“HORTI-SEMPRE - WARESTA HORTICULTURE INDEX 2015”

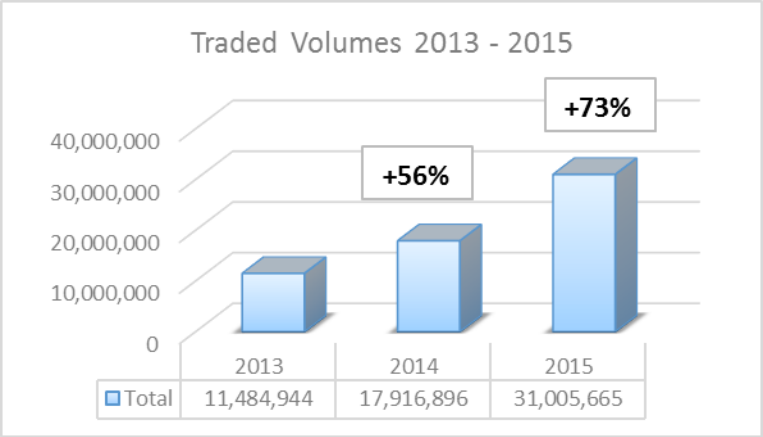
Outlook of Horticultural Market in Northern Mozambique (2015 vs. 2014-2013)

Horti-sempre “WARESTA Horticulture Index” is the most complete survey of the Horticultural market in Northern Mozambique. The “WARESTA Index 2015” is built on data collected by SDC funded Horti-sempre Project in collaboration with AGROWAM (the project’s created Association of Horticultural Wholesalers of Nampula) throughout the year 2013-2015 at Waresta wholesale market in Nampula. This sample covers an estimated 25%-30% of the total volumes traded in Northern Mozambique and is a reliable indicator of the trends taking place in northern Mozambique for the major crops with the exception of lettuce and kale that are heavily traded “outside the WARESTA market” being therefore underestimated by WARESTA statistics, and the production from the Nacala district that is mainly traded locally catering the institutional market (HORECA channel, Hotel, Restaurant, and Canteen).

Main Trends Total Volumes Traded

- The consumption of traded vegetables in the Nacala Corridor continues strong:
  - ✓ Showing a growth of +73% in volumes 2015 vs. 2014 (56% in 2014 vs. 2013);
  - ✓ Traded volumes have almost tripled between 2013 and 2015 jumping from 11,500MT in 2013 to 31,000MT in 2015.

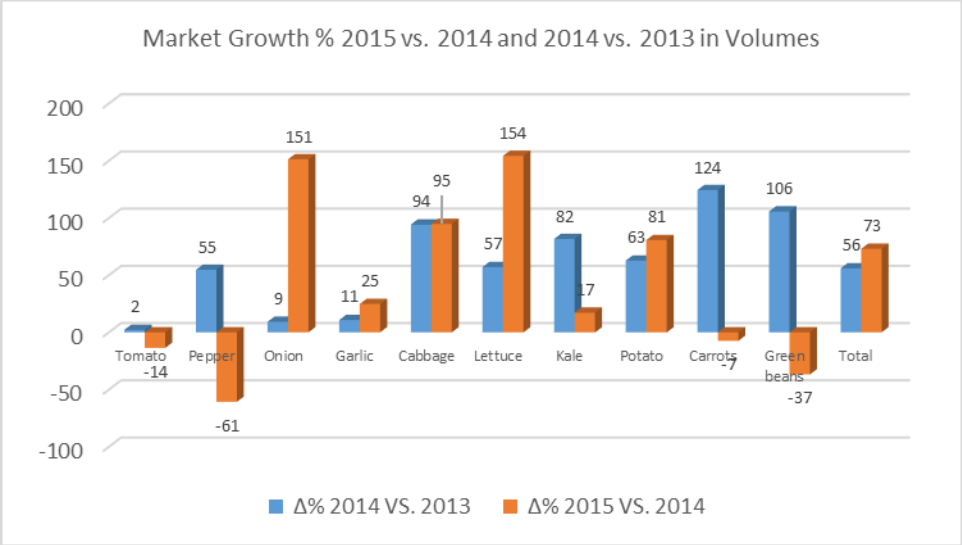
Figure 1: Traded Volumes (kg) at the Waresta Wholesale Market 2013 - 2015



Source: Horti-sempre AGROWAM data

- In 2015 the fastest growing crops have been respectively lettuce (+154%), onion (+151%), followed by cabbage (+95%), and potato (+81%);
- On the other hand, pepper (-61%), green beans (-37%), tomato (-14%), and carrots (-7%), have all registered a decrease while garlic (+25%) and kale (+7%) show a moderate increase.

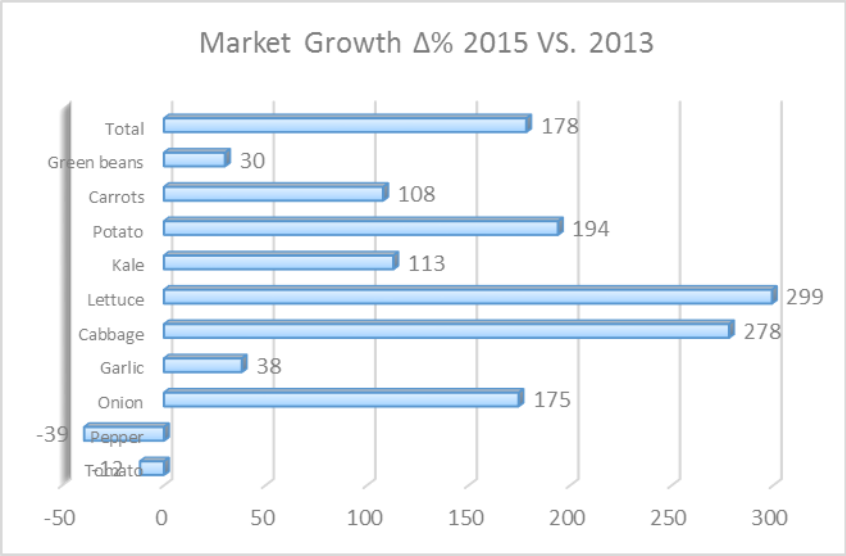
Figure 2: Traded Volumes at the Waresta Wholesale Market –by Crop 2015 vs. 2014 and 2014 vs. 2013



Source: Horti-sempre AGROWAM data

- In perspective and as a trend lettuce, cabbage, potatoes and onions are by far the fastest growing crops in the period 2013 – 2015, while there are sings tomato, carrots, and pepper are losing share possibly due to the fact their demand heavily depends on middle class urban consumption that was quite sluggish in 2015.

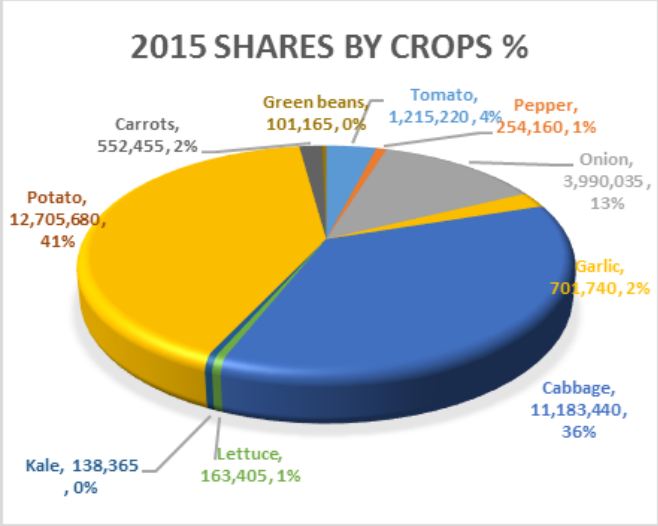
Figure 3: Traded Volumes at the Waresta Wholesale Market –by Crop 2015 vs. 2013 % Increase

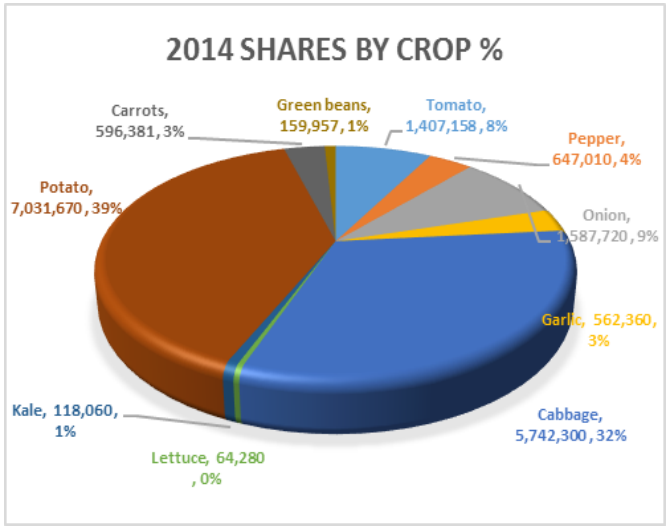


Source: Horti-sempre AGROWAM data

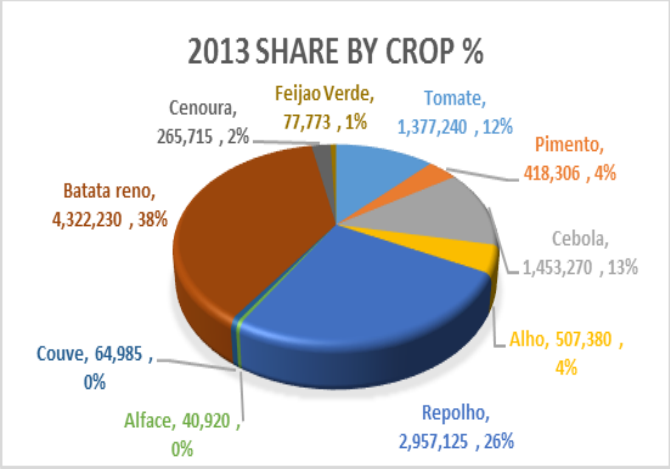
- Cabbage (36%) Potato (41%) and Onions (14%) together account now (2015) for a 90% share of the traded vegetables in the Nacala Corridor. This percentage was of only 76% in 2013 when demand was more "diversified" with a stronger share for tomato, pepper and carrots (18% altogether in 2013 but only 7% in 2015).

