

REPORT ON PARTICIPATORY MARKET CHAN ANALYSIS IN THE ZIMBABWE GUAR INDUSTRY: EXPERIENCES AND LESSONS

1. Background

Guar is a drought tolerant legume that grows well in semi-arid areas. The crop can be successfully grown in areas receiving 500-700mm of rain per year and yield 1.5 to 2.5 tons per hectare. At present, India and Pakistan are the leading world producers, processors and exporters of the crop.

Efforts to promote production of guar bean in Zimbabwe started in the 1990s when the Department of Agricultural Research and Extension (AREX) embarked on research to assess the potential for production of guar bean in the South Eastern lowveld of Zimbabwe. The work was concentrated around Chiredzi and Chisumbabje Research Stations. Research focused on determination of cultivars that are disease resistant and can give high yields. Serious efforts to promote production of guar bean by smallholder farmers however started in 1998 when Bindura Nickel Corporation (BNC) approached AREX to assist in mobilisation, training and provision of extension support to smallholders farmers in semi-arid parts of Mashonaland Central Province to participate in the production of the crop. BNC was interested in getting at least 1,800 tons of guar bean produced locally to meet its annual requirements for guar powder. Guar powder is a key input used by BNC as a depressant in the floatation of nickel.

A large number of smallscale farmers in the Zambezi Valley of Mashonaland Central Province and provision of extension support to farmers in the Zambezi Valley to encourage take up the production of guar bean as an alternative cash crop. Although a large number of farmers were mobilised to participate in the production of guar bean, little progress was made in terms of production. Only 15 and 20 tons of guar were produced and sold to BNC by smallholder farmers in 1998 and 1999 respectively. It was because of the slow progress that BNC approached Practical Action in early 2000 to participate in the mobilisation, training and provision of extension support to farmers to grow guar as a cash crop in rotation with cotton, another major cash crop grown in the area.

During the 2000/01 season (first year of Practical Action involvement in the project), 2,500 farmers were mobilised and 800ha were planted with guar bean. Yields were however low averaging 500kg per hectare. A total of 400 tons of guar were produced and sold to BNC. Encouraged by the large increase in production, BNC must have made the wrong conclusion that smallholder farmers can take any price offered. Instead of increasing or at least maintaining the price paid of Z\$19/kg paid in the previous season, the price paid to farmers was reduced to Z\$15/kg. BNC justified this reduction on the existence of guar bean glut on world markets and falling international price for the crop. This decision proved catastrophic for the project. The number of farmers participating in the project fell rapidly from 2,500 to around 1,000 by 2004/05. At the same time,

production of guar fell from 400 tons to 130 tons in the 2004/05 season. It was evident from this experience that some urgent intervention as required to restore confidence among farmers and retain their interest to continue to participate in the production as a cash crop. Participatory Market Chain Analysis (PMCA) project was developed and implemented as a response to this challenge. Given the huge logistical and resource challenges that had been encountered over the last four seasons, it was decided to focus effort on two areas in Guruve and Rushinga districts. The areas were selected on the following criteria:

- farmers had shown the highest interest to increase quantity and quality of guar produced over the last four seasons;
- local leaders were in the forefront of encouraging farmers to participate in the production of guar bean as an alternative cash crop;
- women farmers found guar bean to be an attractive crop to grow that competed favourably with alternatives like cotton;
- in addition growing guar bean as a cash crop, farmers were already taking a lead in assessing the potential of using green guar bean leaves as a vegetable and guar stover as a livestock feed.

A total of 500 farmers were selected to participate in the PMCA project. 80% of the farmers are women. It was explained to participating farmers that the focus of the project would be on raising the incomes and decision making status of women farmers involved in the production and sale of guar bean. It was also made clear that Practical Action would facilitate the development of trust and collaboration among the farmers and between farmers and other actors in the guar bean market chain, especially buyers. The extent to which relationship would improve and incomes for farmers would increase would however entirely depend on the efforts of the farmers and other actors in the chain.

