

Sustainable procurement framework for basmati rice in India

Rajni Kant Sharma

Maastricht School of Management,
Endepoldomein 150, 2601 EP Maastricht, Netherlands
Email: gotork@gmail.com

Naseem Abidi*

Skyline University College,
University City of Sharjah,
Sharjah, United Arab Emirates
Email: drabidi@yahoo.com
*Corresponding author

Abstract: Sustainability at grass root level in rural area is an increasing challenge in India. Various alternatives trade mechanisms have taken shape that proclaim to link farmers to ethical consumers and connect to sustainable procurement at farm level, which are more effective and make positive contributions towards economic, environment, social and governance dimensions of sustainability. This research paper identifies the dimensions of sustainability at farmer's level through systematic literature review, and examines existing procurement frameworks through integrative literature review. It also does the basmati rice procurement and commodity chain process mapping of existing conventional system as well as procurement through fair-trade system. Authors also collect insights from farmers as well as traders involved in both the procurement systems to develop a framework for sustainable procurement of basmati rice in India to reduce economic vulnerability of farmers, increase environment and social harmony through effective governance.

Keywords: sustainability; sustainable procurement; conventional procurement system; fair-trade system.

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Biographical notes: Rajni Kant Sharma is an adjunct faculty and consultant at Maastricht School of Management, Maastricht, Netherlands. He is Visiting Professor to leading business schools in various developing countries in Asia, Africa and Latin America. His area of teaching, research and consulting includes sustainability, sustainable agri and food supply chains, global marketing and entrepreneurship.

Naseem Abidi is a Professor at Skyline University College, Sharjah, UAE with over 25 years of work experience in government, teaching, research and academic administration in business schools. He has worked in leading business schools and universities in India, UK and UAE. His area of teaching, research and consulting interest includes, sustainability, economic efficiency, optimisation, operations and sustainable supply chain management.

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1 Introduction

In India, sustainability at grassroot level is enveloping the issues of farmer livelihoods and vulnerabilities, food safety, social development as well as environmental concerns has become a topic of grave concern and represents a looming agrarian crisis. Despite increasing farmers' protests, the acceptance of sensitivity and importance of the topic remains subtle or is kept subdued by the people in control, with government, trade chains as well as the industry continuing to remain entrenched in the age-old conventional systems of procurement and trade that need aggressive over hauling and comprehensive actions towards sustainability.

The conventional mechanisms of agri-trade for major grain commodities like wheat and rice are guided by the age old Agricultural Produce Marketing Committee (APMC) Act and mandatorily requires farmers to sell their produce only through designated traders (called aarti) in the local market yards (called 'mandi'). Since long, various authors have been expressing that these controlled conventional mechanisms are inherently flawed, inefficient and exploitive towards farmers (Sharma and Pillaiyar, 2011; Minten et al., 2011), and gives no scope for any alternate route like contract farming, direct procurement by processors or even direct retail by farmers.

The conventional commodity chains are inherently not cohesive. The procurement activities, which are the crucial link with the farmers are not genuinely inclined towards farmers benefits (DAC, 2012). Clearly, when the procurement link is weak, the agri-food commodity chain cannot create a trickledown effect towards the farmer benefits even if the end consumer aspires for it because of his responsible consumption requirements. Also, when the economic benefits itself are exploitive towards farmers, there is no genuine reason to believe that there can be any positive assertion possible on social or environment aspects (Heyden, 2014). State of Sustainability review by International Institute for Sustainable Development (IISD), in 2014, commented that commodities are crucial stepping stones for development because commodity production and its procurement have a direct link with rural livelihoods and incomes, especially in the developing world. Since conventional global commodity markets, have been exposing farmers to livelihood insecurity besides negative social and environmental impact, developing alternative mechanisms for procurement makes ample sense. Therefore, there remains ample and urgent need for trying and testing alternative and innovative approaches involving wider scope and activities under procurement which is seamlessly interwoven in the global value chain of that commodity and that facilitates interactions and intervention flow even from the downstream or lower end of commodity chain i.e. the consumer.

Department of Agriculture Cooperation and Farmer Welfare (2016) report on agriculture situation in India highlighted that the farm sector growth has slowed, and along with increasing pressures on commodity prices, it will have obvious effects on rural economic and social development. Simultaneously, there is a new target set by the

government to double the agriculture income in coming years (Press Trust of India, 2016). There seems to be a formidable challenge that needs sweeping reforms and alternative solutions to current conventional systems in agricultural supply chain to be tried and implemented. Earlier, Indian Council of Agricultural Research (ICAR), in 2015, in its Vision 2030 document had also articulated the need to tap opportunities through alternative mechanisms and partnership with different stakeholders at national and international level. However, despite having consensus on hard facts like ‘continuing farmer distress and agri-commodity chains being rigged’, there is evidence of ample dilemma when Ministry of Agriculture and Farmer Welfare and the institutions like National Bank of Agriculture and Rural Development (NABARD) are not on the “same page” in context of selecting and then traversing a path towards sustainability in agriculture, despite having (Hindustan Times, 2018). While the debates continue, the situation is worsening over the years as the small farmers continue to face the brunt of adverse circumstances (Singh, 2017). OECD (2018) has vehemently expressed that agricultural policies in India are designed and implemented by a complex system of disparate institutions and continue with fragmented trade chains that are not positive towards long terms survival of farmers or sustainability at rural level with no direct answers, assessing and formulating alternative approaches, make an obvious and logical starting point in search of a framework towards transformation of agri-procurement and trade and to make it more integrated and sustainable on economic, social and environmental aspects.