Figure 4: Share of the Traded Volumes at the Waresta Wholesale Market – % by Crop 2015 vs. 2014 and 2013





Source: Horti-sempre AGROWAM data



Source: Horti-sempre AGROWAM data

HORTI-SEMPRE

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- Horti-sempre Project, in Phase 1 (2013-2017) has prioritized intervention in crops such as Onion, Tomato, Lettuce, and Cabbage.
- Horti-sempre Project heavily relied on the introduction in Mozambique of "tropicalized varieties" from Brazil with short cycles and resistant to heat.
- Seeds of tropicalized varieties are currently available:

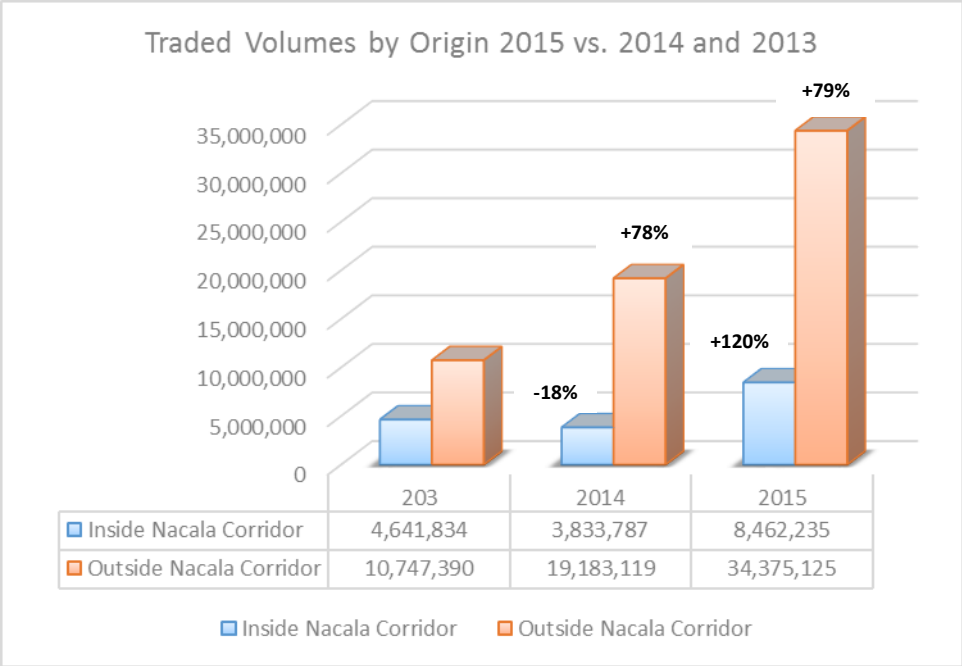
JNB

ORUWERA

Origin of the Produces

- The volumes traded at the Waresta market in 2014, produced in the Nacala Corridor, have grown significantly (by 120%) 2015 vs. 2014 , and faster than those produced from outside the corridor (79.0%).

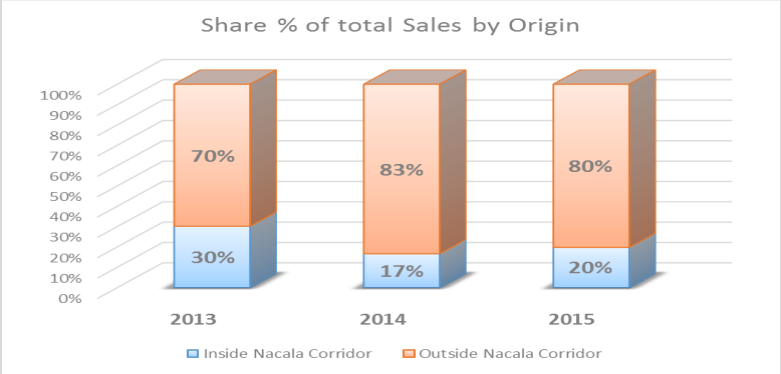
Figure 5: Traded Volumes by Origin (Inside and Outside the Nacala Corridor) 2015 vs. 2014 – and 2014 vs. 2013



Source: Horti-sempre AGROWAM data

- As a result the share of locally produced crops (vegetables produced inside the Corridor) has increased from 17% (in 2014) to 20% (2015), mainly due to a steep increase in local traded production (from inside the Nacala Corridor) of onions and tomatoes.

Figure 6: Shares and Traded Volumes Increase % by Origin 2015 vs. 2014 and 2013 – Inside-Outside the Corridor

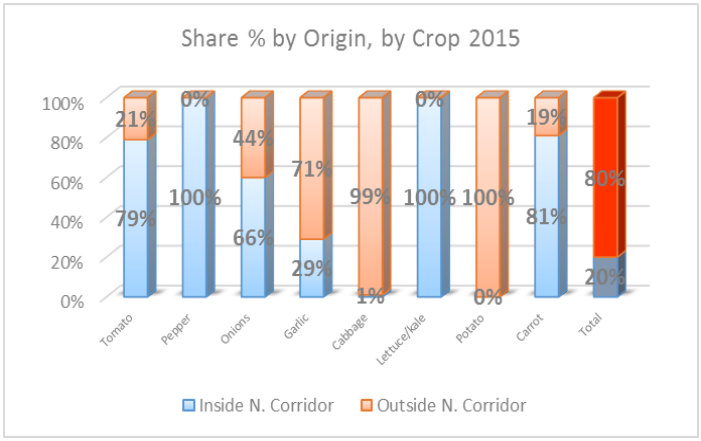


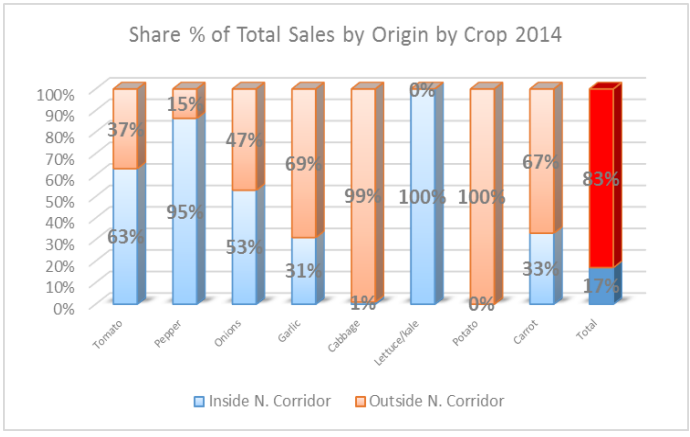
Source: Horti-sempre AGROWAM data

- In perspective, and as a trend:

  - ✓ Cabbage and potatoes, the fastest growing vegetables traded in the Nacala Corridor. These crops are all produced outside the Corridor;
  - ✓ Tomato, pepper and carrots are increasingly produced inside the Nacala corridor;
  - ✓ Most of the onions traded still come from inside the Nacala corridor (66% in 2015 vs. 53% in 2014) but also with a strong presence of imports (44%) due to the fact the Nacala Corridor produces a very limited quantity of white onions that represent almost half of the consumption within the Corridor.
  - ✓ Not surprisingly, and similarly to what experienced in 2014 and 2013 all the production of green leaves (lettuce and kale) come from inside the Corridor due to their perishability.

Figure 7: Shares of Traded Volumes by Origin and by Crop 2015 – 2014 – Inside-Outside the Corridor