2. Guar bean market in Zimbabwe

Following the problems encountered by BNC in its attempt to buy guar bean direct from farmers, the organisation decided to stop purchase of guar bean in 2003. It however indicated that it would remain as a market for processed guar powder. Agriseeds, a local seed production and marketing company, decided to fill the gap left by the withdrawal of BNC. Agriseeds has been buying all guar bean produced by farmers since 2003/04 season. At present, Agriseeds provides the only channel of demand for all guar bean produced in Zimbabwe. It buys and exports the raw guar bean bought. The product sector is characterised by only one channel of market demand through a major buyer (Agriseeds) who buy guar bean to South Africa or Malawi where it is processed into guar splits and powder and then re-exported to Zimbabwe to meet the needs of the local mining industry. Agriseeds is keen to set up a local guar processing plant if at least 500 tons are produced annually which would make the plant economically and financially viable.

There are two other potential demand channels for the crop in Zimbabwe. These

are food processing and livestock feeds manufacturing companies. Both channels have not been exploited due to inadequate quantities that are currently being produced and supplied.

3. Sources of information for PMCA activities

The PMCA results presented in this report are derived from various sources of information. These include:

- Guar bean market study which was done conducted in 2004 by Practical Action and ICC.
- Previous reviews on guar project involving stakeholders which provide insights into problems, constraints and opportunities faced by players in the guar industry.
- Study by the Australian Rural Industries and Development Corporation on “Value Chain and Market Analysis for the Australian Guar Industry” conducted in November 2004.
- Meetings and workshops with stakeholders and main actors in the guar market chain in Zimbabwe.

4. PMCA in action and results

3.1 Preliminary mapping

A key challenge faced by facilitators of PMCA interventions is to earn respect and credibility from producers and other market chain actors. To a large extent, both producers and other market chain actors are only keen to participate if they are reasonably convinced that such participation will bring about meaningful change to their livelihoods. In the case of guar bean, the two key players in the chain are smallholder farmers and Agriseeds, the buyer of the crop. Smallholder farmers are principally interested in earning increased incomes from the sale of guar bean while Agriseeds is principally interested in accessing adequate quantities of good grade guar beans at an internationally competitive price.

Project staff were able to establish credibility and gain the trust and confidence of market chain actors due to four years of involvement in the guar bean sector. All the key players knew who Practical Action is and its genuine interest in promoting the establishment of a viable and sustainable guar bean sector in Zimbabwe.

Credibility in the sector was also created through collection of information on guar bean from extensive desk research. This involved reading relevant reports and documents from the library and search for information on guar bean from the internet. One of the most useful documents consulted from this process was a

report on the Australian guar Bean Industry produced by the Australian Ministry of Agriculture. The study assessed the reasons why guar bean is still a “new crop” in Australia 30 years after its introduction into the country. Many of the constraints and challenges faced by farmers and promoters in Australia are relevant to Zimbabwe and provided excellent background information.

In addition, the project team held discussions with key informants, including market chain actors (existing and potential) and service providers.

The main lessons derived from this stage of the PMCA process are on the difficulties encountered in gaining credibility from market chain actors. Credibility is not earned overnight but requires patience and time. In many cases, the information required to establish credibility from market chain actors is not easy to come by and entails research effort to acquire it. It is also paramount for the facilitator to demonstrate genuine commitment and interest in improving the livelihoods of key actors in the chain, especially producers and buyers. Such interest and commitment is best demonstrated by the effort that the facilitator has put into improvement of production and marketing of a commodity.