2 Rationale and objective of the study

Basmati rice is nature’s gift to India because it grows only in the tropical climate and soil conditions of Himalayan plains and commands an established higher price in domestic and export market over other varieties. Representing about 21% of total agricultural exports and whopping 46% of the total cereal exports from the country in value terms, backed with the fact that about half of the 8 million Tons production is exported at potentially premium pricing, establishes Basmati as an important export earner for India (AIREA, 2015). While, historically it has been a symbol of India amongst elite western consumers, it carries inherent potential to connect with the growing segment of more aware, concerned, socially active and ethical consumers of the west, and be a part of sustainable, responsible and ethical food supply chains (Helvetas Swiss Intercooperation, 2015). With such status and potential, it is an important candidate for making meaningful contribution towards the aspects of sustainability and sustainable development at farm level or rural grass root level.

On the contrary, Basmati remains somehow wriggled in the rigmaroles of larger Indian agriculture scenario of flawed procurement. The farmers remain vulnerable and subject to collusive working of traders as the above optimistic figures of exports do not optimistically devolve to stable, increasing and lucrative prices for the farmers (Sharma and Pillaiyar, 2011). Invariably, when the struggle remains to cover increasing costs and save crops, issues of social responsibility and environment effect cannot be expected to be important in farmers’ mind. Though limited in numbers and scope, studies done by Nirmala and Muthuraman (2009), Charyulu and Biswas (2010) and Prakash and Singh

(2013) have indicated about the fluctuating economic returns, potential for alternative procurement mechanisms and potential of contributions towards sustainable development. The conventional Basmati production in India is not conducive in context of water usage and green house effects and eventual productivity in context of yield and price (Sapkota et al., 2017).

Indian agriculture scenario reflects a simmering agrarian crisis with conventional system of agricultural production and trade is entrenched with age-old practices and mechanisms that need an overhaul and make a positive contribution towards sustainability. Simultaneously, drastic changes are difficult to implement because of political limitations as well as limitation on alternatives. In such scenario, whatever alternatives are possible, can be tried and studied to establish their effectiveness and wider implementation. There is inherent need of improving the social and environmental aspects in global rice supply chains as on one side almost one fifth of world population is involved in rice production, on the other side conventional rice production methods use 40% of irrigation and estimated 10% of greenhouse gases (Foodbev Media, 2017). Conventional rice farming in India carries low economic returns and tremendous environment impact, but alternative mechanism like fair-trade and organic can offer a meaningful solution (Eyhorn et al., 2018).

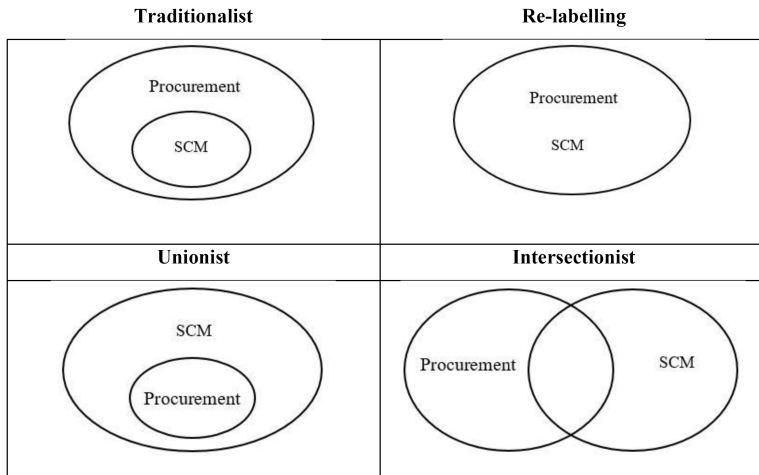
Although all activities in the chain of food production to consumption whether it is farming, procurement, processing, packaging, transportation, storage, pricing as well as quality create implications on economic, social and ecological issues, the current discourse of discussions and literature hardly covers the procurement at farm level. Hence, the objective of this research paper is to study the procurement of basmati under conventional and alternative fair-trade systems; capture the perceptions of respective engaged farmers; explore the areas of improvement and develop a framework towards sustainable basmati procurement.

3 Literature review

Overall sustainability at grass root level emanate from the positive or negative impacts being made by various mechanisms, processes, practices and activities in the agricultural commodity chain starting from procurement that involves the harvest of the farmer being taken into the system. Literature in context of the aspects, scope, expanse or coverage of the term 'Procurement' is weak and not categorical. Storey et al. (2006) confirmed substantial gaps between practice and theoretical concepts about procurement. Halldorsson et al. (2007) argued that there is no universally accepted theory and understanding on procurement and supply chain aspects. This has been the case because most of the developments and understanding have been based on practitioner perspectives and therefore the current literature or theory is imperfect (Voss et al., 2002; Chen and Paulraj, 2004).

Du et al. (2009) categorically reflected the procurement of agricultural products to involve 'collaborative planning' amongst the downstream commodity chain players even who are not directly involved in physical purchase activity. In fact, there are various joint activities that need to be performed for efficient working of the chain. Sanderson et al. (2015) presented four perspectives on bridging procurement and supply chain understanding in Figure 1.

Figure 1 Procurement and supply chain perspectives



Source: Sanderson et al. (2015)

Dekhne et al. (2013) had also suggested that there has to be a cross functional approach that embeds an interwoven perspective of procurement and the commodity chain. This essentially suggests that there has to be transactional and strategic integration between procurement and commodity chain that makes it more responsive towards change and improvisation. In a way the above observations establish a diffusion of the usually intended meanings of procurement as a pure purchase activity and supply chain covering the aspects subsequent to procurement.