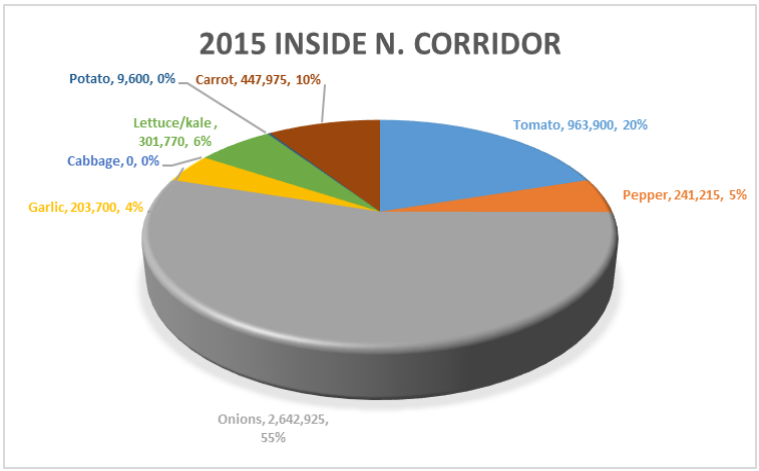


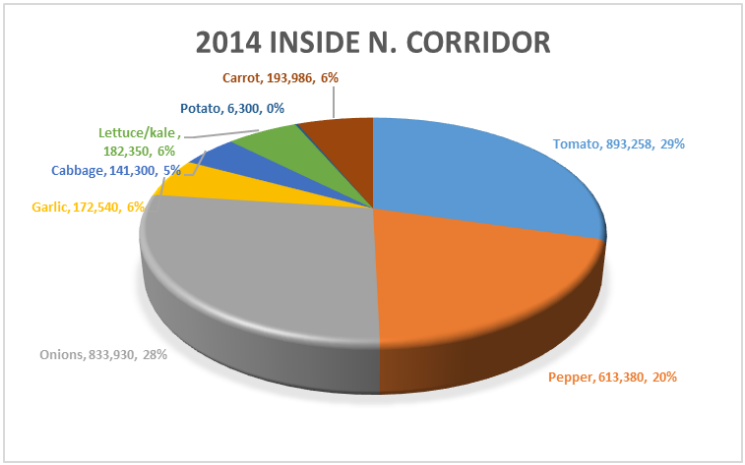
Source: Horti-sempre AGROWAM data

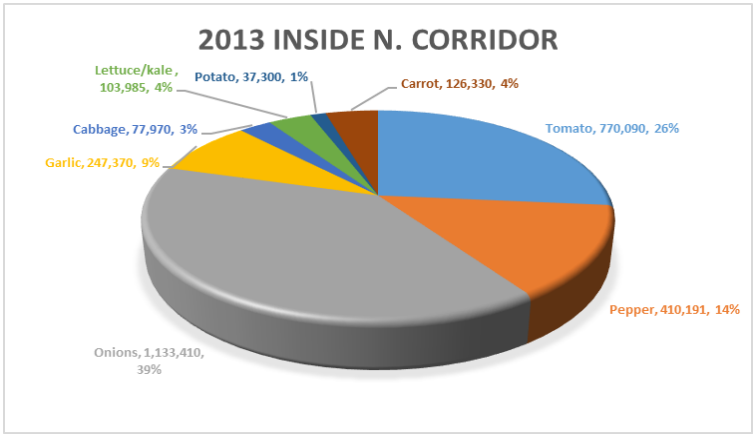
- The pattern of production of the Nacala Corridor has getting more and more specialized (in line with a cluster approach) and concentrated on a few crops:

  - ✓ Cabbage and potatoes, the fastest growing vegetables traded in the Nacala Corridor, are both almost entirely produced outside the Corridor;
  - ✓ The N. Corridor is currently specializing on the production of onions (55% share), tomato (20%), carrots (10%) and green leaves (6%).
  - ✓ In perspective, and as a trend, tomato and pepper are losing ground in favor of onions, carrots and green leaves that together account now (2015) for 86% of the total volumes of vegetables produced and traded in the Nacala Corridor.

Figure 8: Share %Traded Volumes by Origin (Inside and Outside the Nacala Corridor) 2013 - 2015



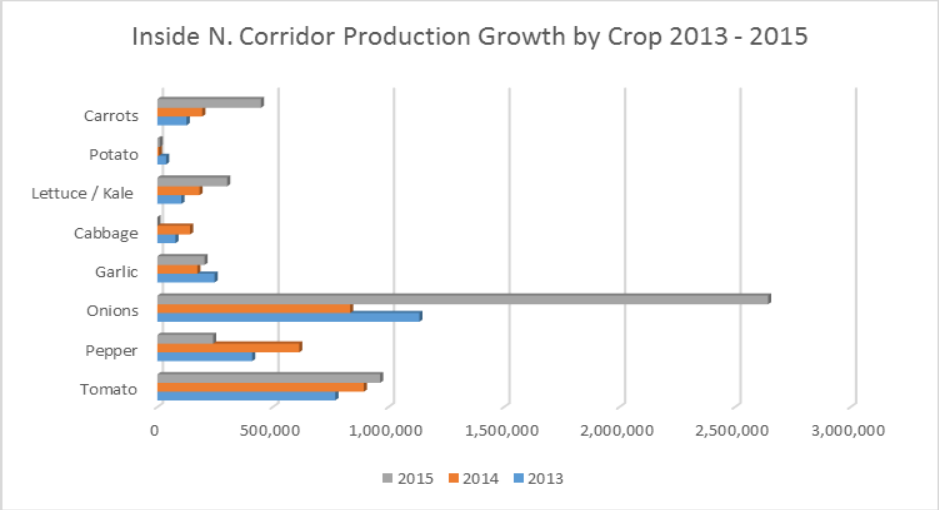




Source: Horti-sempre AGROWAM data

- The fastest growing vegetables in the Nacala Corridor are respectively carrots (+ 255% 2015 vs. 2013), Green leaves (+ 190% 2015 vs. 2013), and onions (+ 133% 2015 vs. 2013) with pepper and garlic in strong retraction (respectively - 41% and -18% 2015 vs. 2013), and tomato with a more moderate increase (+25%).

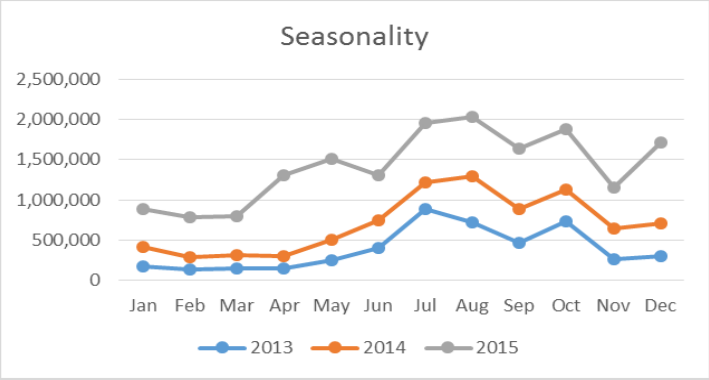
Figure 9: Growth by Crop - Traded Volumes from Inside the Nacala Corridor - 2013 - 2015



Analysis of Seasonality

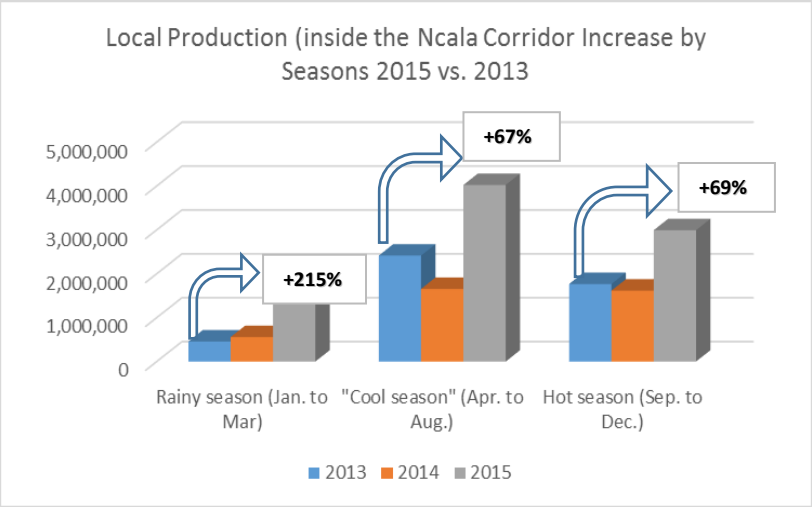
- The consumption of vegetables in the Nacala Corridor has considerably deseasonalized in 2015 (grey line Figure 10) and volumes traded in the traditionally "low consumption seasons" of first quarter of the year (January to April) and last quarter (September to December) have considerably increased in 2015 getting close to those of the peak season of consumption (May to September). The volumes traded in the market from inside the Corridor of the first Quarter 1 and Quarter 3 2015, are respectively 81% and 99% of those of the peak period of production (Quarter 2) as compared to 27% and 78% of 2013 (Table 10)
- In particular there has been a considerable growth in production in the months of the rainy season (+215% 2015 vs. 2013), well above the overall market trends (+79% 2015 vs. 2013).

Figure and Table 10: Volumes Traded – from Inside the Nacala Corridor by Month 2013 – 2014 – 2015 - Seasonality



	1 QUARTER VS. 2 QUARTER	2 QUARTER	3QUARTER VS. 2 QUARTER
2013	27%	100%	78%
2014	47%	100%	107%
2015	81%	100%	99%

Figure 11: Volumes Traded – from Inside the Nacala Corridor by Month 2013 – 2014 – 2015 - Seasonality

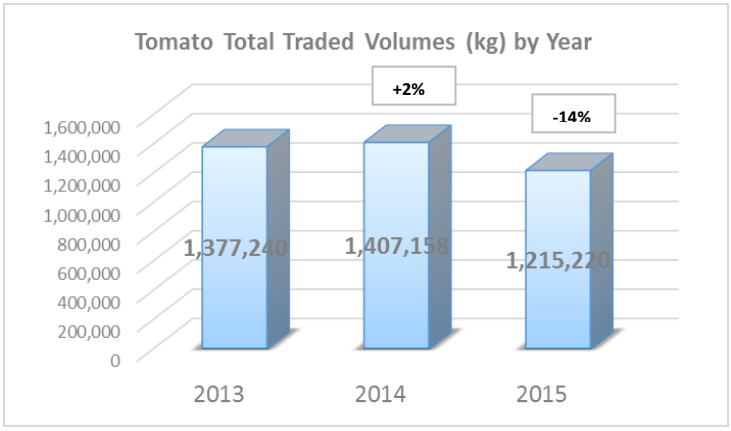


Analysis by Crop

(Tomato)

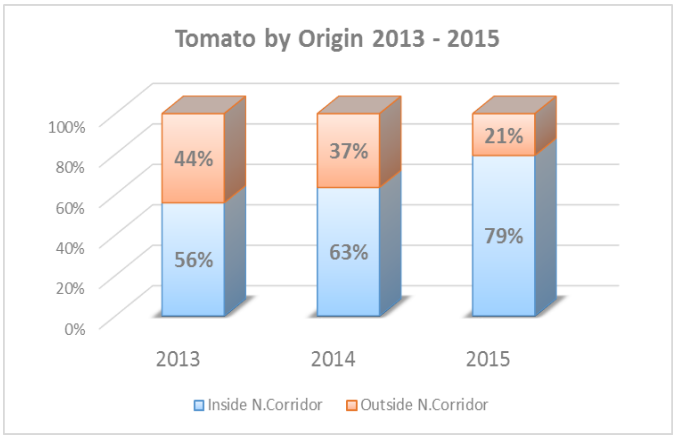
- The total volumes of tomatoes traded in the Nacala Corridor has contracted by 14% (2015 vs. 2014), after a substantial stability 2014 vs. 2013. (*Figure 12)*

