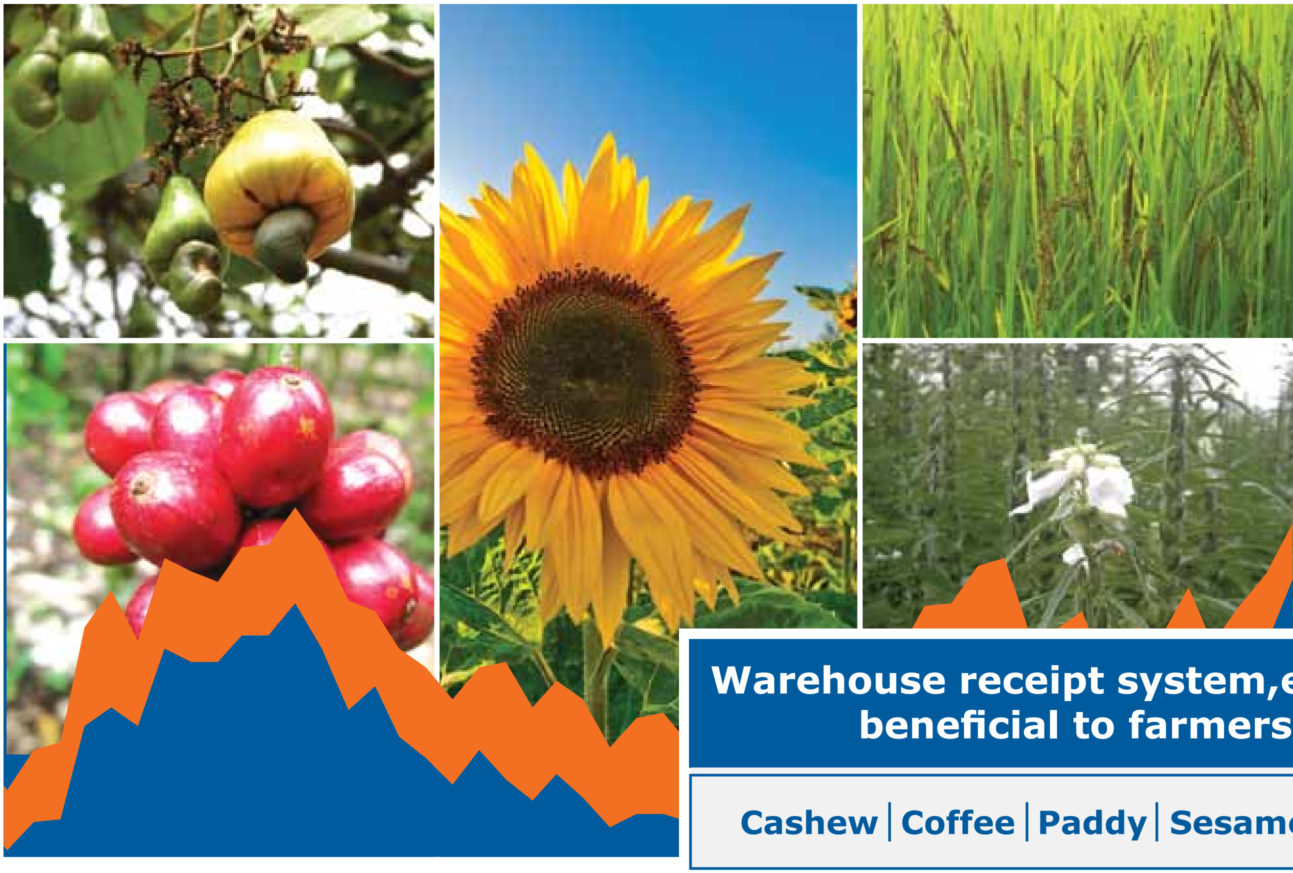
NMB



Warehouse receipt system,economically beneficial to farmers. But!

Cashew | Coffee | Paddy | Sesame | Sunflower

June 2013, Dar Es Salaam

Summary

- The warehouse receipt system is economically beneficial to farmers however key challenges per value chain limit the benefits expected from the warehouse receipt system i.e.
  i. Cashew farmers income impacted by lack of transparency as a result of closed bidding, minimum price setting and reinforcement of the same, implied use of cooperatives as a single selling channel, lack of efficient quality control mechanism
  ii. Paddy farmers and other chain actors negatively impacted by export bans, lack of sufficient storage facilities, fragmented/weak cooperative/farmer organizations, rice millers dominant relationship with farmers
  iii. Sunflower and sesame both facing shortage of sufficient storage facilities
  iv. Coffee, presence of few dominant buyers

  Also, thin coverage of warehouse licensing board and low producer understanding of tradeoffs between warehouse receipt and side/spot selling have an overall impact on limiting the benefits expected from the warehouse receipt system in all five sectors i.e. coffee, cashew, sesame, sunflower and paddy. Joint stakeholders effort at every node of the supply chain required to perfect the system
- Farmers are cash strapped particularly on early farm preparation, farm maintenance and pre-harvest stages; shylock lenders fill the gap with skyrocketing interest rates (exception exist for cashew farmers due to strong bank presence in the sector)
- Paddy and coffee farmers are better informed than other three sectors i.e. sesame, sunflower and cashew. Eventually farmers in these two subsectors get a higher share of the export price for coffee likewise wholesale price for paddy
- Coffee serves as an example of a well managed value chain under this review albeit further improvements needed to perfect existing conditions

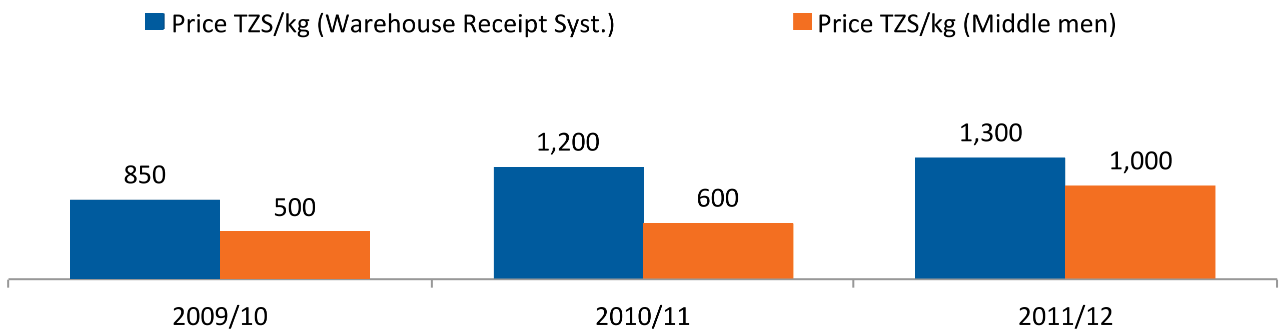
Contents

Is the warehouse receipt system economically beneficial to cashew farmers?

Cashew – Kilwa, Mtwara, Liwale, Masasi and Tandahimba

- Net earnings per kilogram through warehouse receipt system are higher by 23% to 50% compared to non warehouse receipt system subscribers. See fig 01 below
- This variation is significant but sustains briefly in a particular season. 3-5 weeks before official season start; a transition between harvest, bank financing and officially declared season start by Cashew nut Board of Tanzania as will be discussed in the next chapter on farmers sale behavior and drivers around it.