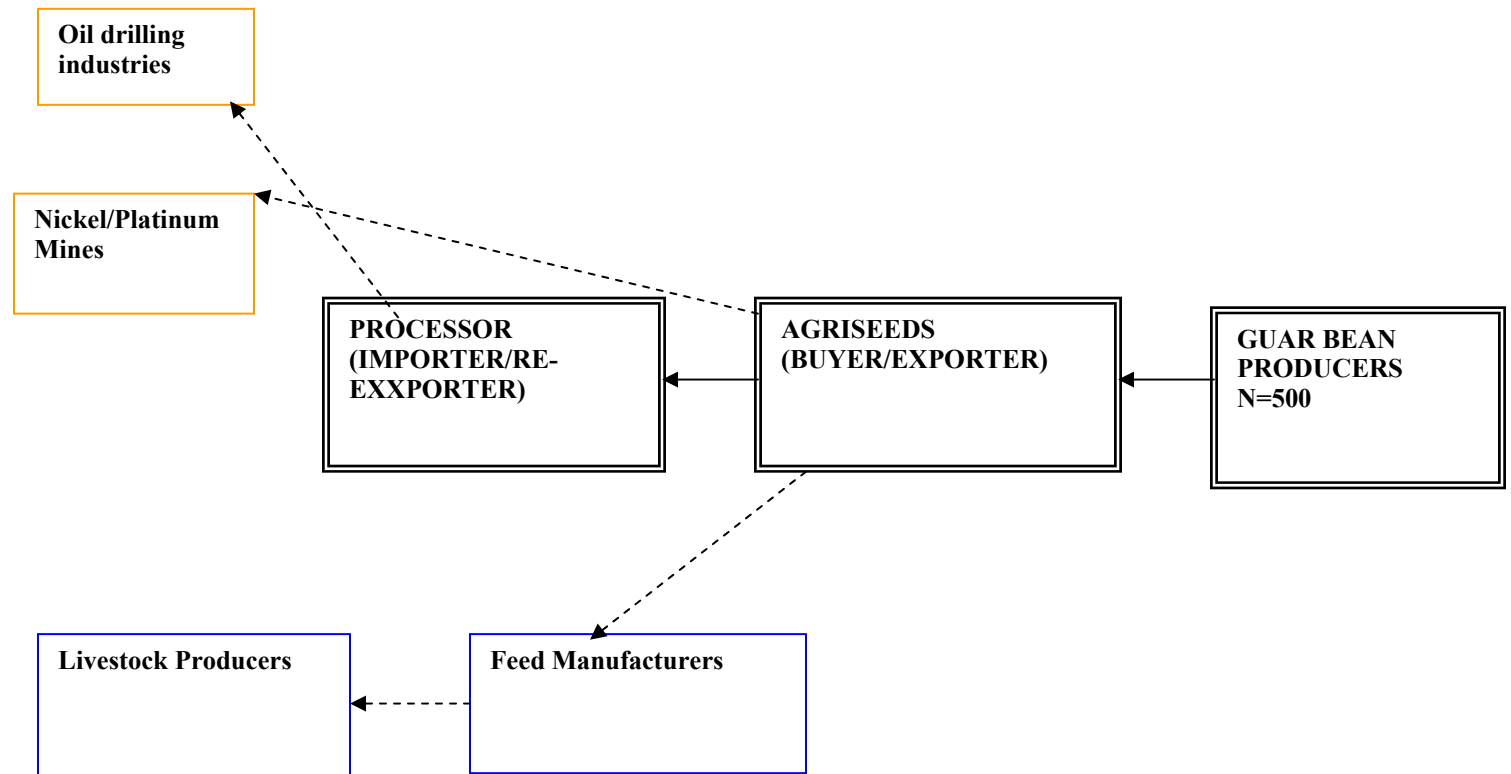
3.2 Creating the market opportunity group

Once credibility and trust from market chain actors had been gained, the next step was to organise field workshops with farmers to produce preliminary map of the guar bean sector. Two field workshops were held; one in Guruve and the other in Rushinga. The workshops provided an opportunity for farmers to raise issues that affect them in the production and marketing of guar bean and to select farmers who would represent them in the bigger workshop with other actors in the guar market chain. Lead farmers presented graphic stories on how production and utilisation of guar bean at the farm level had improved their livelihoods. For example, one woman described how the use of guar stover to feed her four cows had dramatically improved the health of her cows to the extent that the cows are now the envy of other livestock owners in the village. The good health of her cows has also enabled her to increase the land she is able to plough from 2 to 4 hectares. Personal success stories from guar bean production helped to bring farmers closer and to convince them on the greater benefits that could arise from closer collaboration.

When farmers were convinced that collaboration was in their interest, project staff facilitated discussions among farmers while the farmers took a lead in the development of the preliminary subsector map. The preliminary subsector map developed by farmers in the two districts is shown below.

Fig 1: Preliminary subsector map produced by farmers

GUAR BEAN SUB SECTOR MARKET MAP



Farmers were asked to select ten of their colleagues that would constitute the market opportunity group (MOG). The MOG consisted of farmers who were going to represent other farmers in negotiations with other actors in the guar market chain to find ways of improving production and marketing of guar bean.