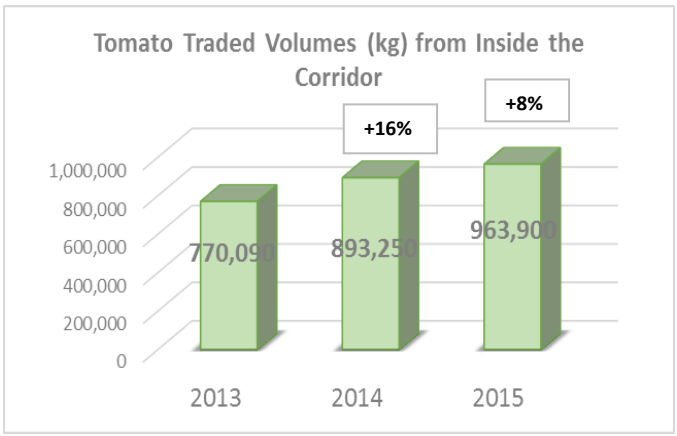
Figure 12: Tomato Traded Volumes by Origin 2015 - 2014 vs. 2013 – Inside-Outside the Corridor



- The overall competitiveness of the Nacala Corridor in tomato production continues to improve with local production growing by 8.0% (2015 vs. 2014) with a strong contraction of the imports from outside the Corridor (-49. %, 2015 vs. 2014). As a result the share of local production has jumped from 63% (2014) to 79% (2015).

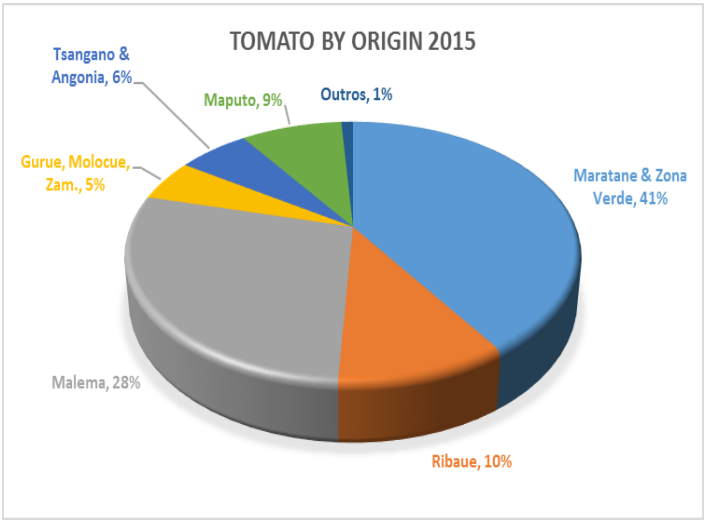
Figure 13: Tomato Traded Volumes by Origin 2015 - 2014 vs. 2013 – Inside-Outside the Corridor

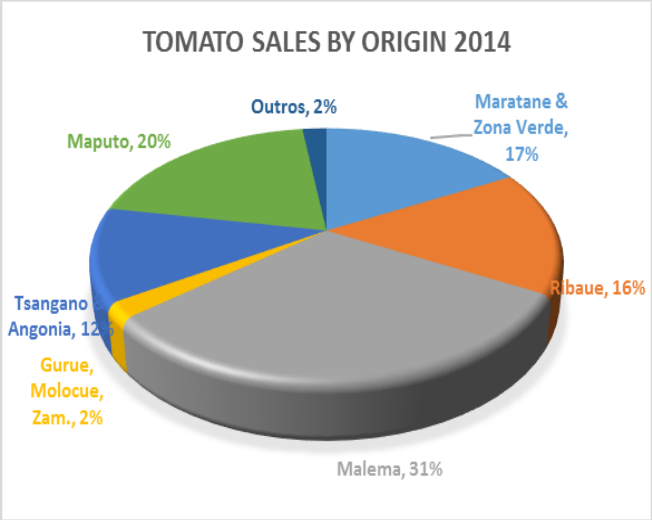




- The positive performance of the Nacala Corridor in tomato production is due to a strong rise in Marratane & Green Zone Nampula (+110%, 2015 vs. 2014) while all the other districts have registered a negative increase. Currently Marratane supply 41% of the tomatoes traded in the Nacala Corridor (17% in 2014) followed by Malema with 28% (31% in 2014) and Ribaue with 10% (16% in 2014). The quantity of the product imported from Maputo and South Africa has decreased by three times between 2014 and 2015 and accounted only for 9% share in 2015 (20% in 2014)

Figure 14: Tomato Production by District and Shares % 2015 vs. 2014



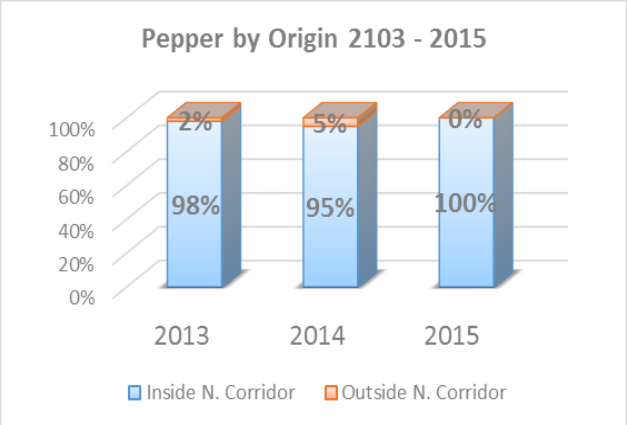


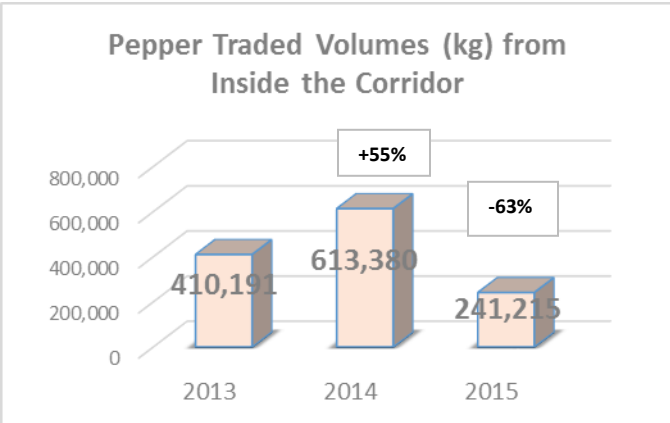
- The supply of tomatoes from inside the Corridor continues quite seasonal and highly dependent on imports in the months from January to March where the share of production from outside the Nacala Corridor (imports) still accounts for almost two thirds of the traded volumes with little improvement from 2013.

Pepper

- The overall competitiveness of the Nacala Corridor in pepper production continues strong with local production accounting for the totality of volumes (100%) traded in the Corridor. However local production of pepper has decreased by -63% 2015 vs. 2014

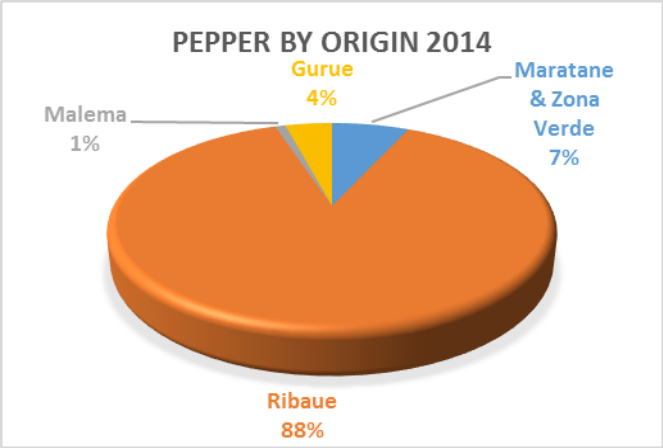
Figure 15: Pepper Traded Volumes by Origin 2015 - 2014 - 2013 – Inside-Outside the Corridor

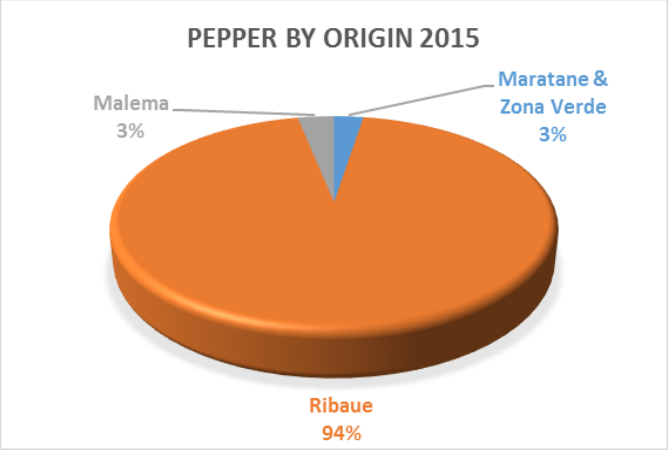




- Ribaue has further consolidated its strong position as leading cluster of pepper supplier in the Nacala Corridor with a share of 94% in 2015 up from the 88% of 2014.