In lieu of above, it can be argued that the current common perception is inappropriate, incomprehensive and misleading too, and that it is more logical to perceive procurement not as a single action or process of pure purchase activity but as a function that also ensures exploration, identification, access, sourcing and management of external resources. In fact, earlier, Chen and Paulraj (2004) had logically suggested that Procurement shall also encapsulate an active approach towards market building and must reflect the premise that consumer and other downstream stakeholders can and should actively intervene and influence the behaviour of the upstream activities of the commodity chain through interventions, support, relationships and expectations. This effectively means that there is indeed a need to see procurement with a broader perspective covering a greater aspect of the commodity chain. In addition, if the procurement has to be sustainable, it shall incorporate and support positive contribution to dimensions of sustainability. FAO (2017) has reiterated that existing farm and trade practices need to be more efficient, inclusive and resilient as they are not pro farmers or farming. It also emphasised that sustainable procurement, a complete rethink of food systems and governance are essential to meet future challenges.

Historically, the procurement of Basmati has been continuing under Conventional system as per the procedures laid under the APMC act (Ghosh, 2013). Around 2005, initiatives were made under the alternative trade mechanism of ‘fair-trade’ in context of basmati in of Kaithal district of Haryana (Fairtrade USA, 2013). In a typical conventional

agri-chain of basmati, procurement is perceived as the buying of farmer's paddy harvest by the buyer or his representative through an agent in the local grain yard (mandi) established under APMC act (Sharma, 2012). In other words, it involves only the exchange of material for money. On the other hand, alternative mechanisms like fair-trade provided normative frameworks with voluntary conditions of participation (Gibbon et al., 2008) that are absent in Conventional chains. In fair-trade system, hence, it becomes absolutely imperative to acknowledge that the word 'Procurement' is not limited to the typical buy-sell activity whereby a farmer gets money for the harvest he brings. Rather the procurement is an integrated and interwoven part of the whole agri-chain through which flow of other financial as well as non-financial interventions are also routed, channelised, bridged, linked, effected as well as controlled for potentially greater impact on sustainable development (Fairtrade International, 2014).

Ponte and Sturgeon (2014) indicated that that fair-trade and other so called Voluntary Sustainability Initiatives or voluntary standards and certifications endeavour to address the social upgrading aspects through specific working mechanisms, rules and activities through the broader supply chain. Fair-trade as a concept found ground in the west for having a potential of benefiting small farmers through increased price, market access and a social premium for development activities, which are non-existent in conventional food chains. Earlier, Swinnen and Maertens (2007) and McCullough et al. (2008) had reasonably expressed that such initiatives at least provide an option to marginalised farmers be under some farming arrangement or contract that makes them part of the some voluntarily aggregated chain under a particular sustainability initiatives and possibly receive better rewards in monetary and non-monetary terms (Morgan and Sonnino, 2010) had also highlighted that creative procurement strategies in food systems under the various sustainability certifications are perceived to make more positive contribution to economic, social and environmental development than is the case with so-called conventional food chains.

Authors in one of their earlier studies on comparative analysis of procurement through conventional and fair-trade systems and their relative contribution towards sustainability had emphasised on four dimensions of sustainability i.e. economic, social, environmental and governance and twelve sub-dimensions or indicators (namely viability, vulnerability, quality of life, knowledge, food safety, social participation, inputs, water, soil, traceability, transparency and support) relevant in Indian Basmati context through factor analysis (Sharma et al., 2018). They had also revealed through their analysis that while there is significant difference between conventional and fair-trade mechanisms in terms of contribution towards sustainability on all twelve indicators of the four dimensions, the governance dimension with traceability, transparency and support indicators showed the most difference. They also highlighted upon the traceability aspect (in governance dimension) under fair-trade system which allows mapping of the whole commodity chain as the product moves from known farmers to known retailers and consumers, and that since traceability is not implemented in conventional system it is difficult to know the exact stakeholder beyond the mandi agent or maybe till first processor.

4 Methodology

The study is exploratory in nature and used integrative literature review, experience survey and another survey of two groups of farmers growing Basmati under conventional and fair-trade mechanisms to capture qualitative expressions through semi-structured interview covering the strengths, weaknesses and sought improvements. Selection of geographical area for this study was chosen as Kaithal district in Haryana state of India because this state (amongst other basmati growing states like Punjab, Uttarakhand and Jammu & Kashmir in India) remains the largest producer and exporter of Basmati in India, and also because it is one of the early initiatives under fair-trade system. As Indian Basmati is produced, procured and also exported from Kaithal district and therefore qualifies to be the best location for authentic information.

4.1 Integrative literature review

As integrative literature review studies about various critiques, reviews and integrates so as to develop a new framework highlighting various perspectives on the top from various researchers (Torraco, 2005). The study used it to review to critically examine the existing procurement frameworks/models for agri-commodity chain for understanding scope of procurement and tracing the process from farm to consumers.

4.2 Experience survey

Experience survey was undertaken involving various stakeholders to collect details on basmati procurement under conventional and fair-trade mechanisms. Experience survey was used to capture the procurement and trade practices to do the process mapping. These interventions to know the flow process was undertaken through semi structured interviews of eight experienced persons comprising two conventional farmers, two fair-trade farmers, two buyer-processor-exporters of basmati (one each for conventional and fair-trade produce), one fair-trade importer of basmati in Europe and one field staff of fair-trade certification agency. The selection criteria for these people was their understanding and experience of procurement systems and willingness to cooperate in the study.

4.3 Qualitative survey

Qualitative expressions of the farmers on strengths, weaknesses, suggestions for improvements and reasons for continuing with current system (which ever they are following) were captured from a total of 236 farmers through semi-structured interview. 118 farmers following fair-trade system (out of a society of 335 farmers) selected through purposive sampling as suggested logical in such scenarios by Dudovskiy (2016), based on homogeneity of crop i.e. traditional basmati (not hybrid) and consistency of same variety for four years. Accordingly, 118 farmers following conventional system with four-year consistency in growing authentic (non-hybrid) Basmati were reached through snowball sampling technique. The information and data collected was then assimilated and collated to develop a framework for sustainable procurement of basmati.