Fig 01: Average farmers net earnings per kg - Kilwa



Note:

1. Price TZS/kg (warehouse) - represents net price received by a particular farmer through warehouse receipt system after all deductions and loan repayment
2. Quoted prices represents seasonal average prices obtained from field interviews

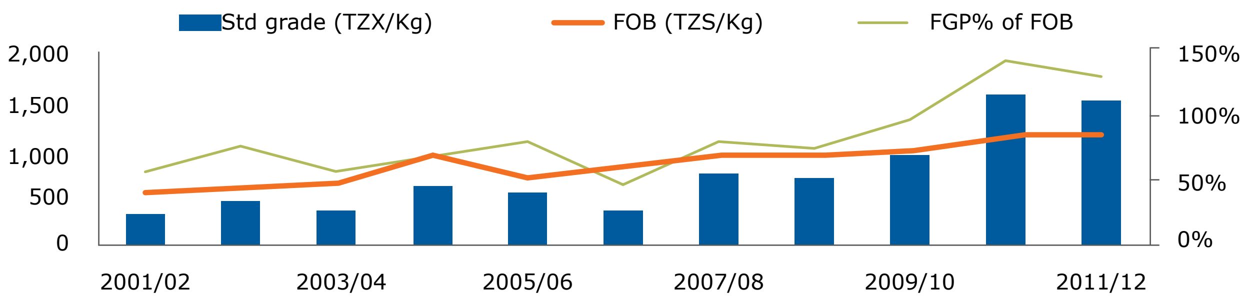
Source: Sampled NMB clients and non clients Field data, 2012

Is the warehouse receipt system economically beneficial to cashew farmers?

Cashew – Kilwa, Mtwara, Liwale, Masasi and Tandahimba

- Cashew farmers share of F.O.B price under warehouse receipt system has been over 70% since 2007; after introduction of warehouse receipt system. Similar observation made by UNCTAD, 2009 pg. 27 & 89.
- Starting season 2010/11 to 2011/12 cashew farmers share of the FOB price got abnormally higher, by over 130% contributed by lower than usual F.O.B prices . See figure 02 below
- This raises doubts if Tanzania has been able to fully exhaust benefits from raw cashew nuts export levy for 2010/11 to 2011/12 seasons

Fig 02: Raw cashew nuts farm gate prices and associated percentage share of F.O.B price-standard grade



Note:

1. FGP – Farm Gate Price as a percentage of Free on Board (FOB) price; farm gate price received by farmers prior and post introduction of the warehouse receipt system (net price received after all deductions and bank loan repayment-during warehouse receipt system)

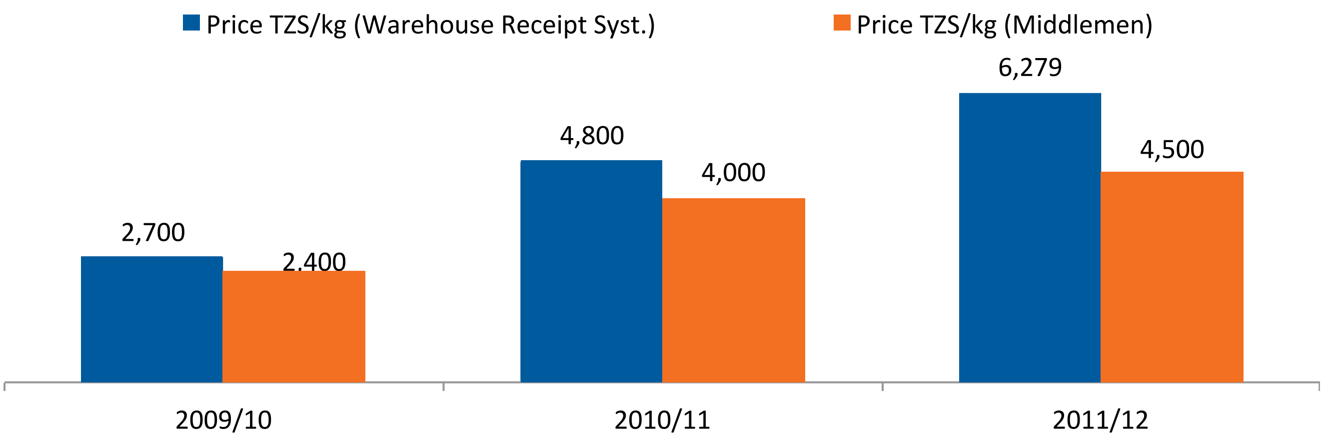
Source: TechnoServe Inc. (2005), Cashew Board of Tanzania (2012), Warehouse Licensing Board (2013)

Is the warehouse receipt system economically beneficial to coffee farmers?

Coffee – Mbozi, Mbeya

- Coffee farmers under warehouse receipt system receive higher net earnings per kg i.e. 13 – 40% compared to non-warehouse receipt system subscribers; considering seasonal average prices paid to farmers after all deductions (field data survey, 2012). See fig 03 below

Fig 03: Average farmers net earnings per kg - Mbozi



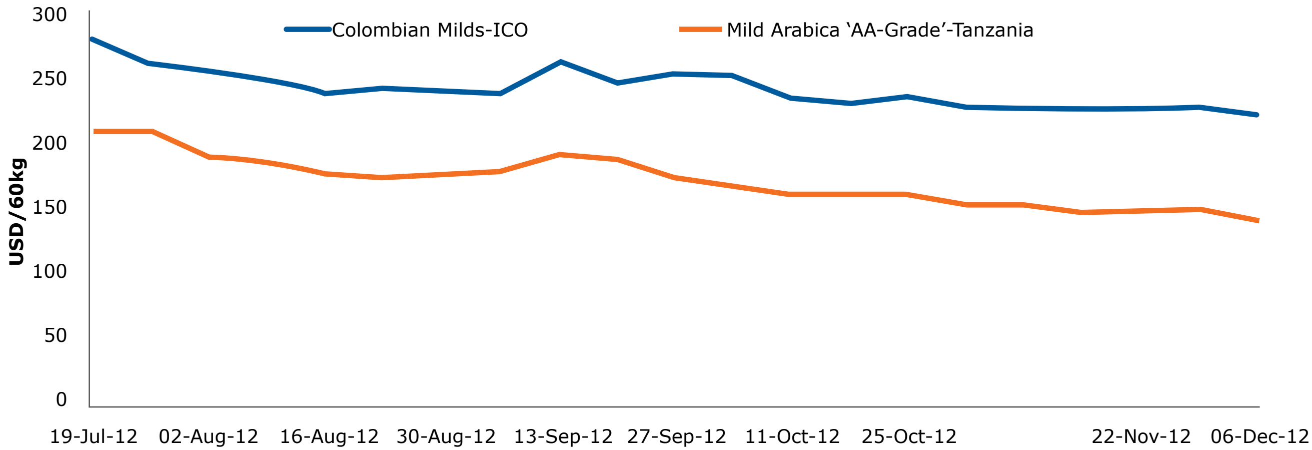
Source: sampled NMB clients and non clients Field data, 2012

Is the warehouse receipt system economically beneficial to coffee farmers?