Figure 16: Pepper Traded Volumes by Origin 2015 – 2014 -2014 - 2013 – District / Clusters

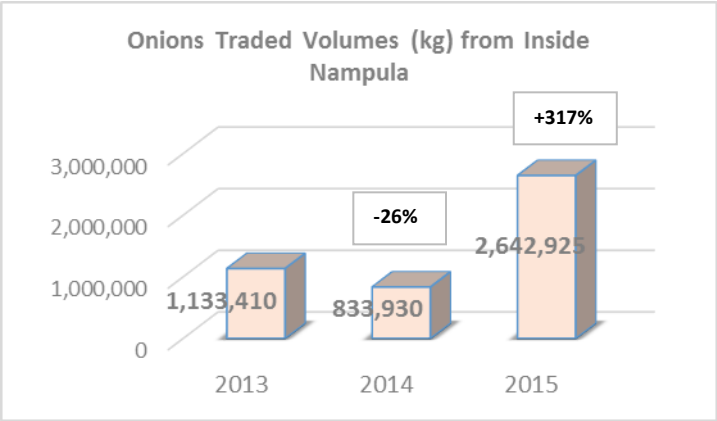




Onion

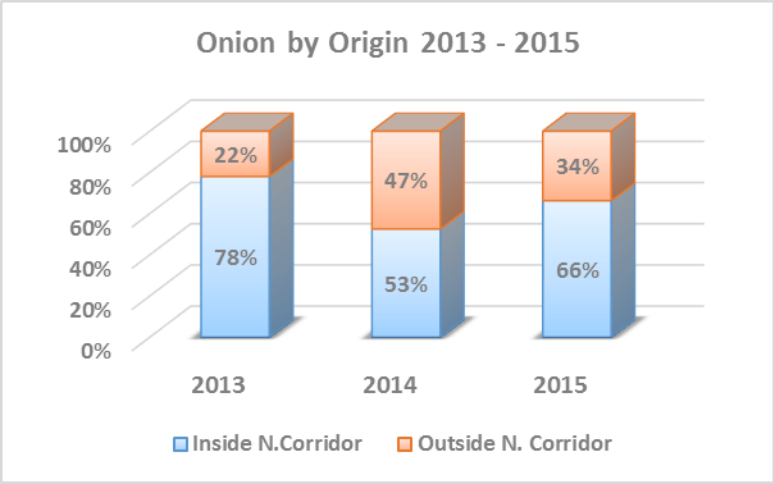
- The overall competitiveness of the Nacala Corridor in onion production has vastly improved in 2015 with local production growing by an astonishing +317% (2015 vs. 2014) also probably driven by the completion of the tarred road connecting Malema (the main pole of onions production in the Nacala Corridor) with Nampula (main hub for vegetables distribution in Northern Mozambique).

Figure 16: Onion Volumes (kg) - 2015 - 2014 - 2013 – from Inside-Outside the Corridor



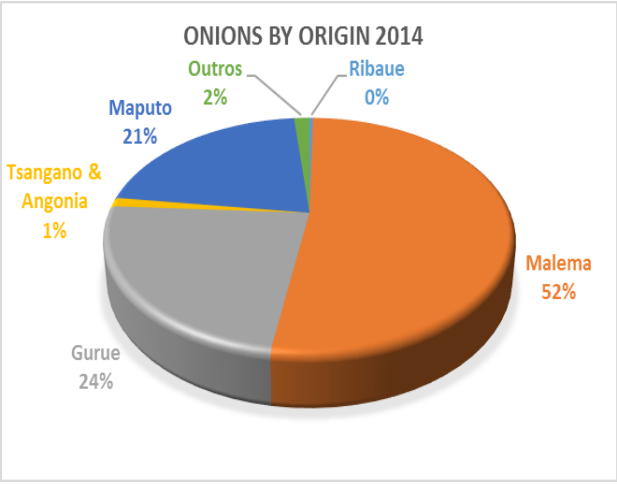
- The steep rise of onion production in Malema has resulted in an increase of market share of local vs. imported from 53% in 2014 to 66% in 2015 (percentage of locally produced onions – from inside the Nacala Corridor- on the total volumes traded in the Corridor. There is a clear potential for improvement taking into account 34% of the onions traded in the Nacala Corridor are still imported (mostly from South Africa via Maputo).
- In particular most of the white onions traded in Nacala Corridor come from outside the Corridor. The competiveness of Malema is expected to receive a boost once the ongoing Horti-sempre supported introduction of new varieties from Brazil will reach scale: IPA 10 (red onion with high yields and rusticity), IPA 11 (yellow onion with hard skin, and excellent post-harvest conservation) and Alfa Sao Francisco (for summer production).

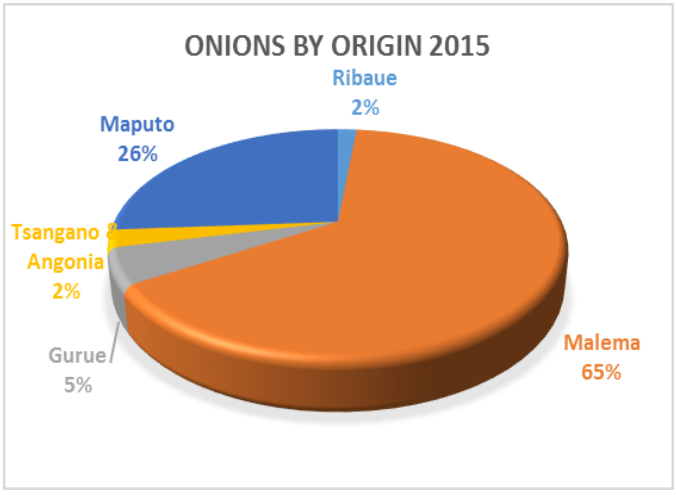
Figure 17: Onion Traded Volumes by Origin 2015 - 2014 - 2013 – Inside-Outside the Corridor



- Malema has strengthened its position as leading cluster of onion production in the Nacala Corridor holding a share of 65% in 2015 (up from the 52% of 2014). A further improvement would be possible fostering the production of white onion in Malema, thus replacing current imports from South Africa (via Maputo).

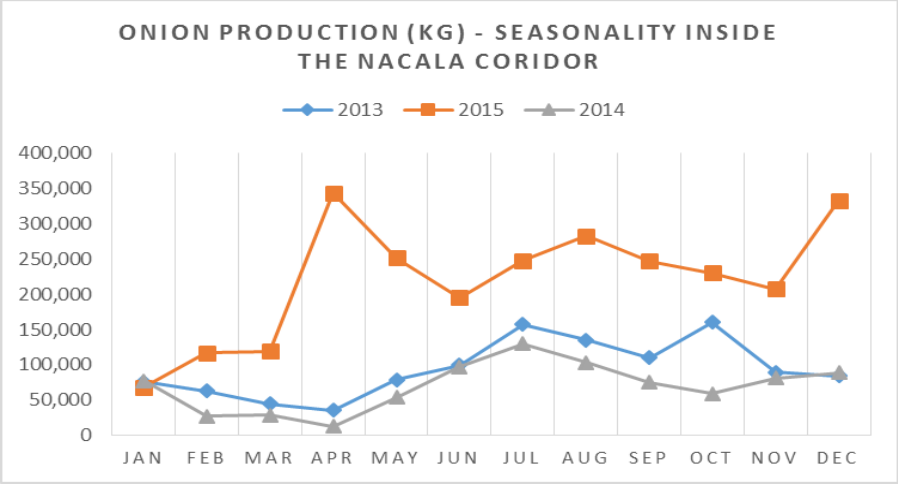
Figure 18: Onion Traded Volumes by District – 2015 – 2014 - 2013 – Shares %





- Also, as a positive note, must be highlighted the production of onions from inside the Corridor has got less seasonal in 2015 with a big increase in supply (+445% 2015 vs. 2014) in the Months from January to April. The de-seasonalization could be further improved with the dissemination (supported by Horti-sempre) of the summer varieties (heat resistant) "Alfa Franciscana" to boost production in the final quarter of the years (August to December).

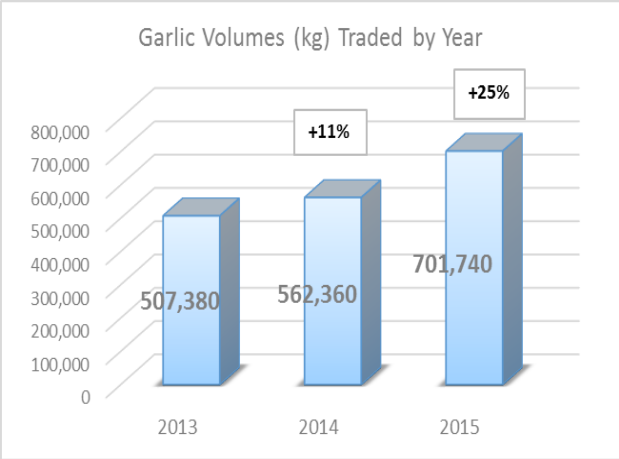
Figure 19: Onion Seasonality 2015 – 2014 - 2013



Garlic

- The overall competitiveness of the Nacala Corridor in garlic production (historically not very strong) continued weak during 2015 with local production accounting for only less than one third (29%) of the total volumes of garlic traded in the Nacala Corridor, and despite a rebound (+18% in 2015 vs. 2014) that followed the heavy slump of 2014 (-30% vs. 2013). imports from outside the Corridor are basically stable and similarly to 2014 account for two thirds of the garlic traded.