Farmers selected colleagues to represent them in the MOG using criteria that they discussed and agreed among themselves. These were:

- proven leadership skills;
- proven guar bean production record (farmers made it clear that they wanted to be represented in negotiations by farmers who were lead guar bean producers);
- good negotiating skills;
- Networking abilities;
- Ability to read and write and to articulate and argue issues coherently and convincingly.

To enable the meaningful negotiations and discussions to take place at the main PMCA workshop, it was agreed that each district would have ten farmers in the MOG. Thus a total of 20 farmers were selected to make up the MOG. Given the high proportion of women farmers participating in the project, 90% of those selected to make up the MOG were women.

A key challenge faced by the project team was how to ensure that the interests of poor and marginalised farmers would be represented and effectively articulated by the farmers selected to make up the MOG. There was no effective way to ensure that this was the case given the fact that farmers had discussed and agreed on the criteria among themselves. The project team suggested that at least 20% of the members of the MOG should be marginalised producers and farmers took this suggestion into consideration in the selection of members of the MOG.

It is paramount to have marginalised farmers participate in the MOG if their interests and concerns are to be taken on board in the negotiations leading to the identification of market constraints and opportunities. In future, the project team will endeavour to have proportional representation in the MOG based on output. For instance, 50% of the farmers in the MOG could be made up of farmers producing 2 tons or more, 30% producing 1-1.9 tons and 20% producing less than 1 ton.

Farmers who had been selected to sit in the MOG met the previous day to discuss and agree on the issues that they would raise in the PMCA workshop. Practical Action facilitated the preparatory meeting and assisted farmers to consider all issues affecting production and marketing of guar bean and not just focus on prices. It was evident from the discussions held by farmers during the preparatory meeting that they had acquired a high level of confidence and self organisation and were able to effectively articulate issues that affect production and marketing of guar bean. Undoubtedly, the long history of interaction between farmers and NGOs operating in the area is paying off dividends.

An indication of the willingness by farmers to invest in PMCA process was demonstrated by the decision by the Guar Bean Farmers Association (established with help from Practical Action three years ago) to allocate money to farmers in the MOG to participate in the workshop. This decision was made entirely by the farmers themselves and came as a huge surprise to project staff.

3.3 Facilitating emergence of wider interest group to support the process

The project identified several support institutions that could be involved in the PMCA workshop. Since the project team had been promoting the production and marketing of guar bean over the last four years, they had good knowledge of the institutions. The identified institutions had also built some reasonable degree of trust in the project team. The support institutions that were identified are:

- Department of Research and Extension (AREX) of the Ministry of Agriculture and Rural Development which provides training and extension support to farmers and promotes uptake of the crop.
- Henderson Research Station under the Ministry of Agriculture and Rural Development which is leading research on the utilisation of guar bean as a stock feed. Henderson is conducting research on development of guar cultivars that can produce higher yields and are more drought tolerant.
- Department of Livestock Production and Development under the Ministry of Agriculture and Rural Development which has a keen interest in the development of guar bean as a livestock feed.

An important lesson that emerged at this stage of the PMCA process was the need to take great care to prevent support institutions from usurping or dominating the agenda of issues to be discussed at the PMCA workshop. It was therefore refreshing to find out that farmers continued to decide on the issues to be discussed at the PMCA workshop even when support institutions had been brought on board. The high level of confidence acquired by farmers and the good trust that existed between all involved helped to make this happen.

3.4 Finding the “hooks” for market chain actors to participate

The next stage of the PMCA process identification of incentives or “hooks” for market chain actors to participate in the PMCA workshop. Every actor in the market chain will find it worth their time and effort to participate in the workshop if there are tangible benefits to be derived from the process.

The main hooks the team used to encourage various actors to participate in the PMCA process were as follows:

Increasing quantity of guar produced and supplied to the main buyer

Smallholder farmers and Agriseeds are keen to have a processing plant

established in Zimbabwe to add value to guar bean and increase incomes earned by farmers and Agriseeds. It will only make economic sense to establish a local processing plant if adequate quantities of guar bean (at least 500 tons) are produced locally by smallholder farmers.