Coffee – Mbozi, Mbeya

- **Tanzania Moshi Coffee Exchange prices correlate with world market prices,** driven by supply and demand for different coffee origins. This implies that the market is functioning well. See fig 04 below
- Coffee farmers adopting improved post harvest crop handling including the use of Central Pulping Units (CPU) stand a better chance of gaining a larger share of export prices.

Fig 04: International Coffee Organization price compared to Moshi Coffee Exchange price for top grades



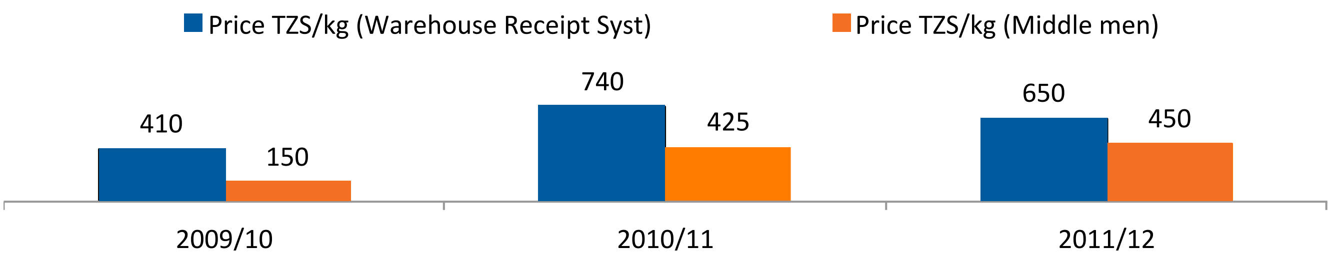
Source: ICO, 2012 and Tanzania Coffee Board, 2012

Is the warehouse receipt system economically beneficial to Sunflower farmers?

Sunflower – Singida

- Sunflower farmers net earnings per kg in the warehouse receipt system are higher by 31 to 63% compared to non-warehouse receipt subscribers (considering average seasonal prices; Field data survey, 2012). See fig 05 below
- Sunflower subsector is largely a local supply chain, the impact of world market prices to a certain extent is less felt by farmers
- However, incidences occur where large millers source their supply through the warehouse receipt system or directly from farmers mediated by crop collection agents for oil extraction meant for export market.
- Potential exists for sunflower farmers to earn more income through further value addition, further scout for better markets of their produce and introduction of policy measures to curb cheap vegetable oils imports

Fig 05: Average farmers net earnings per kg - Singida



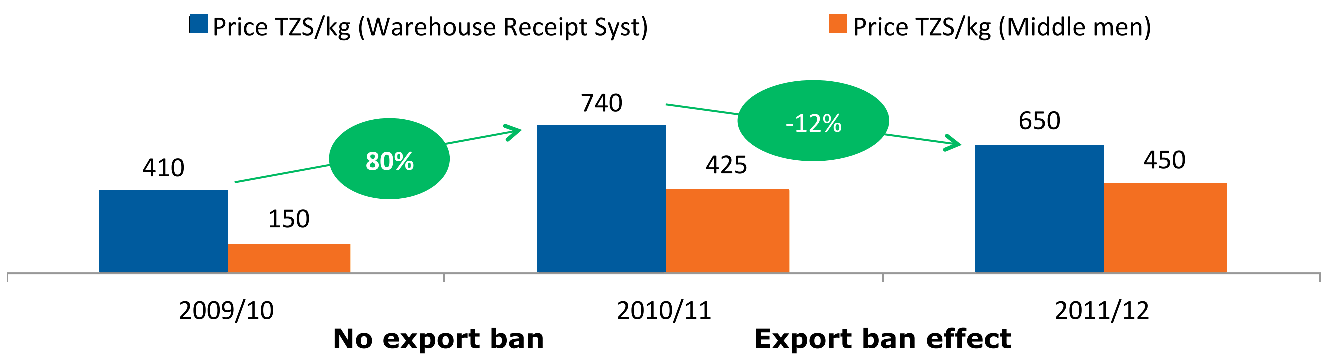
Source: sampled NMB clients and non clients Field data, 2012

Is the warehouse receipt system economically beneficial to paddy farmers?

Paddy – Ifakara

- Overall, paddy farmers subscribing to warehouse receipt system have been able to realize **at least 44% higher** net earnings per kg than non warehouse receipt subscribers.
- Cereal export bans resulted in temporally supply shocks. The net impact is usually felt by farmers and their related support services such as input suppliers where losses associated with depressed prices are felt right through their pockets. Export bans are not good for value chain actors. See fig 06 below

Fig 06: Average farmers net earnings per kg - Ifakara



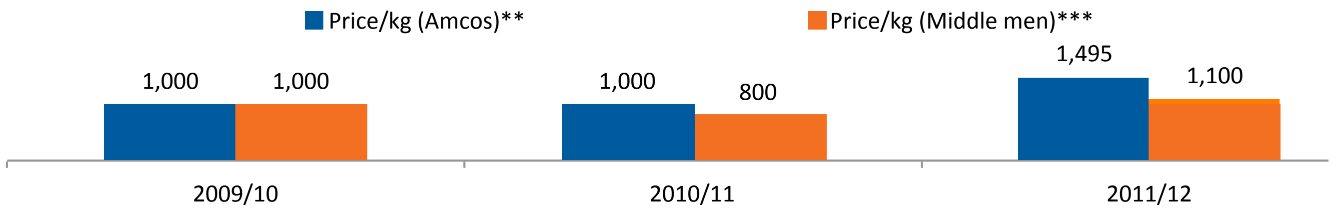
Source: sampled NMB Bank clients and sampled non clients Field data, 2012

Is the warehouse receipt system economically beneficial to farmers?

Sesame – Kilwa

- Season 2011/12 net earnings per kilogram sesame seed were higher by circa 36% for farmers who sold through their cooperatives than those who spot sold their crop. See fig 07 below
- Cooperative societies became trades/exporters collection agents largely originating from Dar es Salaam. In this relationship cooperatives would charge a trader or exporter commission for the job completed.
- 2011/12 season, sesame seed prices were higher compared to previous season; Increased demand for sesame seeds driven by increasing consumption in China and preference for African origin sesame seeds, Kilwa's close proximity to main Dar es Salaam port added upward pressure on sesame prices in Kilwa.
- Given such good market conditions for 2011/12 season; sesame farmers in Kilwa would have benefitted more if opted warehouse receipt system

Fig 07: Average farmers net earnings per kilogram sesame seed – Kilwa



Note: *** Farmers sell prematurely i.e. contracted portion of harvest before harvest to offset inputs and farm operation expenses Warehouse receipt system was not put in place in the year 2010/11 to 2011/12

** Farmers sell prematurely i.e. contracted portion of harvest before harvest to offset inputs and farm operation expenses. Payment are normally on weight measures of the crop harvested