5 Analysis and discussion

The qualitative analysis in this research paper through, integrative literature review for existing procurement frameworks, experience survey for process mapping of convention and fair-trade procurement systems, and a qualitative survey with farmers following these systems are presented below.

5.1 Integrative literature review

Firmly tracing and depicting the basmati commodity chain required capturing of its sequential nodes or points of material flow, exchange, activities and coordination including interventions by players not directly involved in material flow. It is imperative to highlight that if the chain is not traceable from farm to fork or in other words from farmers to consumers, then the scope of involvement by the members, nodes or entity/s on the lower side of commodity chain (e.g. consumers, retailers, importers) in context of procurement gets restricted. Correspondingly, in an integrated traceable chain, the lower side of the supply chain can also influence and intervene in the procurement process and make systems of efforts to improve the lives of farmers and to contribute towards sustainability. This typically means that the procurement aspect shall not be limited to the basic exchange of harvest for money at the uppermost node of the basmati chain happening in the mandi (grain yard), rather, there can also be other flows of financial or non-financial elements like expectations, standards, controls, support, responsibilities and results.

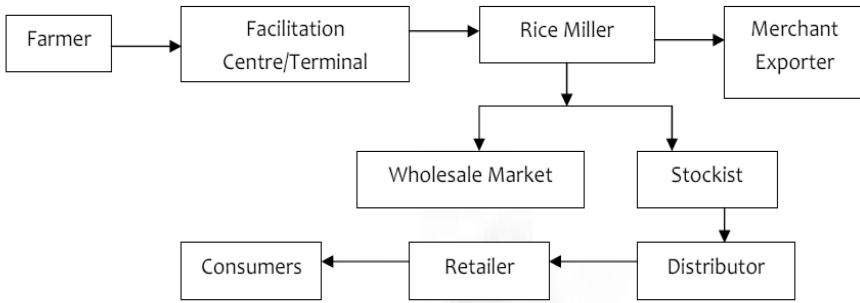
Studies on Basmati, in context of coverage under any of the themes of procurement, trade chain, supply chain or marketing chain have been scanty. Though there have been some studies covering the traditional or organic basmati procurement and commodity chain, authors could not find any study which has covered the theme of fair-trade mechanisms and therefore there is no pictorial depiction of procurement in any form. Authors like Singh (2009) in his impact assessment studies on basmati for Uttarakhand did not use any pictorial depiction and trusted the explanation of links through text alone. Other authors like Punjabi (2015) in her study on Basmati marketing for Uttarakhand Organic Board under an FAO sponsorship also depicted the basmati commodity chain as a straight-line flow with no details on activities or interventions (Figure 2). Earlier, Sharma (2012), through depicted a suggestive simplistic basmati commodity process flow, but had stressed on importance of cluster formation and collective efforts. His suggestive chain (Figure 3) did not explicitly detail any back and forth or cross relationships or collective actions. It can be argued that the depictions have been from extremely simplistic words with arrows in between indicating flow of material or some form of simplistic flow charts.

Figure 2 Basmati commodity chain

Farmer > Consolidator > Wholesaler > Semi Wholesaler > Retailer

Source: Punjabi (2015, p.1)

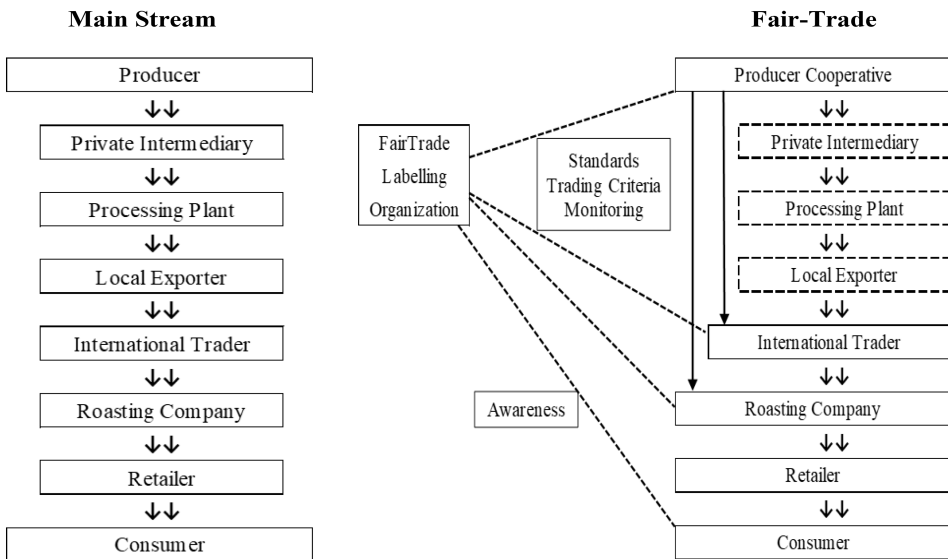
Figure 3 Basmati commodity chain



Source: Sharma (2012, p.43)

In context of fair-trade, literature review did not reveal any study in India depicting a fair-trade commodity chain of basmati or another agri product. However, few studies in other countries and other products like coffee and honey were reviewed for varied pictorial depiction of procurement or commodity chain under conventional or fair-trade systems. Most of the studies did not draw a border between procurement and the overall commodity chain from growers to end consumers or show clearer links of flow of materials and also interventions. Slob (2006), though in context of coffee, had endeavoured to compare the conventional and fair-trade commodity chains. While the study covered the aspects of conventional and fair-trade procurement in text, the pictorial depiction could only provide the basic difference in the coffee chain as shown in Figure 4.