Reduction of imports through local production of guar powder

Bindura Nickel Corporation (BNC) currently requires 600 tons of guar powder each year to satisfy its processing requirements. All guar powder used by BNC is imported from India. If adequate guar bean is produced locally by smallholder farmers, BNC and other local users of guar bean would save scarce foreign currency by procuring all their requirements locally.

Promotion of crop with potential to transform livelihoods of smallholder farmers in arid and semi-arid areas

Smallholder farmers who have been growing guar bean since 2000 have discovered that guar bean has many other important uses on the farm. In addition to being sold as a cash crop, guar leaves can be used a vegetable while the stover provides nutritious animal feed. The multiple uses and benefits arising from guar bean acted as strong incentive for smallholder farmers to be interested in collaborating to increase quantities produced and marketed. PMCA was looked at as great opportunity to create closer collaboration among actors in the chain and unlock the full potential of guar bean as crop to transform livelihoods of smallholder farmers living in arid and semi-arid regions.

Agriseeds is keen to have at least 500 tons of guar bean produced locally to enable it to establish a processing plant. Selling guar bean splits rather than raw guar bean will enable Agriseeds to increase its earning from USD170 to USD450 per ton. Getting more smallholder farmers to participate in production of guar bean is key increasing quantities. To demonstrate its commitment to the PMCA process, Agriseeds was represented by its marketing director at the PMCA workshop.

Four important lessons emerged at this stage of the PMCA cycle. First, in any PMCA exercise, it is critical to keep participants' expectations realistic. PMCA should not be looked at as a magic wand that will resolve problems encountered by actors in a market chain overnight. Second, the time frame for attainment of results should be kept realistic and flexible. Participants in any PMCA exercise should not expect quick results since problems by nature take time to resolve. Third, it is paramount to minimise resources spend by participants, especially time and money. If resources spend are too high, the interest to participate drops precipitously. Finally, it is important to carefully manage the "donor money pull syndrome". Interest and willingness by actors to spend their own resources to participate in PMCA should be used as a measure of commitment to the PMCA process by actors.

3.5 The PMCA workshop

This stage involved bringing actors in the guar bean market chain and other

stakeholders together in a workshop to explore opportunities and constraints and come up with an action plan to deal with opportunities and constraints. Since the market chain for guar bean is very short it was not difficult to bring the market chain actors together in one place. The challenge in this case was the very high degree of concentration in the chain, i.e. 500 smallholder farmers selling directly to one major buyer.

The main Participatory Market Chain Analysis (PMCA) workshop was held on 2 February 2006, at Mazowe Hotel. Twenty five participants were involved consisting of 22 farmers from Guruve and Rushinga districts, one Agricultural Research and Extension department (Arex) official, one Agriseeds director (production), Programme Team leader (Markets & Livelihoods) and Project Manager (Guar Project). Three organizations, Bindura Nickel Corporation, Lower Guruve Development Association and Henderson Research Station could not attend due to other commitments.

Participants reviewed what they had gone through during district consultative workshops and shared experiences in guar bean production across districts. The main outcomes of these workshops, in a summarized form, were also tabled for reflection and discussion. Preliminary market chain maps that had been produced at the district workshops were also reflected upon. This was followed by identification of gaps along the market chain through group discussions and presentation in plenary. The end product was a schematic market system for guar bean in Zimbabwe. As depicted in figure 2 below.