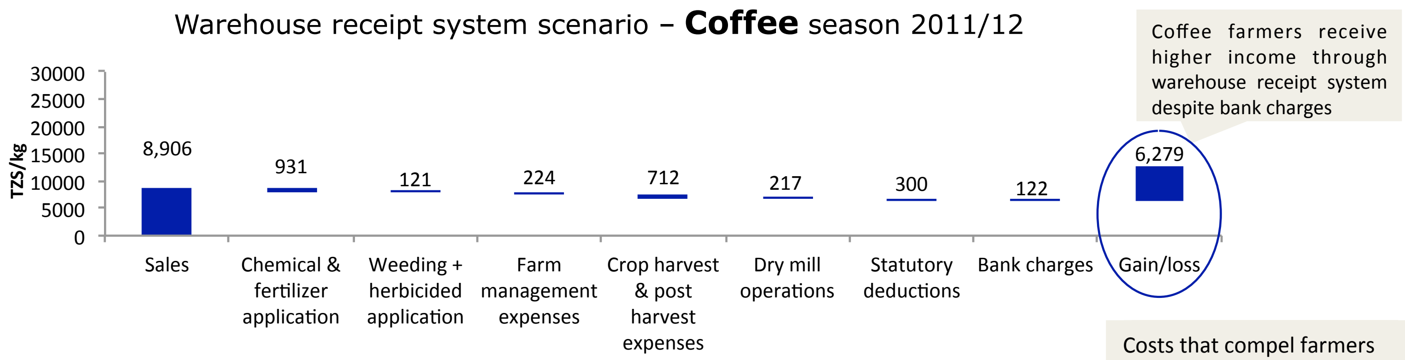
Is the warehouse receipt system economically beneficial to farmers?

Sesame – Kilwa

- In well-developed value chain sesame farmers stand to earn more income from their hard labor. Four things need to happen
  i. Cooperative societies must be funded either privately or by financial institutions
  ii. Private buyers should participate into the same market to provide competition which will enhance cooperatives competitive service delivery to farmers/members.
  iii. Farmers must get timely sesame market and price information
  iv. Enabling environment i.e. strengthening of warehouse licensing board, subsector policies and regulations , less local government interference into the value chain etc.
- Referring page 10, It is important for one to realize that both farmers who spot sold their crop and those who sold through cooperatives got their full price payments on spot; more so farmers did not bulk their crop into the approved warehouses neither waited for prices to improve
- As discussed above, market dynamics in Kilwa fueled such income variation (refer page 10) i.e. farmers who channeled their crop through cooperatives and those who spot sold their crop as a result of binding contracts with their service providers such as input providers
- Conclusion is that absence of warehouse receipt system denied sesame farmers further income increment which would have otherwise been realized through collective bargaining at the approved warehouses

Contents

Farmers are cash strapped particularly on early farm preparation activities, farm maintenance and pre-harvest stages; shylock lenders fill the gap with skyrocketing interest rates

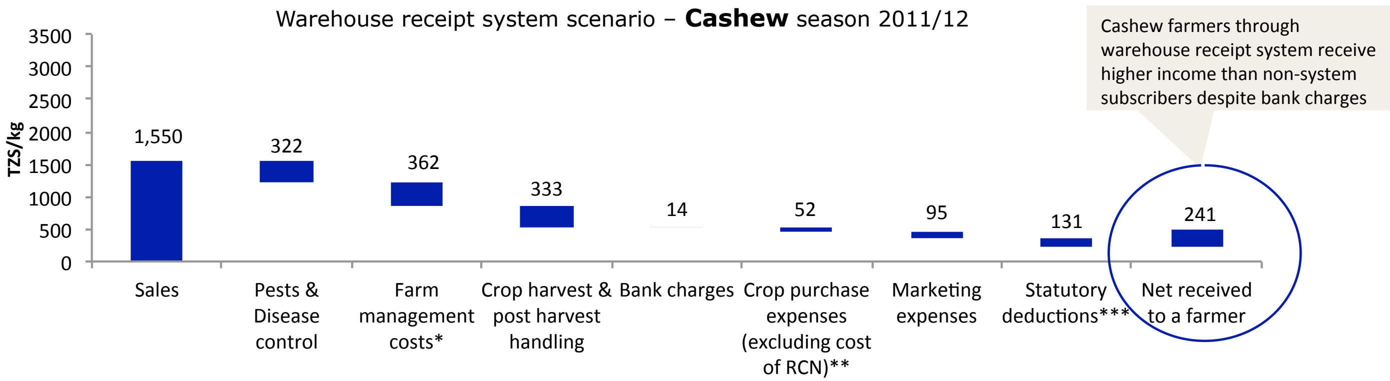


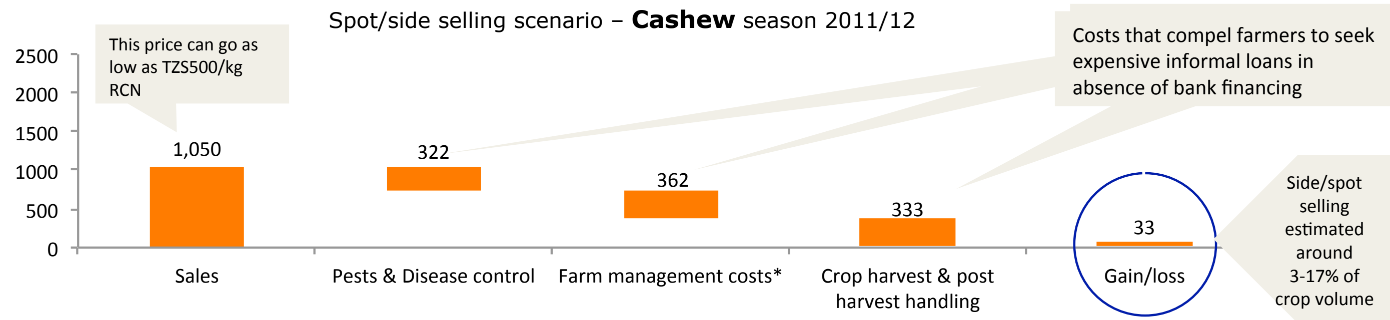
Note:

- Typically farmers would enter into formal, most times informal loan agreements with lenders at their proximity (relationship based) and pledge part of the expected harvest at a pre-agreed price (normally very low compared to market price). Loan payments usually in a form of physical crops, converted on weight measure that we have not found evidence of certification while doing this study
- Farm management - ploughing/ weeding/ring weeding/ pruning | Crop harvest & post harvest - jute bags/crop insurance/cash insurance/gunny bags distribution/cash distribution |Statutory deductions - Primary society levy/Union levy (in some areas) / District CESS(5% farm gate price)

Source: Field data survey, 2012

Farmers are cash strapped particularly on early farm preparation activities, farm maintenance and pre-harvest stages; shylock lenders fill the gap with skyrocketing interest rates