Figure 4 Mainstream versus fair-trade coffee chain



Source: SLOB (2015, p.28)

It is imperative to highlight that while pursuing knowledge on same topic, literature review continually revealed interchanged and substitute usage of terms like food agri-food chain, commodity chain, supply chain, value chain and so on. However, Traceability of commodity chain is of vital importance to enable and also to study the interventions from the commodity chain stakeholders to be directed towards the grass root level perhaps using procurement perception at farm level as the bridge towards attaining contribution towards sustainability at grass root level. While fair-trade mechanism proclaim such interventions specific to basmati there appears to be a gap in literature in this context and most of the knowledge remains in tacit form amongst the people involved.

5.2 Experience survey – process mapping

A chain can be traced comprehensively only if each stakeholder categorically knows about or at least is aware of the next stakeholder in the chain or if there is one entity which knows all the stakeholders of the chain. Experience survey along with triangulation was deemed to be logical method to explore and trace the commodity chain under both conventional and fair-trade systems. Taking cues from the basmati commodity chain depicted by Sharma (2012) and Punjabi (2015) and the mainstream (conventional) versus fair-trade coffee chains depicted by Slob (2006), information was compiled on process flow charts through a semi structured interview covering three questions in reference to the global value chain concept by Gereffi et al. (2005), namely nodes or geographical points indicating stakeholders involved; Linkages, transactions, activities and coordination amongst and through these nodes or stakeholders or any form of input-output structure; and Supporting institutions or entities and their linkages.

In this regard, interaction sessions were required with key players in the basmati agri-chain. By default, the farmers and the mandi (including market committee officers and the agents or aartis) are de-facto source of vital information. But to trace the basmati chain with more specificity, starting from farmer or farmer group, the next stakeholder must be known either to the farmer or some other entity who is aware of the chain. Similarly, the next stakeholder must be known for that same exact lot or batch or combined harvest of small group of farmers. The scenario, by default leads to snowballing technique, though at a small scale. Semi structured interviews were carried out with eight respondents - two farmers under conventional system, two farmers under fair-trade regime, one buyer/processor/exporter of conventional harvest, one buyer/processor/exporter of fair-trade harvest, a fair-trade importer, a field staff of fair-trade certification agency.

To make the information as correct as possible blank process flow diagrams were used to capture step by step activities that are perceived to happen at each known point from the farm to the consumers. A repeat second round was conducted on the sheet filled in first round to have concurrent information. The whole process led to a set of eight process charts from eight respondents – three charts in context of conventional system and five charts in context of fair-trade chain. This information was then aggregated through triangulation into two commodity chains depicting Conventional and fair-trade working as given in Figures 5 and 6.

Figure 5 Basmati chain: conventional (see online version for colours)

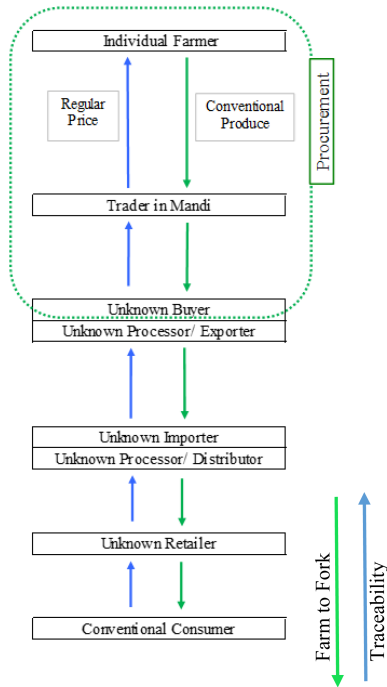
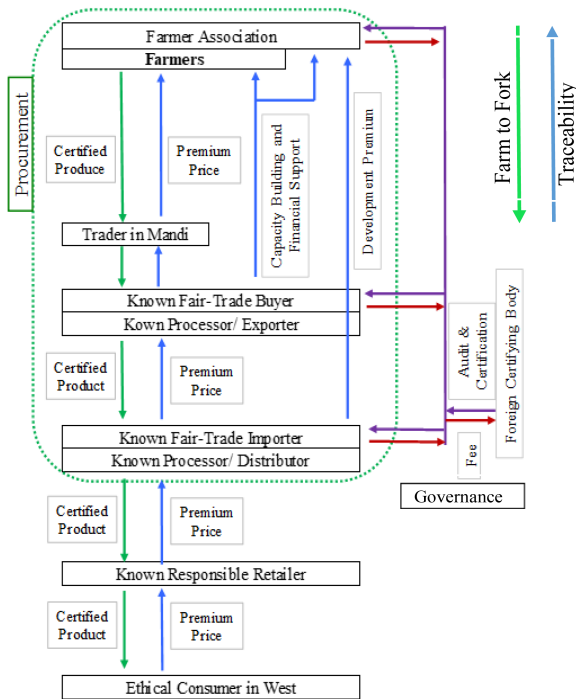


Figure 6 Basmati chain: fair-trade (see online version for colours)



In line with the observations made by Sharma (2012) and Punjabi (2015), the Conventional basmati chain reflected disparate entities with the domain of procurement limited to a buy-sell activity of a conventional produce for a regular price effected between individual farmer and a trader in mandi (the local grain yards). The trader acts on behest of buyers usually unknown to farmers and the subsequent commodity chain is virtually untraceable and therefore in Figure 5, the flow arrows after trader just represent some transaction happening with no details. The aspects of collusion between traders to manipulate the prices etc., as indicated by Goyal (2010), Prashant (2010) and Sharma and Pillaiyar (2011) cannot be demonstrated in the Figure 5 as the concerned entities (excluding farmers) would not accept it in their expressions.