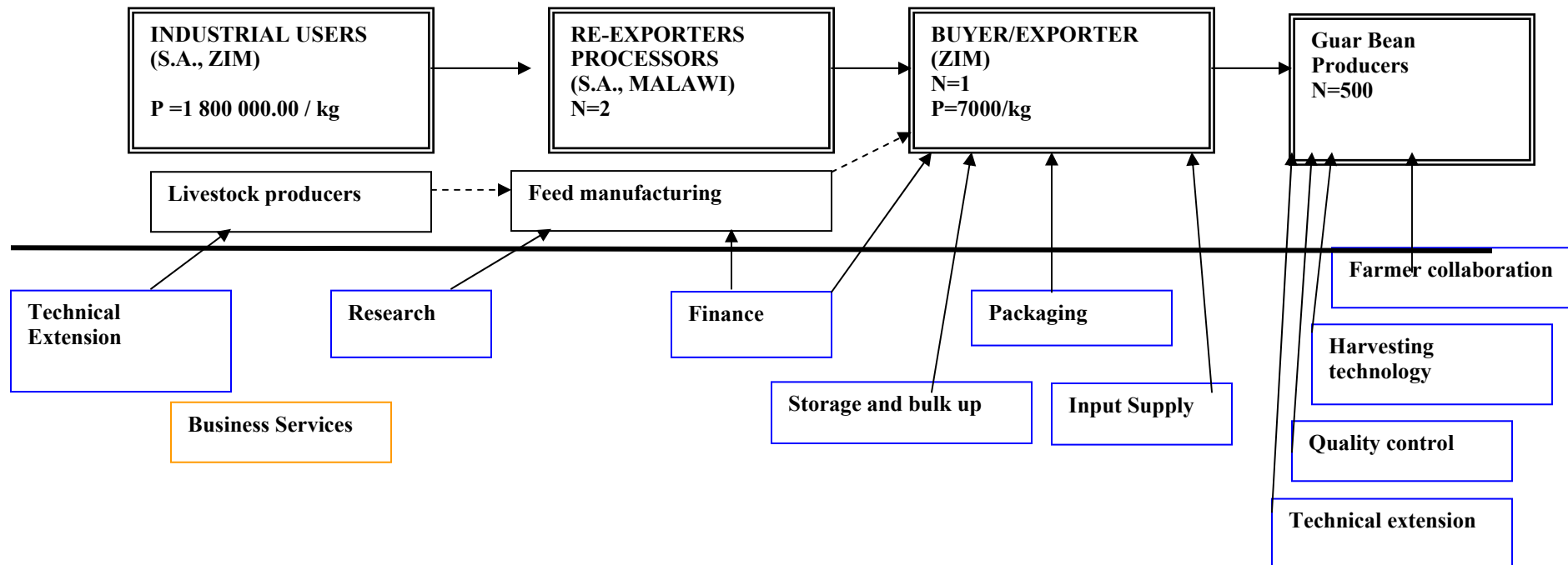
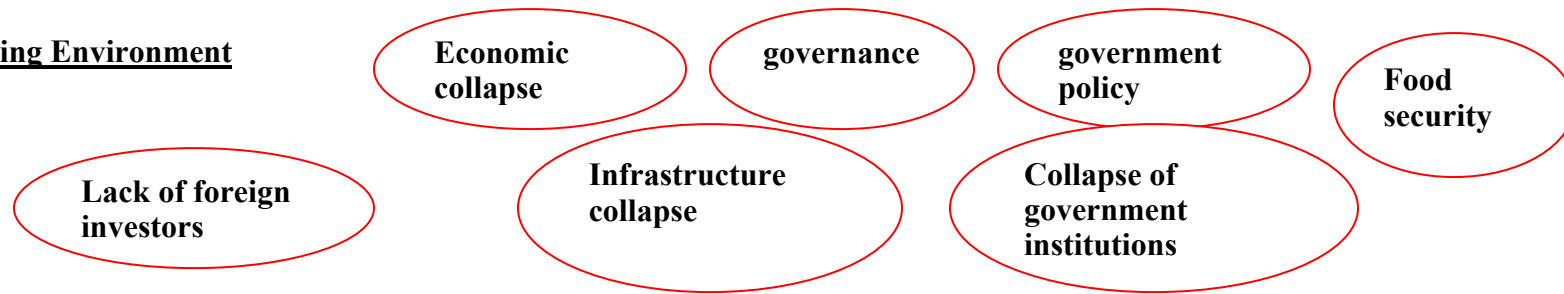
The workshop was characterised by a great deal of anticipation from all actors and an atmosphere of “give and take”. This positive attitudes to the PMCA process is attributed to the extensive preparatory work (in which expectations were managed) and to clarity about the main purpose of the workshop. It was made clear in the preparatory workshops that the purpose of the PMCA workshop was to enable actors and other stakeholders to meet and hold discussions to explore opportunities and constraints in the guar chain and come up with actions that would generate benefits for all actors in the chain.