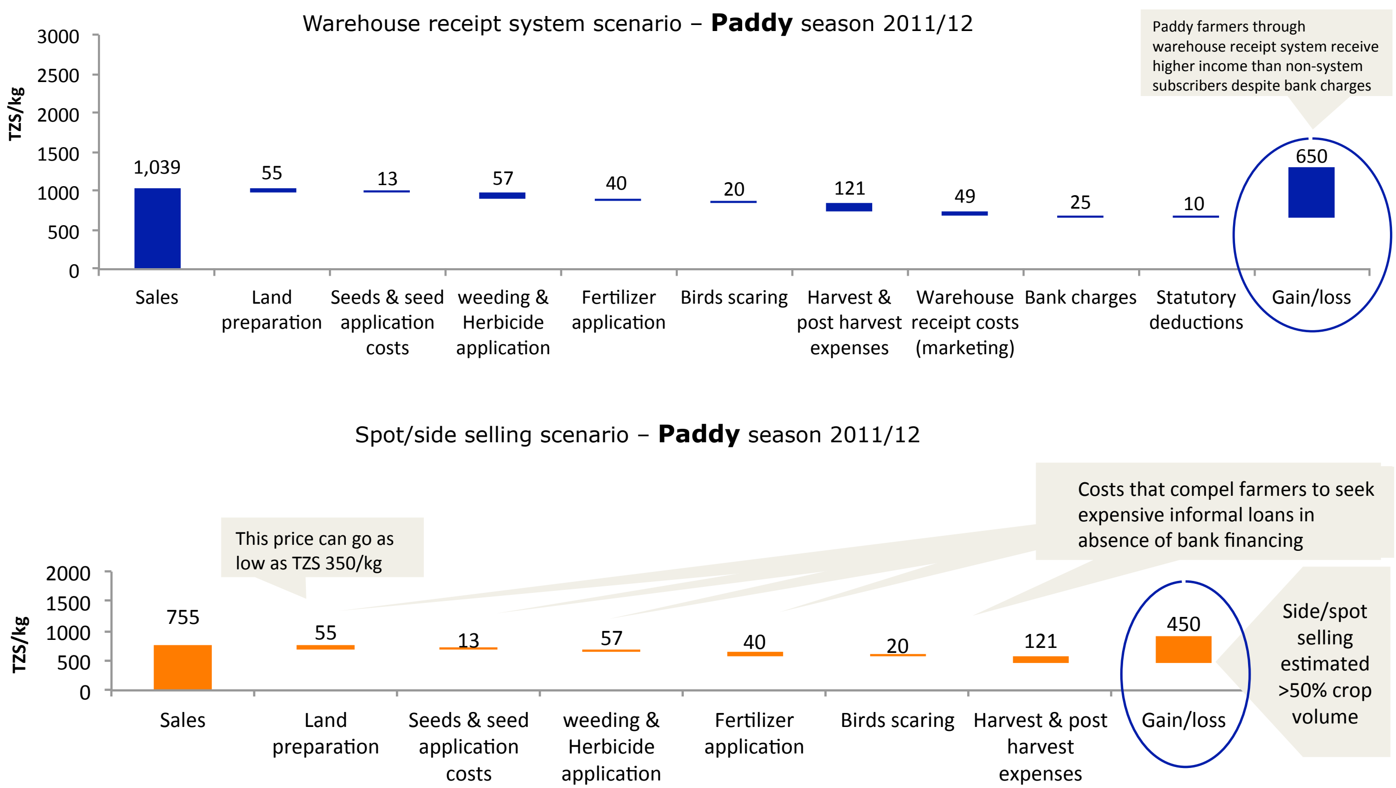


Note:

- Side/spot selling in cashew occurs briefly (i.e. 3-5 weeks) before official cashew season opening and banks financing usually around early October
- Typically farmers would enter into formal, most times informal loan agreements with lenders at their proximity (relationship based) and pledge part of the expected harvest at a pre-agreed price (normally very low compared to market price). Loan payments usually in a form of physical crops, converted on weight measure that we have not found evidence of certification while doing this study
- * ploughing/ weeding/ring weeding/ pruning | **Jute bags/crop insurance/cash insurance/gunny bags distribution/cash distribution | *** Primary society levy/Union levy/Task force fee/District CESS(5%)

Source: Field data survey, 2012

Farmers are cash strapped particularly on early farm preparation activities, farm maintenance and pre-harvest stages; shylock lenders fill the gap with skyrocketing interest rates

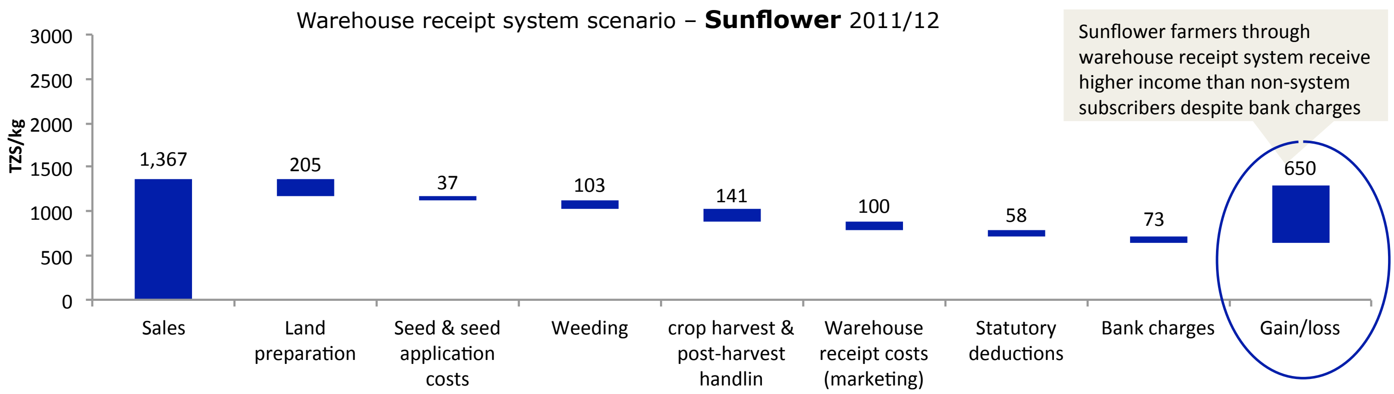


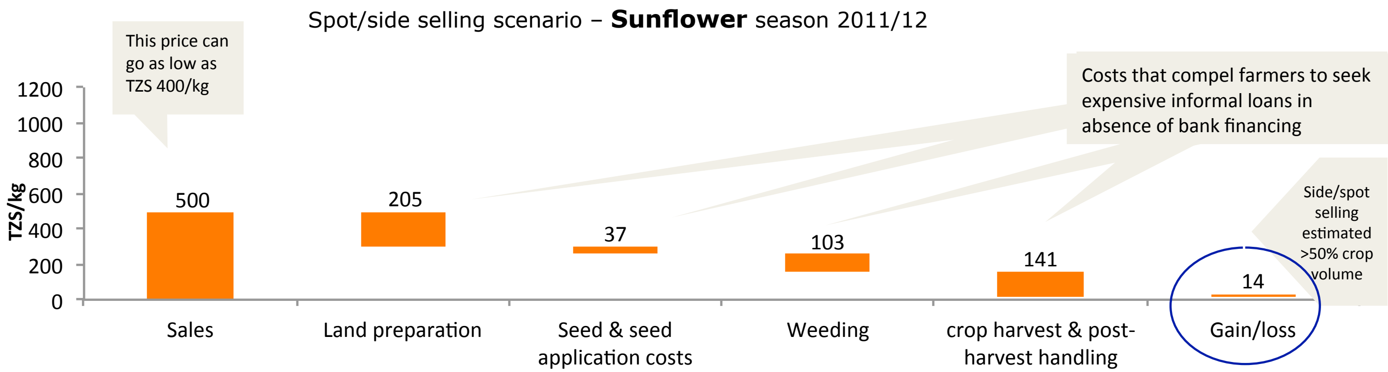
Note:

- Typically farmers would enter into formal, most times informal loan agreements with lenders at their proximity (relationship based) and pledge part of the expected harvest at a pre-agreed price (normally very low compared to market price). Loan payments usually in a form of physical crops, converted on weight measure that we have not found evidence of certification while doing this study

Source: Field data survey, 2012

Farmers are cash strapped particularly on early farm preparation activities, farm maintenance and pre-harvest stages; shylock lenders fill the gap with skyrocketing interest rates



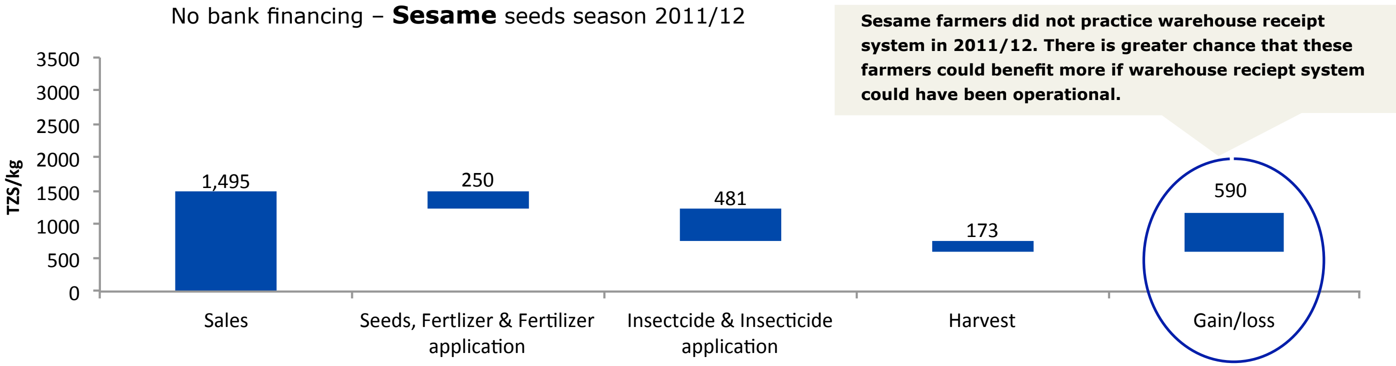


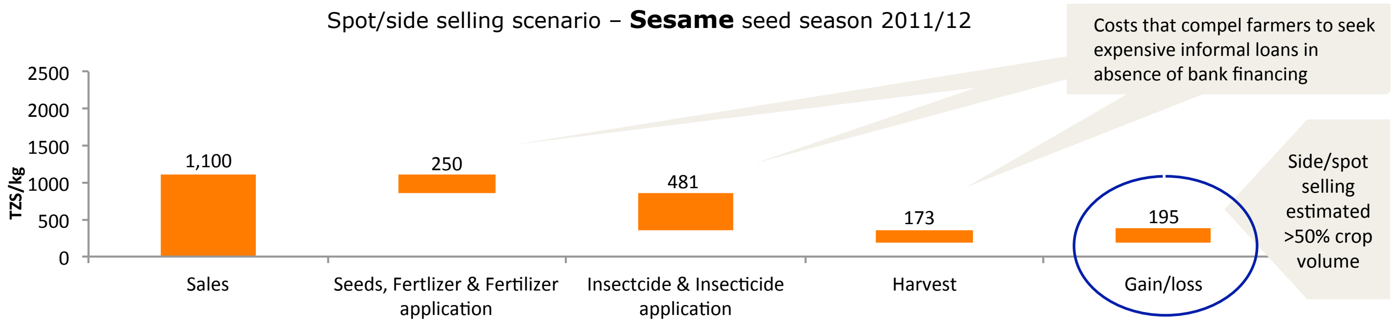
Note:

- Typically farmers would enter into formal, most times informal loan agreements with lenders at their proximity (relationship based) and pledge part of the expected harvest at a pre-agreed price (normally very low compared to market price). Loan payments usually in a form of physical crops, converted on weight measure that we have not found evidence of certification while doing this study

Source: Field data survey, 2012

Farmers are cash strapped particularly on early farm preparation activities, farm maintenance and pre-harvest stages; shylock lenders fill the gap with skyrocketing interest rates





Note:

- Typically farmers would enter into formal, most times informal loan agreements with lenders at their proximity (relationship based) and pledge part of the expected harvest at a pre-agreed price (normally very low compared to market price). Loan payments usually in a form of physical crops, converted on weight measure that we have not found evidence of certification while doing this study

Source: Field data survey, 2012

Contents

Paddy and coffee farmers are better informed than other three sectors under this review

- Farmers in paddy and coffee supply chains are better informed than other three sectors under this review; are able to decide when to sale their crop and take advantage of improved market prices along the season
- Assessment of farmers access to information is based on the number of sources available at farmers exposure i.e. mobile platforms, crop board, display board at farmers warehouses or villages, Non governmental organization support or other like newspapers, expert regular information all making a scale of 5 for a well price informed sector. Refer annex IV for further details
- Cashew supply chain represent strong case of lack of information mainly to farmers. This calls for urgent and effective subsector support i.e.
  i. Connecting local market to export market through online data for crop deliveries at approved warehouses and hook the same information with other business oriented web portals
  ii. Providing weekly reports to the whole value chain on prices that prevailed in previous auctions and auction results. Moshi Coffee Exchange serves as a good example
  iii. Create awareness, reinforce and promote compliance to international sanitary and phytosanitary standards to position Tanzanian cashew market (both kernels and raw cashew nuts) at a competitive edge.

Note:
Forum for Agricultural Research in Africa (FARA, 2012) reports a number of instances, in the last two years, of consignments with pesticide residues . However, although US is the third most important market for Tanzania's cashews, it buys only around 7–8% of the total exports, with the largest sales going to India.
Source: Field data survey, 2012

Contents

Compared to other supply chains coffee is a well managed supply chain albeit further improvement needed to perfect existing conditions

Supply chain	Features
Cashew	• Few dominant buyers
	• Currently cooperative system viewed as a farmers single selling channel
	• Cashew farmer heavily taxed, levies represent ~ 45% of warehouse receipt operational costs; this represents cooperative societies and Unions levies, District Cess (refer annex III for further details)
	• Well developed infrastructure: in all cashew growing areas there are around 26 privately owned warehouses >160,000 Mt capacity in total , access to port services, small village/cooperative warehouses serving as volume mobilisers,
	• Presence of Cashew Board support on quality control and assurance
	• Cashew auctioning appears not transparent enough; current practice involves bidding process behind closed doors perceived as a recipe for irregularities
	• Local cashew market disconnected with export market where raw cashew nut costs are twice as much compared to other producing countries making it less competitive in the market (refer annex I & II)

Compared to other supply chains coffee is a well managed supply chain albeit further improvement needed to perfect existing conditions