Figure 20: Garlic Traded Volumes by Origin 2015 – 2014 - 2013 – Trends from Inside and Outside the Corridor



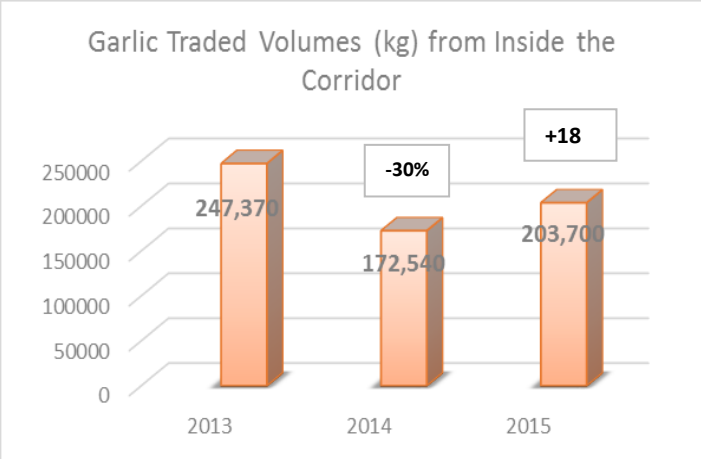
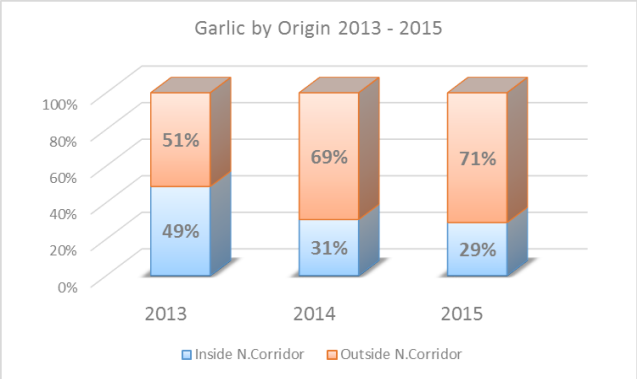


Figure 21: Garlic Traded Volumes by Origin 2015 – 2014 - 2013 – Shares from Inside and Outside the Corridor

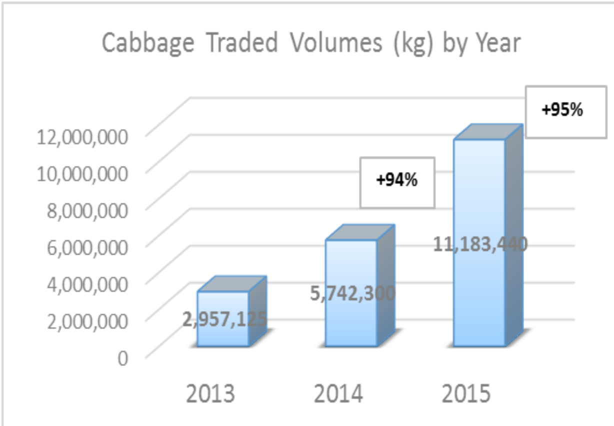


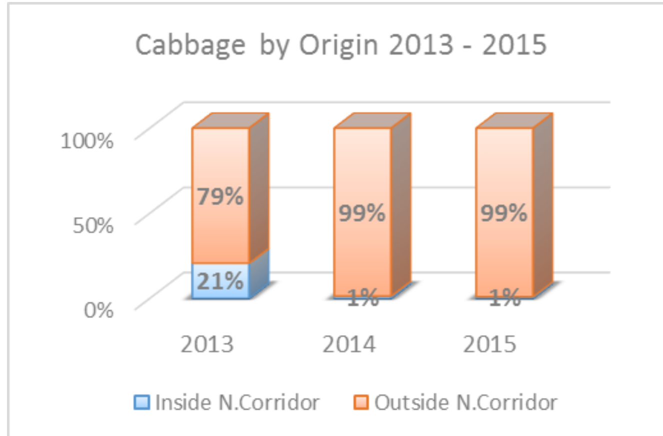
- ce for the production of garlic in Northern
  d in 2014 vs. 2013 (from 68.4 MT to 237.1MT)
  e of only 14% in 2013, replacing Malema as the biggest producer in Northern Mozambique. Malema's garlic production, on the other hand, has decreased by -27.0% in 2014 vs. 2013 and its share shrunk from 46% (in 2013) to 31% (in 2014), thus still remaining the second biggest supplier after Lichinga.

Cabbage

- Cabbage confirms its fast growth rate trend in 2015 with an increase of +95% vs. 2014, doubling once again (as in 2014 vs. 2013) its traded volumes in the Nacala Corridor.

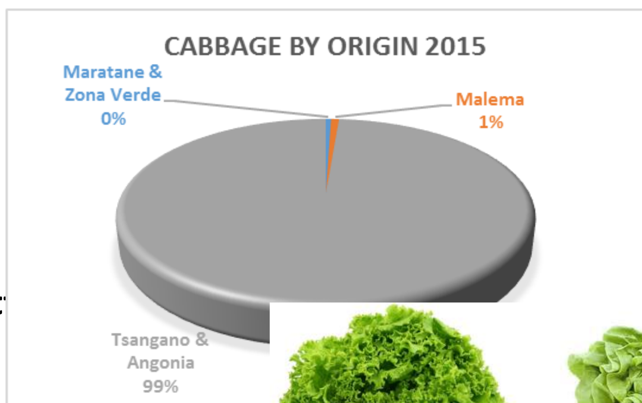
Figure 21: Cabbage Traded Volumes by Origin 2015 - 2014 - 2013 – Inside-Outside the Corridor

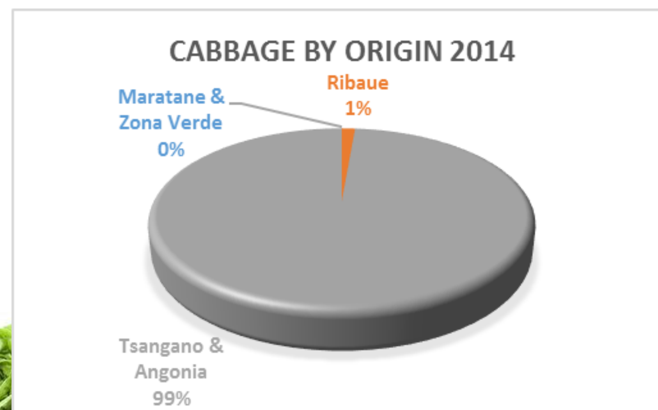




- The region of Tsangano/Angonia consolidates a clear undisputed leadership as leading cluster producers for Northern Mozambique controlling as in 2014 almost 99% of the total volumes traded in the Corridor (as compared to 79% in 2013).
- The cabbage production of the Corridor looks poorly competitive against Tsangano / Angonia and as in 2014 Ribaue (traditionally the strongest district in cabbage production inside the Corridor, has been unable to produce surpluses to be traded into the market.

Figure 22: Cabbage Traded Volumes by District 2015 - 2014 - 2013 – Shares %

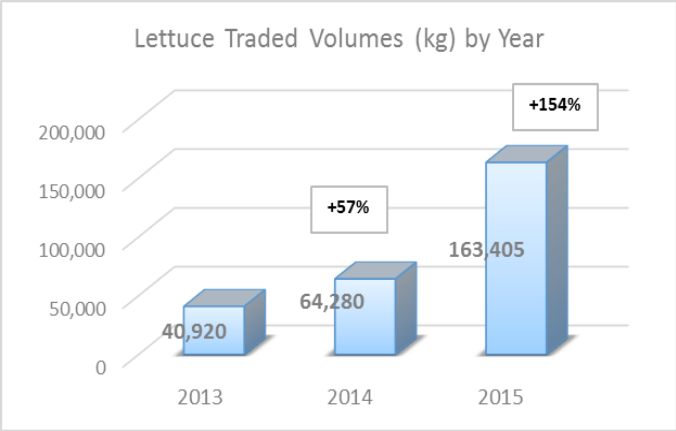


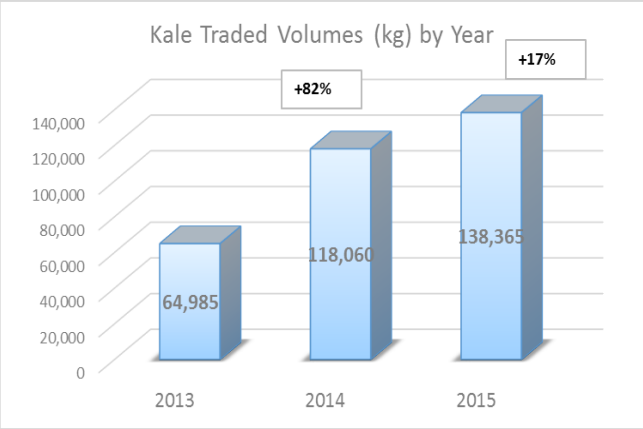


Let

- Lettuce and kale are st ... Na ... in particular Nampula, since due to its very perishable nat ... l c ... centers where its consumption is concentrated. The WARESTA Index, built on W ... e market, poorly capture the importance of these crops that are largely traded outside this wholesale market and that have estimated volumes possibly as much as 10times higher than those recorded by the Index.
- Lettuce, with an increase of +154% in volumes vs 2014 has been the fastest growing vegetables in 2015, while kale growth has significantly slowed down (+17% 2015 vs. 2014) after a stronger growth (+82%) in 2014 vs. 2013.