Farmers discussed their experiences in guar bean production. One of the main issues they considered was gross margin of guar in relation to a competitor crop that they grow. As in the previous workshops they also highlighted some of the advantages of growing guar bean.

Buyer (Agriseeds) outlined the reasons why they have gone into promoting production of guar beans and cow peas and the benefits they expect to reap. The buyer outlined plans to set up a processing facility in Zimbabwe but this depends on quantity of guar produced. This is purely a profit seeking venture. Farmers are expected to deliver sufficient quality and quantities of the crops being promoted, otherwise failure to do so will result in the venture being abandoned. Transaction costs are still relatively high because of current low output from guar producing areas.

GUAR BEAN MARKET CHAIN

Enabling Environment



Guar initiative has potential to involve many other players that include input suppliers, service providers, processors, manufacturers, retailers, transporters and storage companies as shown in the market map developed by participants at the workshop (fig 2).

Agriseeds, the company that buys guar bean from farmers, is exploring the possibility of establishing a processing plant in Zimbabwe. They would like to start with a mini processing plant that can process around 500 tons of raw guar per annum. However, the expertise required to put up and operate such a facility will have to be sought outside the country.

There is research currently going on in the use of guar material in stock feeds production. Preliminary analysis revealed that guar seed contains at least 30% protein content. Research elsewhere indicated protein content in guar meal exceeds 47%.

Local growers are willing to participate in production of guar provided the marketing of guar is improved. Guar has been accepted as a vegetable for human consumption. There was consensus among producers on the need to exploit other uses of guar which include soil fertility improvement through nitrogen fixation, incorporation of guar residues in stock feeds, cover crop for shedding off weeds and use as an ingredient in baking bread for human consumption. Some farmers shared their experiences in which they successfully used guar residues in raising chicks and improving egg production. Others talked about how guar residues had improved draught power performance and the general condition of their cattle during the dry season. There is potential to export surplus guar products (semi-processed, refined) according to market study results.

The challenges faced by farmers in the production of guar bean were also identified and extensively discussed during the workshop. These include:

- Poor agronomic information
- Dirty seed and poor germination rates
- Weeding problems
- Low returns compared to other crops due to low yields and lower producer prices
- Late seed delivery by Agriseeds
- Late planting of seed
- Farmers not fully appreciating the benefits of guar at farm level
- Late buying of guar by Agriseeds
- Weighing methods leading to some farmers suspecting irregularities
- Inability to grow bigger hectares of guar due to resource constraints such as labour and draught power
- Inability to get guar harvested to one place for easy buying and collection
- Inability to give correct yield and production figures for buyer's information
- Inability to mobilize and encourage non participating farmers to participate in guar production and increase output to meet buyers requirements.

An important outcome of the workshop was the “Position Statements” produced by the farmers and the buyer.

The buyer’s position statement made the following commitments:

- Provide farmers with inputs, namely, seeds and chemicals to meet farmers planting requirements;
- Provision of inputs to farmers on time to enable farmers to produce targeted quantities of guar bean. Seed would be provided at the end of September while chemicals and fertilizers would be provided by mid November of each year.
- Establish buying points at strategic centres that are easily accessible to farmers.
- Timely buying of the guar bean to enable farmers to procure inputs for the following season.
- Payment of competitive prices (taking account of production costs and world prices).
- Set up a processing plant to add value to guar which will lead to payment of higher prices to farmers for guar bean.
- Supporting farmers to process and utilize guar stover as a livestock feed.

In their “position statement” farmers said they would:

- Deliver all guar bean produced to Agriseeds by end of August each year.
- Expand hectareage under guar to achieve total tonnage of 500 tons per year (double production last season).
- Use inputs provided by Agriseeds for the sole purpose of growing guar bean.

They produced a timetable and set out some milestones for the next season. For example, it was agreed that all inputs would be delivered to by end of November while farmers would deliver all guar produced to Agriseeds by end of August.

In general the process was characterised by a high degree of realism. However some farmers wanted more and one woman asked the buyer to introduce a heifer distribution programme to accelerate livestock production in the area. The Marketing Director of Agriseeds responded with a story about a couple entering a new relationship. He noted that in order for their relationship to succeed in the long term they need, in the short term, to take it slowly and get to know each other and build up trust until they were ready for big commitments.