Supply chain	Features
Coffee	• Farmers are generally well informed of the market trends and prices, coffee board playing key role on breaking up information asymmetry in the coffee supply chain
	• Dry mills sufficient in numbers and capacity in the southern highlands particularly Mbozi district has already two running dry mills with storage capacity to absorb district production. Dry mills provide initial quality testing that gives enough confidence to commercial bank to continue investing into the sector
	• Villages and or cooperatives have small warehouses serving as volume mobiliser
	• Good road network connecting producer regions with Moshi Coffee Exchange market; at least from regional headquarters
	• Coffee board quality support to the supply chain sufficient enough to support further investment into the sector
	• Few dominant active buyers

Compared to other supply chains coffee is a well managed supply chain albeit further improvement needed to perfect existing conditions

Supply chain	Features
Sunflower	• Underperforming value chain
	• Tremendous production increase; yet millers operate under capacity
	• Insufficient storage space to accommodate regionalization of warehouse receipt system
	• General lack of knowledge on warehouse receipt system modus operandi by stakeholders
	• Every village has a small warehouse that can serve as a crop mobilization unit
Sesame	• Underperforming value chain • No centralized warehouse in the vicinity within Kilwa District; currently serviced by Lindi
	• Every village has a small warehouse that can serve as a crop mobilization unit

Compared to other supply chains coffee is a well managed supply chain albeit further improvement needed to perfect existing conditions

Supply chain	Features
Paddy	• Good example of a well managed farmer organization; AKIRIGO with membership of 12,000 farmers
	• Fragmented cooperative system around the District
	• Dominant SME rice millers relationship with farmers
	• Few large warehouses exist normally privately owned
	• Every village has a small warehouse that can serve as a crop mobilization unit
	• Warehouse receipt board too thin on the ground seriously impacting paddy business; when warehouse receipt system is sought after

Contents

Conclusions and recommendations

- Despite the fact that the warehouse receipt system is economically beneficial to farmers, key challenges per supply chain limits both upstream and downstream chain players to fully exhaust benefits expected from the warehouse receipt system. Joint stakeholders effort at every node of the supply chain required to perfect the system i.e.
  - Consistency required from the Government of Tanzania, to lift all export bans especially on cereals and refocus efforts towards more acreage and yields increase, farmers access to certified and good farm inputs,
  - Cashew Board to steer further transparency in cashew auctioning process (move away from closed/secret bidding to more open and participatory auction process), market and price updates to farmers and weekly auction results to parties involved.
  - Government through Ministry of Agriculture to discourage use of indicative price as a tool for price discovery
  - Implementation of the commodity exchange market in a quest to increase transparency in the cashew sector; Moshi Coffee Exchange serves as a good example
  - The role of cooperative societies and Union as single selling channel requires further scrutiny to allow competitive service delivery to farmers.
  - Responsible agencies and Cashew Board of Tanzania to increase awareness, reinforce and foster compliance to Sanitary and Phytosanitary International Standards for Tanzanian cashews (kernels and raw cashew nuts) to be more competitive in the world market. As the case was reported by FARA (2012) over six consignments of cashew kernels were rejected entry into United States of America market limiting Tanzania’s share at 7-8%. And paving way for raw cashew nuts exports dominantly to India. Exporting both labor and income away from Tanzania!

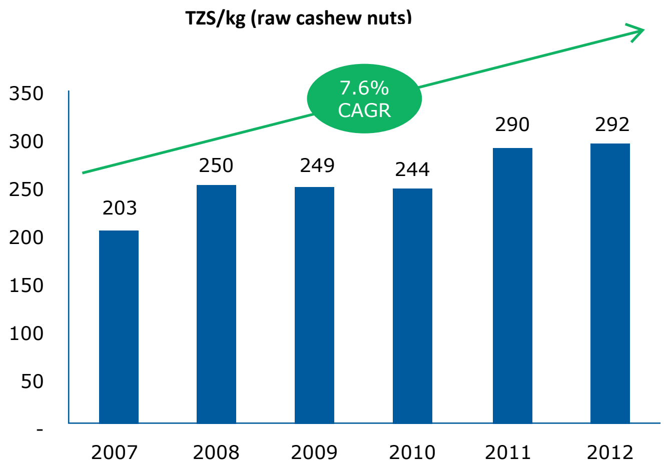
Conclusions and recommendations

- Warehouse Licensing Board very thin on the ground, responsible Ministry to consider further capacity enhancement in terms of staffing and other resources to at least reach consumers at the zonal level. Consequences are for the financial sector not to be able to effectively support supply chains when stocks are not secured in the certified/ licensed warehouses
- Serious lack of liquidity is the major driver for farmers decision on where to sale their crop. Farm preparations and maintenance of the same, harvesting expenses as the case is with coffee, sunflower and sesame compel farmers to source finances within their proximity at prohibitive interest rates. Usually such services are unregistered and unregulated as well. It is important for the Government of Tanzania and of course supply chain players to consider devising instruments that shall enable financial institutions to lend beyond what seem to be highly risky nodes of the supply chains.
- Farmers need to be provided freedom to choose where and when to sale i.e. either through warehouse receipt system or spot sale their crop by measuring the benefits offered by alternative market available at their exposure
- Stakeholders and importantly warehouse licensing Board to consider further training to farmers on the benefits expected from the warehouse receipt system
- Sector bodies and actors in the chain to promote construction of more storage facilities particularly in sesame, sunflower and paddy growing areas to allow efficient operation of the warehouse receipt system

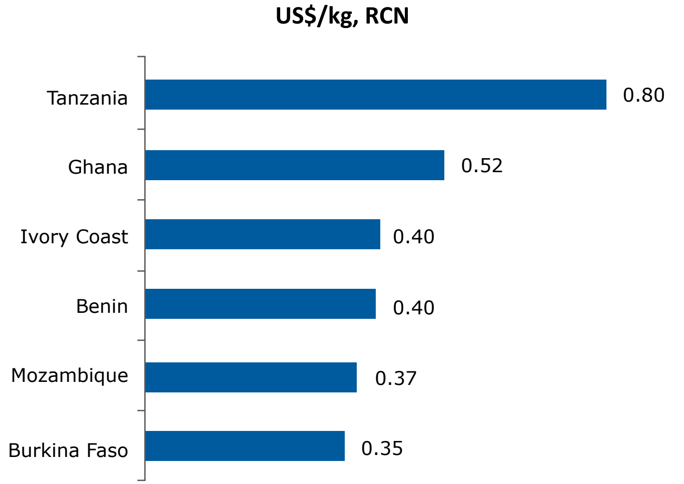
Contents

Annex I: Overall warehouse receipt operational costs on the rise whilst Tanzanian cashews considering indicative price 2012 are more than twice expensive compared to other African producers

Total costs associated with raw cashew nuts warehouse receipt system and auctioning (TZS/kg)



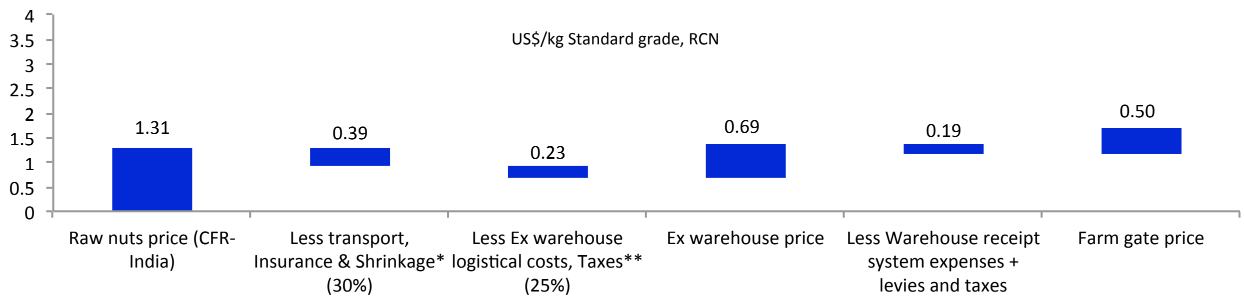
Comparison of raw cashew nuts farm gate prices around Africa (US$/kg): As of March 2013



Source: Cashew Board of Tanzania (2012), African Cashew Alliance (2013) & Field data (2012)

Annex II: Key question, why is Tanzania still able to sale part or all of the cashews produced in a particular season?