The fair-trade chain on the other hand represents greater traceability as each node knows about the subsequent commodity chain and therefore depicted through 'known' buyer/processor, 'known' importer etc., unlike in conventional chain where they are unknown. Accordingly, the arrows also detail the kind of transaction happening between them. Noticeably, the certifying body and its inputs at various levels are also represented. It is important to notice that arrows represent various interventions (like development premium) which may flow through or bypass an intermediate node and directly bridge importer and the farmers, which is impossible in conventional chain as there is no traceability of the chain.

The outer dotted box in both conventional and fair-trade chain notionally show the expanse of procurement. In conventional chain it gets restricted to simple buy-sell activity where a farmer may not even be aware of exact details of the buyer since everything is handled by agent who actually is responsible to make payment to the farmer. The fair-trade chain on the other hand highlights a greater cohesive mechanism whereby besides the flow of payment of fairer price, there are also other interventions like capacity building and flowing in to farmers from the known fair-trade buyers, processors, exporters and importers. There are also supporting compliance to standards activities coming from third party agencies like a certification body. The fair-trade chain therefore projects itself as an integrated procurement with multiple entities in the downward commodity chain effecting their interventions on premium price (above the going market rate) for certified produce of the farmers. Along with price premium going to the individual farmer, there is also social development premium (or fund) that goes to the farmers' consortium to build shared assets of farm equipment or development activities in their society or village. An international certification agency develops the standards to be followed by the farmers, buyers and importers and then implement audit and certification against a fee. The whole commodity chain with entrenched procurement can actually be traced by virtue of the procedures to be followed.

5.3 Qualitative survey of farmers

Qualitative expressions of farmers under conventional and fair-trade systems were captured through structured interview with farmers towards critical strengths and weaknesses of the respective systems they follow, suggestions for possible improvements and also core reasons for their continuing with their respective systems. Their expressions were segregated on the basis of synergy with most relevant sustainability dimension and similarity of words used or the context and percentages were calculated to allow focus on vital aspects. The assimilation of these qualitative expressions is given in Table 1.

Table 1 Assimilation of qualitative expressions

<i>Conventional</i>			<i>Fair-trade</i>		
	<i>Response %</i>	<i>Relevant dimension</i>		<i>Response %</i>	<i>Relevant dimension</i>
Critical strengths			Critical strengths		
• Reasonable income	32%	Eco	• Harvest stability	78%	Eco
• Old relations	27%	Gov	• Income stability	66%	Eco
Critical weaknesses			• More confidence	69%	Soc
• Price fluctuation	73%	Eco	• Group solidarity	68%	Soc
• Increasing costs	69%	Eco	• Natural inputs	88%	Env
• Inconsistent/ decreasing harvest	59%	Eco	• Soil fertility	72%	Env
• No social status	36%	Soc	• Training and certification	86%	Gov
• Reducing soil fertility	53%	Env	• Less dependence on arti	70%	Gov
• More pesticides/ fertiliser usage	45%	Env	• Financial support	58%	Gov
• No help and support	66%	Gov	• No trust in mandi	76%	Gov
• Price fluctuation	35%	Eco	Critical weaknesses		
Suggestions for improvement			• Increasing costs	38%	Eco
• Cheaper inputs	81%	Eco	• Certification fee	74%	Gov
• Farmer grouping/help	53%	Soc	• Procedures	41%	Gov
• Protest	21%	Soc	Suggestions for improvement		
• Better pesticides and fertilisers	37%	Env	• Reduce certification fee	73%	Gov
• Better price	88%	Gov	• Better price	61%	Gov
• Support farmer needs	79%	Gov	• Increase social premium	58%	Gov
• Financial help	75%	Gov	Reasons for continuing		
Reasons for continuing			• Income stability	72%	Eco
• Income source	65%	Eco	• Group solidarity and learning	62%	Soc
• No alternative	81%	Gov	• Doing something for society	35%	Soc
			• Soil fertility	75%	Env
			• Natural inputs/no poisons	53%	Env
			• Hope of better future	82%	Gov
			• Trust in system	76%	Gov
			• Certification	74%	Gov

While majority of the conventional farmers did not communicate any strength, about one third mentioned reasonable income and old relations as the strengths. On the other hand, the fair-trade farmers, overwhelmingly mentioned multiple strengths like stability of harvest and income, greater confidence in their capacities, solidarity and help amongst group members, safe quality food for society, natural inputs of fertilisers and pesticides, soil fertility, certification and training, less dependence on aarti as well as financial support. As main expressions Natural inputs, Training & certification and Harvest stability were strong factors expressed by around or over 80% of fair-trade farmers. Group solidarity, less dependence on aartis (mandi agents) and more confidence emerged as strength factors expressed by 70% of farmers.

Corroborating the above, in context of expression on weaknesses, about 70% conventional farmers expressed fluctuating prices, increasing costs and no trust in mandi (meaning the current system with commission agents) as the weakness factor along with others like no help or support. Interestingly, though in varied percentages, price fluctuation and increasing costs were mentioned as weakness in their respective systems by both type of farmers. The fair-trade farmers indicated certification fee to be biggest weakness, whereas the conventional farmers also mentioned no social status, increased usage of fertilisers and pesticides as well as reducing fertility as other weaknesses induced by the system.

For reasons to continue in their respective systems, the conventional farmers were candid and critical in same breath in communicating no other alternative available to switch on their own. For fair-trade farmers some of the expressions were repetitive of the strengths expressed before like harvest and income stability, group solidarity, certification and soil fertility. Besides this, they were also overwhelmingly expressive on reasons like trust in the system, hope for a better future and also doing something for the society.