Workshop participants were encouraged and empowered by the process and it was a significant step to strengthen the relationship between market chain actors and service providers, with some tangible outcomes.

Three important lessons emerged from this stage of the PMCA cycle. First, the meeting held by farmers a day before the workshop provided an important opportunity for farmers from the two project areas to share ideas and views and come up with common positions to guide discussions with the buyer. Second,

“position statements” developed and presented at the workshop played a pivotal role in building trust between farmers and the buyers. Finally, negotiations proceeded smoothly largely because all parties to the negotiations were realistic and honest with respect to expectations and what they could do to improve the market chain for guar bean. They were cognizant of the current harsh economic environment in Zimbabwe and that delivering tangible results takes time and effort.

4. PMCA as a learning process

Steps	Before	During	After
Phase 1:			
Preliminary mapping	<p>What are the sources of information?</p> <ul style="list-style-type: none"> - desk top study - one to one discussion with MC actors - mapping with producers during preliminary workshops 	<p>Farmers also contributed in the mapping process but there is need for a review to determine how illiterate participants understood the broad picture. Literature review also provided information Similar experiences in Australia were adapted to the Zimbabwe situation</p>	<p>Producers understand how the market operates and associated economic development opportunities</p>
Prepare producers (Market Opportunity Group)	<p>Current growers, potential growers Drop-outs? Will the target groups be able to spare their time for the exercise?</p>	<p>Easy to deal with current growers because they expect to benefit from the process</p>	<p>Feed back being given to producers during extension visits</p>
Establish an “interest group”	<p>Producers from each participating district were to select their representatives</p>	<p>A mixed group of farmers participated with women constituting 94%. The farmer representatives felt it was their responsibility to inform fellow farmers and community leaders about progress in guar production</p>	<p>Groups undergoing consolidation of leadership structures in response to challenges raised during PMCA activities</p>

Finding the “hook”	Producers interested in alternative uses of guar and how these can be developed. Producers were provided with cow peas as an alternative cash crop Producers would like to negotiate for better prices	Producers inquire if they were to get input support from guar buyer Buyer assures producers support as long as farmers are able to meet contractual obligations	Group leaders encouraging fellow farmers to be honest in their dealings with guar buyer in order to build lasting business relationship
Establish credibility as facilitator	Practical Action has had a good reputation in facilitating previous activities.	MC actors actively participate and freely express their views about the guar industry in Zimbabwe.	Producers looking forward to workshops and training activities done at village level for the benefit of more producers
Raise awareness amongst MC actors	Awareness to producers during field training workshops. Communication using telephone or office visit sufficient to create awareness to other MC actors Most actors involved in past project reviews and were familiar with most of the challenges	MC actors aware of developments in guar industry through their involvement in previous project reviews Current initiatives to address challenges through PMCA process revived interest in guar	Bindura Nickel Corporation (BNC) have asked for a proposal that outlines how various actors stand to benefit in R&D particularly small scale producers.
Agreement on the format for the dialogue	Conference involving key MC actors can achieve intended results	Expectations from participants were noted and an agreement established as to how issues were to be covered during the workshop process.	Effectiveness of processes to be evaluated at annual project review in April.
Phase 2:			
Workshop-ing leading to elaboration of Market Map.	Market Actors expressed interest to participate but some had tight schedules Producers had high expectations	Workshop successfully convened. Draft Market Map based on preliminary mapping done at district level. MC actors agree that the map is representative of the reality on the ground but a lot areas needed to be developed	Producers felt similar workshops should be convened at village level to encourage more producers to participate in guar bean production.
Phase 3:			

<p>Joint Action Plan produced by MC actors and interest group.</p>	<p>Way forward will be established after MC actors deliberate on constraints and opportunities</p>	<p>Guar buyer position statement expressed full support of producers provided the latter play their part. Producers willing to increase production of guar provided setbacks experienced in the past are addressed. However, buyer not elaborate on how they plan to tackle market challenges experienced in guar production which are similar to those faced by Australia.</p>	<p>Producers and buyer preparing and looking forward to a review as soon as selling of this year's harvest is completed. This will lead to development and implementation of comprehensive action plan</p>
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 April 2006