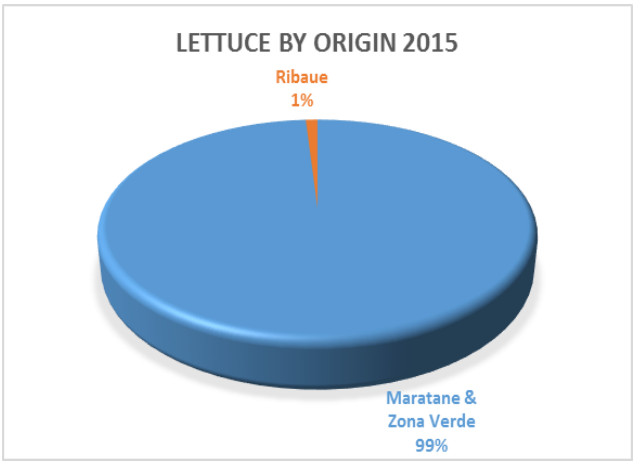
Figure 23: Lettuce/Kale Traded Volumes by Origin 2015 - 2014 - 2013 – Inside-Outside the Corridor

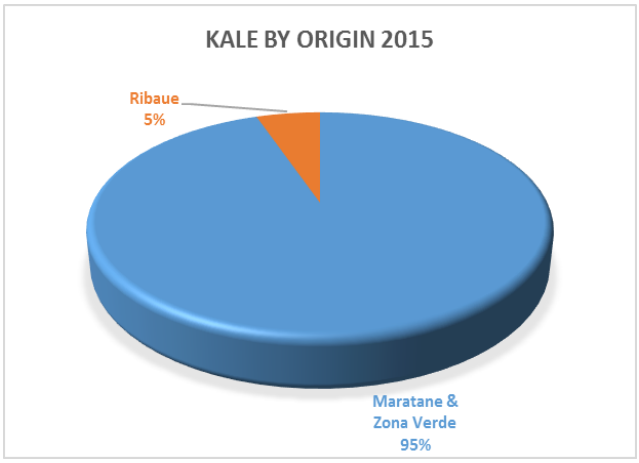




- The green belt area around the city of Nampula account for almost the totality of lettuce traded in the Corridor and for 95% of the kale.

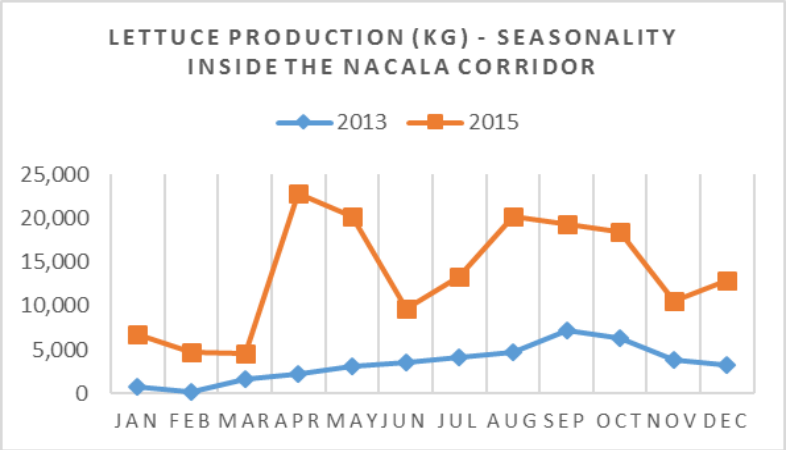
Figure 24: Lettuce/Kale Traded Volumes by Origin 2015 - 2014 - 2013 – Inside-Outside the Corridor

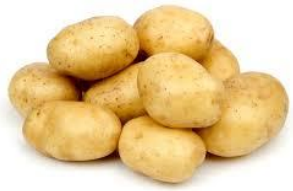




- Furthermore the production of lettuce in the Nacala Corridor is becoming less seasonal with big increases in the months August to December and January and February (thanks also to the introduction of the tropical-heat resistant varieties facilitated by Horti-sempre). On the other hand kale seasonality has not changed significantly in 2015, but it is expected to do next year with the introduction in the Corridor of the kale “mil folhas” from Feltrin Brasil, also facilitated by the project.

Figure 20: Lettuce Traded Volumes by Month 2015 - 2014 - 2013 – Seasonality

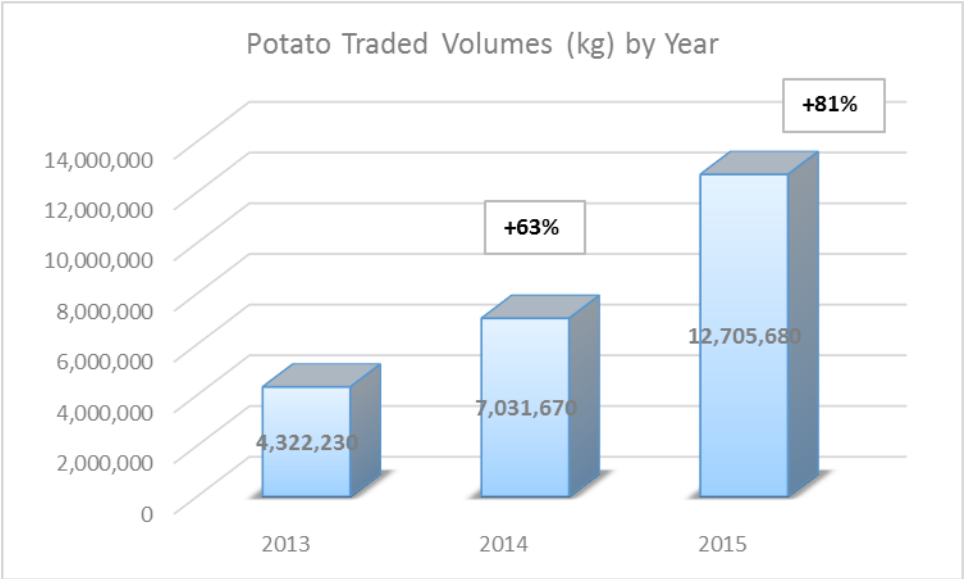




Potato

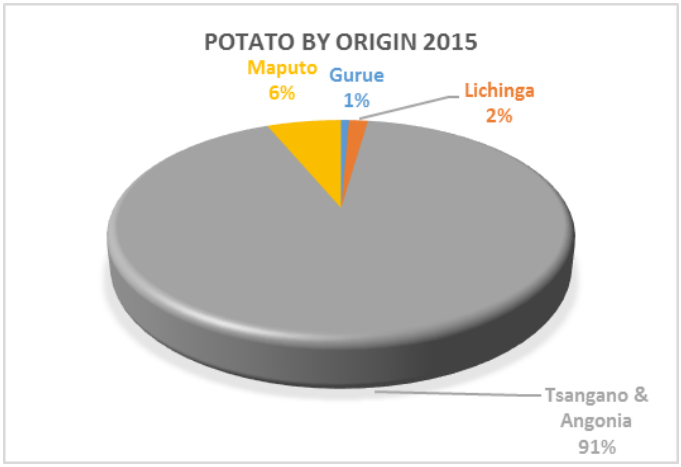
- Potato is the biggest traded crop in the Nacala Corridor with a share of 41% in 2014 (39% in 2014) and with volumes still growing strongly and consistently (+63% 2014 vs. 2013 and +81% 2015 vs. 2014). The potato market is dominated by Tsangano-Angonia that alone accounts for 88% of the traded volumes (85% in 2013).

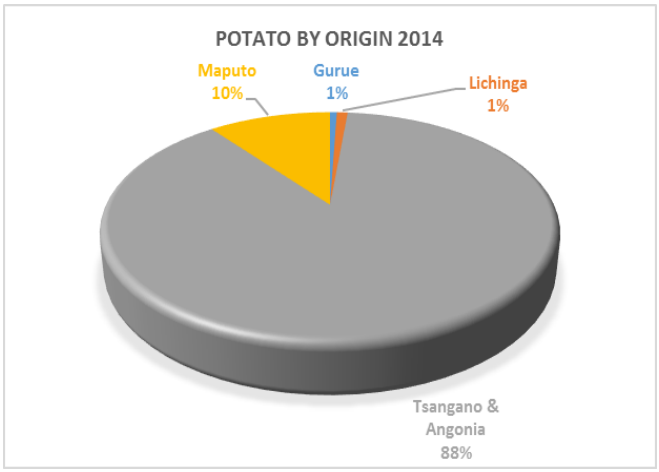
Figure 25: Potato Traded Volumes by Origin 2015 - 2014 - 2013 – in the Nacala Corridor Corridor



- The potato market continues dominated by Tsangano-Angonia that alone accounts in 2015 for 91% of the traded volumes, further strengthening its market share that was of 88% in 2014 and 85% in 2013.

Figure 26: Potato Traded Volumes by District 2015 - 2014 - 2013 – Shares %

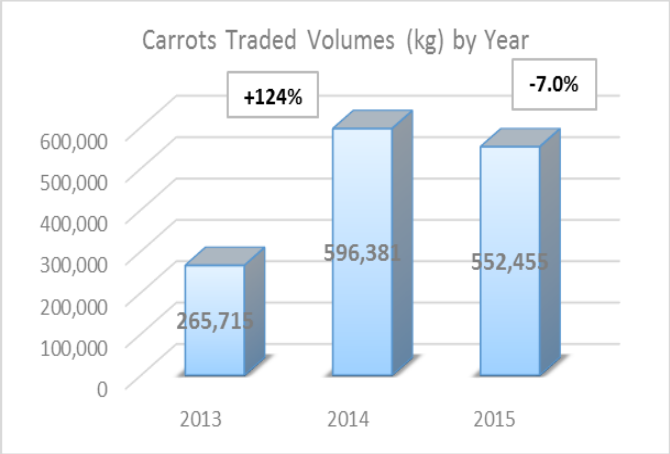


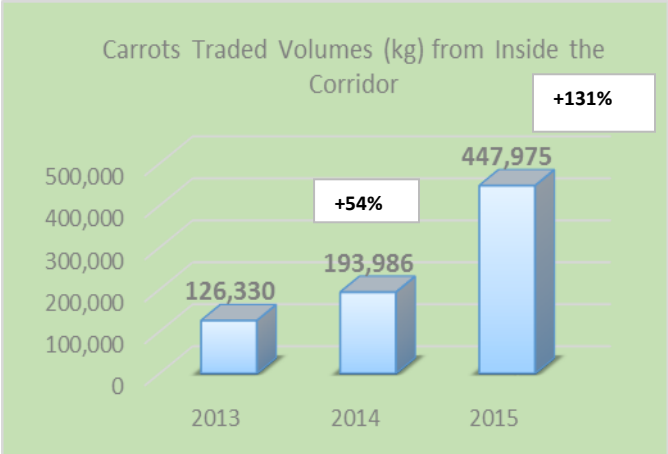


Carrots

- After having more than doubled its volumes between in 2014 vs. previous year, carrots traded volumes in 2015 withdrew by -7.0% probably due to a sluggish urban consumption on which the vegetable heavily depends.
- However, the traded volumes from inside the Corridor grew by a strong +131% (2015 vs. 2014), making carrots the fourth biggest product in the Nacala Corridor after onions, tomato and lettuce.

