreign Trade. Import of Food Grains. Accessed 1 September 2016. <http://www.indiastat.com/table/foreigntrade/12/importoffoodgrains19802013/449934/18148/data.aspx>
34. V.Kulkarni. "No Sign of Let Up in Pulse Imports". Business Line. July 26 2016.
35. Indian Pulses and Grain Association. Pulses Import and Export Trade. Accessed 1 September 2016. <http://www.ipga.co.in/pulses-trade-import-export>.
36. Directorate General of Foreign Trade.POLICY CIRCULAR No. 37 (RE-2003)/2002-2007. Ministry of Commerce and Industry. (New Delhi: Government of India, 2007).
37. Press Trust of India. Government Put Stock Limits on Pulses by Big Retailers, Importers. The Economic Times. October 18, 2016.
38. Indian Institute of Economics. "Food Processing Sector in India: A Brief Report. Accessed 1 September 2016. [http://www.hitex.co.in/downloads/the\\_indian\\_institutue\\_of\\_economic\\_hyd.pdf](http://www.hitex.co.in/downloads/the_indian_institutue_of_economic_hyd.pdf).
39. Gathered from the discussion held during the Mumbai Forum on Pulses organised by ORF in July 2016.



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