The suggestions for improvements from fair-trade farmers were limited to reduction in certification fee, increasing price and social development premium. On the other hand, more than 70% of the conventional farmers suggested diverse actions like increasing the price, cheaper inputs, provision of support for financial and other needs. Farmer grouping and better pesticides and fertilisers were other minor suggestions. Surprisingly, the conventional farmers also expressed intriguing suggestions like protests. Such expressions by farmers indicate the helplessness our farmers feel and that point towards the flaws that exist in the conventional procurement systems in our country.

The suggestions from the farmers corroborated with another study done by authors that established significant difference between conventional and fair-trade farmers on economic, social, environmental and governance dimensions of sustainability with Support and Transparency aspects of the Governance dimensions as genuine base to plan the initial activities and actions towards improvement (Sharma et al., 2018). This reasoning was also reflected by Eastaway (2012) when he endorsed that besides the usual focus on theoretical frameworks and descriptive analysis, sustainability related research shall give extreme importance to normative perspective about how to achieve it and this inherently require greater focus on implementation and policy aspects. Raggamby and Rubik (2012) had also stressed upon the ease of operationalisation of sustainability initiatives for success, while Ali (2013) had stressed to focus on elements of progress that would find ease in implementation and acceptance.

The farmers' expressions are genuine reflections of the reality at ground and can be utilised towards developing a sustainable procurement framework for Basmati.

Expressions of better price and no trust in mandi procedures and aartis are synergetic to the transparency aspects. Similarly, expressions relating to training, helping farmer needs, financial help and certification relate to support aspects. It is imperative to mention that certifications are inter linked to standards, and expressions about natural inputs, soil fertility and even grouping are in turn based on requirements under standards. Another important expression by conventional farmers has been lack of any alternative or information. This induces the importance of awareness. Similarly, expressions of high certification fee by fair-trade farmers calls for a thought process about a subsidised or free certification possibility which can possibly come through an Indian authority which shall act as a nodal body for Indian equivalent or alternative for the existing international fair-trade standards and certification. Table 2 elaborates the assimilation of Main (Most Vital) Expressions of farmers and the corresponding actions or changes suggested in the existing framework.

Table 2 Main farmers' expressions and corresponding suggested actions

<i>Qualitative expressions (main)</i>		<i>Suggested action/change</i>	<i>***</i>
No trust in agents /mandi procedures	→	Mandi facilitation, agents abolished dedicated mandis for certified procurement at farm option	A1
High certification fee	→	Indian certifying body no fee to farmers	A2
No alternative farmer grouping	→	Awareness and incentive	A3
Price fluctuations increasing costs	→	Recommended price premium	A4
High pesticides and fertiliser usage no help and support	→	Capacity building support to individual farmers as well as organised farmer groups	A5
Financial help requirement	→	Financial support	A6

Note: ***Action numbers A1–A6 are depicted on the proposed framework for ready reference.

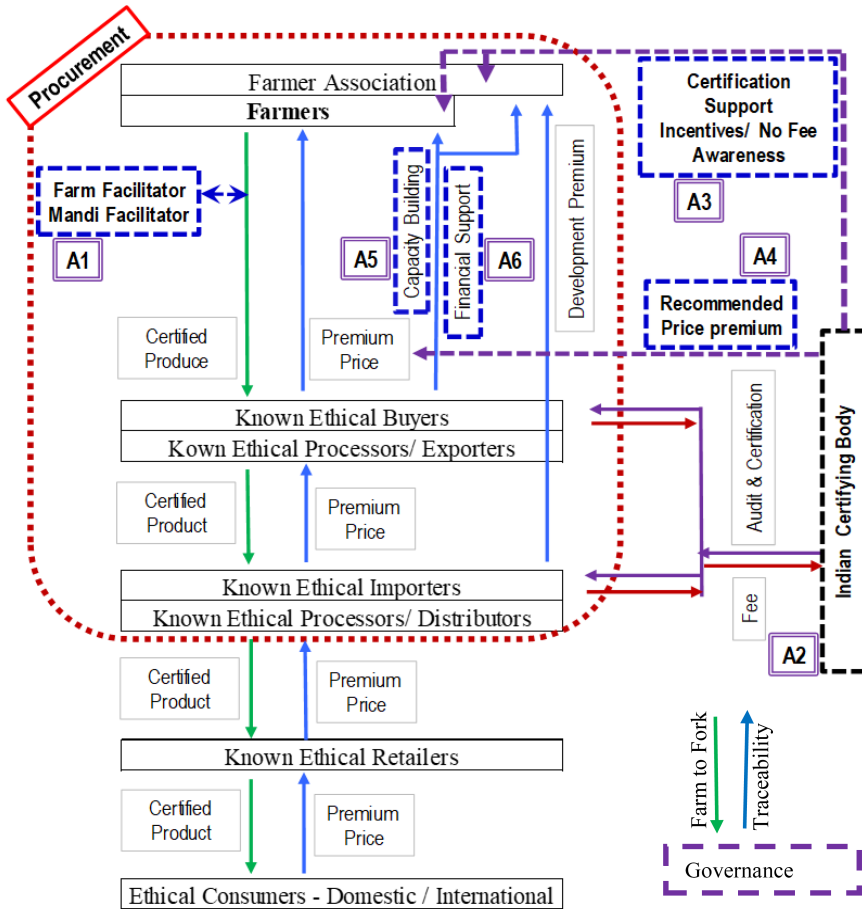
5.4 Sustainable procurement framework

Incorporating the above points and based on the current conventional and fair-trade procurement and commodity chain as described in Figure 5 and Figure 6 before, along with the suggested improvements, the following framework for sustainable procurement of basmati rice for Haryana farmers is proposed:

The proposed framework reflects procurement process intertwined with the commodity chain with transactions, relationships and interventions stretching beyond the usual farmer-buyer relation under conventional system. The dotted lines and boxes represent the change, addition or modifications cover the existing frameworks earlier charted in Figures 5 and 6 and corresponding to points A1–A6 described in Table 2. While the certified produce flows from individual farmer to known responsible buyers and/or processors and/or exporters and eventually reaching ethical consumers through ethical importers and retailers, consumers are willing to pay premium price that trickle down to farmers through the buyers. In addition, the stakeholders on lower side of chain also provide financial and non-financial support to the farmers as well as farmer consortium or association to undertake social and environment activities. The traceability of produce from farm to fork keeps the stakeholders integrated and allow multiple

interventions at multiple and from various stakeholders in the whole commodity chain unlike in conventional system where the only interaction is between farmers and traders.