- Tanzanian raw cashew nut price would have been in range of US$ 0.5/kg for standard grade (equivalent to circa TZS 800 per kg) if an indicative price was not reinforced. Refer graph below
- World market supply and demand for both kernels and raw nuts, cashew production season variation among producing countries key determinants of a price that Tanzanian farmers shall receive
- It must be noted that our season (Tanzania) comes in 5-6 months earlier before circa 70% of the world production floods the market. Sheller's, mostly in India are compelled to source raw cashew nuts at any cost to avoid delivery defaults .
- Once, the world market prices fall the role of Indicative price is undermined; for a sustainable and vibrant Tanzania cashew sector Indicative price should not be reinforced and the Cashew Board of Tanzania is called upon to let market force play. (coffee Board serves as a good example where Indicative price is only available to farmers through various media i.e. radio, mobile phones etc. but not reinforced. Moshi coffee exchange serves as a good example of a better instrument for commodity price discover



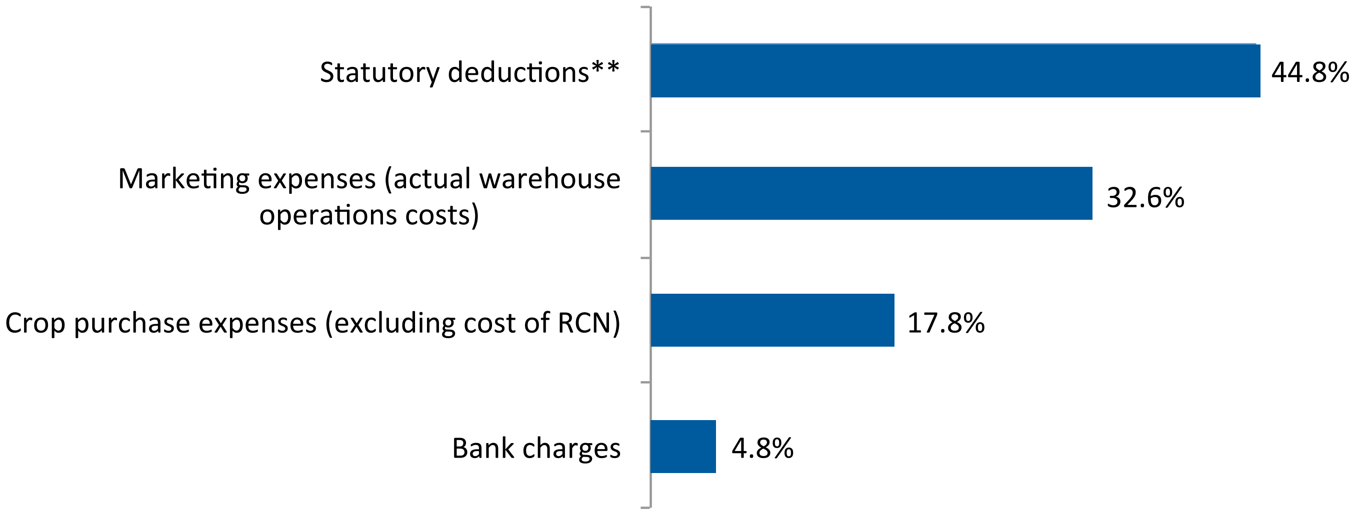
Note:

- * & ** Acceptable rates as per Tanzania Cashew Board (CBT) and Industry stakeholders season 2012/13
- Raw nuts price CFR India ranged between US$ 1,300-1325 as of February 2012 (source: James Fitzpatrick, 2012)
- Exchange rate US$/TZS = 1,550

Source: Field data (2012)

Annex III: Individual elements of warehouse receipt system as a percentage of total cost - 2012

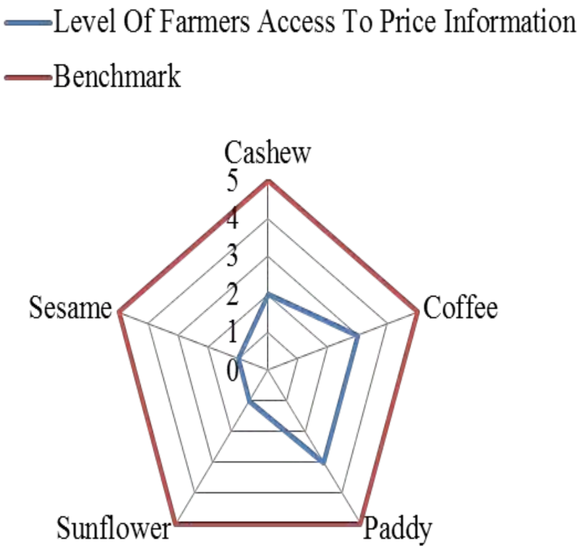
Cashew – Only looking at warehouse receipt expenses (marketing costs)



Note: Statutory deduction includes district Cess, levies / contributions payable at primary cooperative societies and unions
Source: Field data (2012)

Annex IV: Level of farmers access to information; paddy, coffee, cashew and sunflower

Level of farmers access to information (information asymmetry)



Sample farmer's price board

Contact details

NMB Plc.

Address

NMB House

Azikiwe/Jamhuri Street

P.O. Box 9213

Dar es Salaam

Tanzania

Tel: +255 22 2161000

Website: www.nmbtz.com

Carol I. Nyangaro
Research Analyst | Agribusiness Department | NMB Plc.
Cell: +255 763 808601 | Tel: +255 22 2161023
carol.nyangaro@nmbtz.com

Sierk Plaat
Senior Analyst | FAR-Africa | Rabobank
Cell: +255 767 049020 | sierk.plaat@nmbtz.com or
sierk.plaat@rabobank.com

Robert Pascal
Head | Agribusiness Department | NMB Plc.
Cell: +255 754 298639 | Tel: +255 22 2161184
robert.pascal@nmbtz.com

Disclaimer

This Presentation is not intended to be relied upon as advice to investor(s) or potential investor(s) or any stakeholder(s), and does not take into account the investment objectives, financial situation or needs of any investor(s) or stakeholder(s).

The Bank has prepared this Presentation based on information available to it, including information derived from public sources that have not been independently verified. The Bank cannot be held accountable for its accuracy or any errors, and the Bank takes no responsibility for any action taken or not taken by any investor(s) or stakeholder(s) as a result of this Presentation or its consequential use of whole or part of it.

This Presentation is for information purposes only.

www.nmbtz.com