Figure 7 Proposed sustainable basmati rice procurement framework (see online version for colours)



The facilitation for farmers can happen at mandi level or at farm level through government facilitators and not private agents. Under the proposed framework, the mandi agents or aartis are abolished. Instead there can be facilitators that can expedite the process in designated mandis for fair-trade products or even at farm level.

An Indian fair-trade (or an alternative name) certifying body can be established that shall spearhead the implementation regime in terms of standards, audits, certification and control. The certification body shall not charge any fee from the farmers as is currently the case in fair-trade system. The certifying body's field extension wing shall also be responsible for generating awareness about the new sustainable procurement alternative to the farmers and shall encourage farmers to get more organised and grouped preferable at individual village level for greater effectiveness. While the communications can be with farmer group or association, the certification related to fair-trade shall be provided individually to each farmer, thereby providing flexibility to the farmer to work

independently or even under another farmer group as well. The certifying body shall also recommend a price premium as a percentage of ongoing market price for conventional produce. It is then for the fair-trade buyers and sellers (individual farmers or farmer groups) to agree for the transaction at their mutually negotiated premium prices corresponding to quality. The farmers and buyers are also free to get into any form of contract farming where the premium on price is ensured.

In addition to the details directly depicted in the proposed framework, additional aspects also hold relevance to induce comprehensive and effective implementation. The organisation of farmers in some effective form is inherent for solidarity, sharing resources and even bargaining. It would be more practical if farmer grouping is promoted and effected by ethical buyer groups as well as government agencies through awareness and incentives. Facilitation of procurement may be effected through current mandis during the transition phase before taking shape of separate mandis or facilitation centres that shall handle only certified farmers and buyers. Direct procurement from farm can also be allowed if the buyer is giving pre-set premium to the farmers than the prevailing price for that day in mandi for conventional basmati. Indian equivalent of international fair-trade certification will help extending the concept in the domestic market and perhaps also expand to other potential buyers in other developing countries. On international front, this Indian certification can be negotiated to be valid and acceptable to achieve market expansion.

By default, agricultural policy in India has been based on numerous subsidies, and therefore, providing a free certification to interested farmers as well as greater subsidies for organic fertilisers and pesticides and even other inputs like organic seeds can be induced. This can motivate farmers to change their farming practices and provide a systematic approach towards bringing change. Support can be provided at individual as well as farmer group to effect capacity building towards crop protection, cleaner farming methods, increasing productivity and efficiencies, entrepreneurial capacity towards activity diversification of activities as well as farmer consortiums to graduate to take shape of organisation that can handle trade, sell and export even through outsourced processing.

Generating awareness amongst farmers about these alternative procurement possibilities shall also be high on policy to induce and facilitate the movement of farmers towards the proposed new model. The activities and documentation at mandi level or the proposed facilitation centres can also shall be made digital that can be effected through smart phones apps in line with the digital India initiative of the prime minister. This will further reduce costs, increase efficiency and bring basmati and agri-procurement under the realms of 'Digital India' initiative by the government.

6 Conclusions

The continued plight of our farmers, point towards unsustainable current procurement mechanism under APMC act which restricts farmers' access only up to the designated agents in the mandi, with minimal traceability as to where the produce is eventually moving. Alternative mechanisms like fair-trade makes procurement an integral part of the overall supply chain linking farmers' produce with ethical consumers. This interconnectedness and traceability of supply chain, make possible various interventions to flow from entities on the lower side of supply chain to the farmers and therefore can

play a part towards improving the sustainability aspects at rural grass root level. An alternate mechanism like fair-trade is not very prevalent in India yet but the limited endeavours that have taken shape in past decade point towards a beacon of success with its due modifications to suit Indian realities.

This research article has tried to trace the basmati agri-chain from farm to fork under conventional and fair-trade systems and then made an endeavour to suggest a more effective framework of sustainable procurement that is intertwined with the supply chain and that can make various interventions possible to improve sustainability at grass root level. The improvements or specific changes have been made based on qualitative inputs from conventional and fair-trade group of farmers. The improvised sustainable procurement system for Basmati rice for Haryana farmers for national and international markets is proposed by assessing the vital elements, focussing on ease of implementation as well as acceptance from policy perspective, by diminishing the weaknesses in current main stream conventional system and incorporating elements that will enhance the contribution towards economic upliftment of marginalised farmers, improving social equity and responsibility and decreasing the environmental damage thereby enhancing the contribution towards sustainability.

This research paper based on comparing the procurement under conventional and fair-trade mechanisms is restricted to Basmati procurement in one district of India. The findings, therefore, need to be further corroborated through future research on bigger sample sizes and also procurement of other agri-commodities. Resource constraints during this study had a limiting effect on the extent and scope of this research effort but this study definitely shall find a meaningful application in context of other crops and other geographical locations. The study contributes towards developing sustainable framework for procurement of Basmati rice finding ways of increasing the contribution towards sustainability in agro commodities, by highlighting the vital factors that can pave way from improvement from current conventional systems which is weaker on sustainability aspects. Proposed sustainable framework for procurement needs to be tested before adaptation.

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