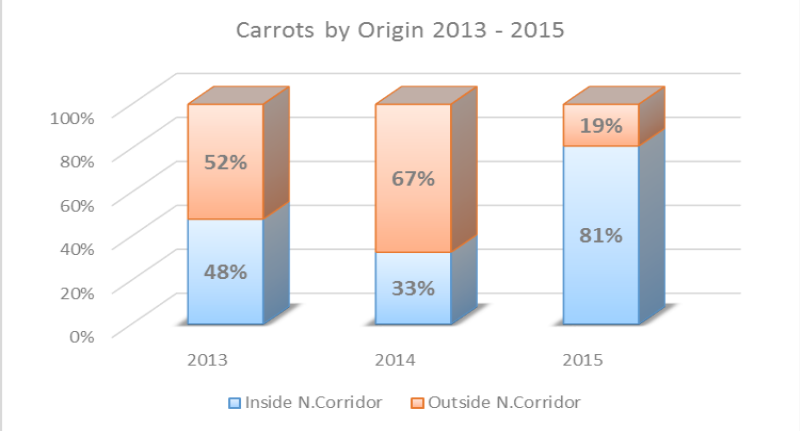
Figure 27: Carrots Traded Volumes 2015 - 2014 - 2013 – Total and from Inside the Corridor





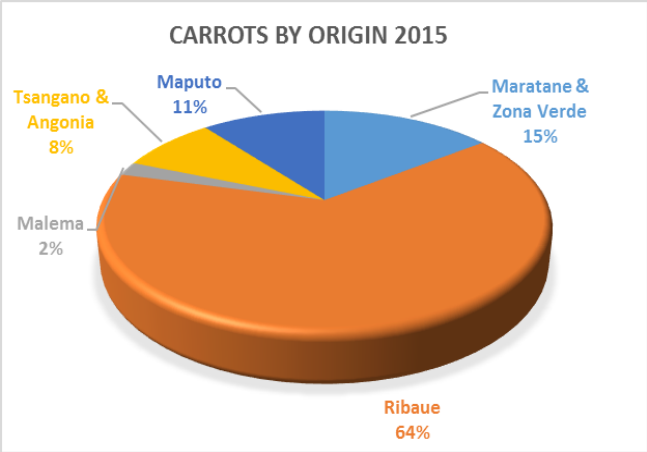
- The competitiveness of the Nacala Corridor has strongly improved as shown by the share % from "inside the Corridor" that has jumped from 33% of 2014 to 81% in 2015.

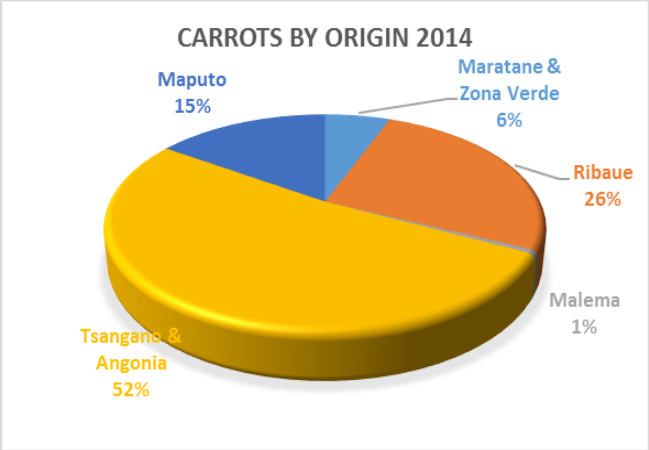
Figure 28: Carrots Traded Volumes 2015 - 2014 - 2013 – From Inside / Outside the Corridor



- Ribaue as emerged as leading cluster of production with a share of 64% in 2015 (26% in 2014) replacing Tsangano / Angonia that looks more and more concentrated on potato and cabbage production.

Figure 29: Carrots Traded Volumes by District 2015 - 2014 - 2013

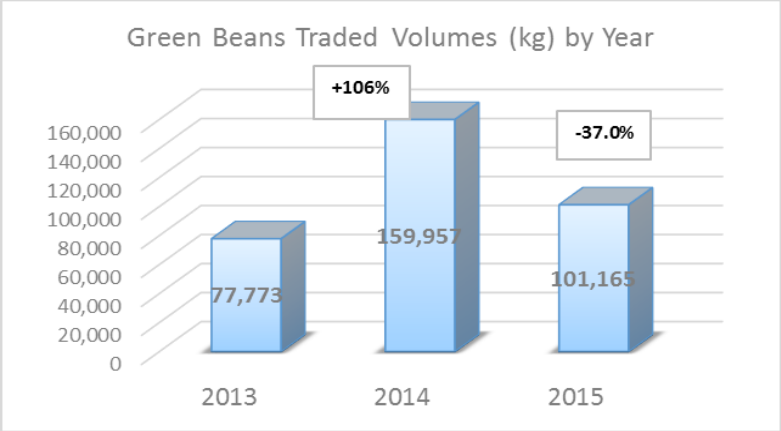




Green Beans

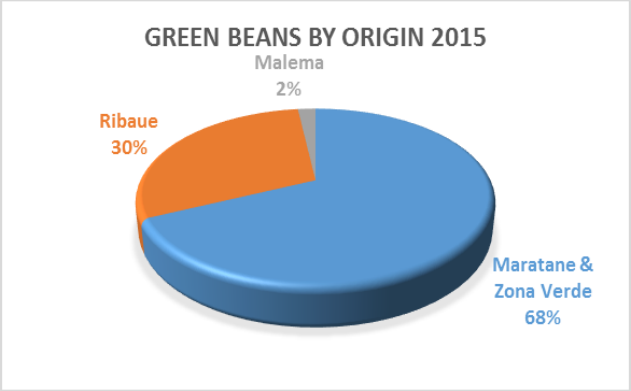
- After an increase of +106% in 2014 vs. 2013 greens beans traded volumes has decreased by -37% in 2015 (vs. 2014).

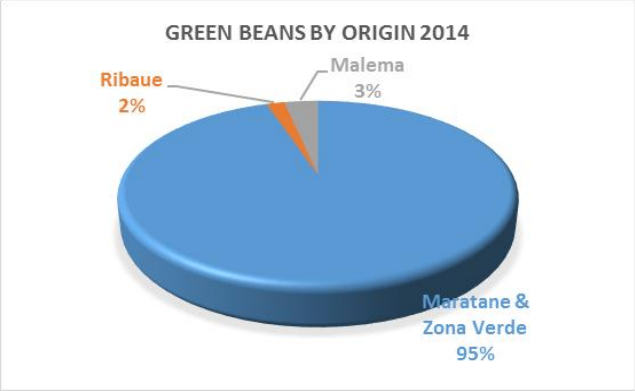
Figure 30: Green Beans Total Traded Volumes 2015 – 2014 – 2013 – Share %



- In 2015 the importance of Ribaue has increased significantly (from a share of 2% in 2014 to a share of 30% in 2015) at the expense of the Greens zones of Nampula.

Figure 30: Green Beans Traded Volumes by District 2015 – 2014 - 2013– Share %


GREEN BEANS BY ORIGIN 2015
Malema
2%
Ribaue
30%
Maratane &
Zona Verde
68%


GREEN BEANS BY ORIGIN 2014
Ribaue
2%
Malema
3%
Maratane &
Zona Verde
95%

Clusters

Regional Cluster Strategies

What is a Cluster?

The term cluster, also known as an industry cluster, competitive cluster, was introduced and popularized by Michael Porter in The Competitive Advantage of Nations (1990).

A horticultural cluster is defined as geographic concentration of inter-connected farmers and companies working in a common industry. In addition, clusters encompass an array of collaborating and competing services and providers that create a specialized infrastructure, which supports the cluster's industry. Finally, clusters draw upon a shared talent pool of specialized skilled labor.

The economic cluster model, represents a synergy, a dynamic relationship and a network between not only the companies that comprise a cluster but also the successful partnering of the stakeholders. Government, education, and other supporting organizations vital to a regions economic success represent these stakeholders. Many successful clusters have established a greater competitive advantage and wealth creation for their regions when compared to companies not in a cluster. Given this success more policy makers and regions are considering fostering cluster development as building blocks of regional economies.

Benefits of Clusters

Michael Porter claims that clusters have the potential to affect competition in three ways: by increasing the productivity of the companies in the cluster, by driving innovation in the field, and by stimulating new businesses in the field.

Each region has its own cluster strength. A region that is able to successfully identity and work with its clusters will reap many strategic benefits. When examined from a global perspective Porter explains that regions offer significant competitive advantages.

"Regional clusters have the ability to offer local things such as knowledge, relationship, and motivation which can not be matched by distant rivals." Therefore, regions that foster their local cluster based strengths can reap tangible returns. Job creation and new entrepreneurial innovations are able to flourish in such a collaborative environment.

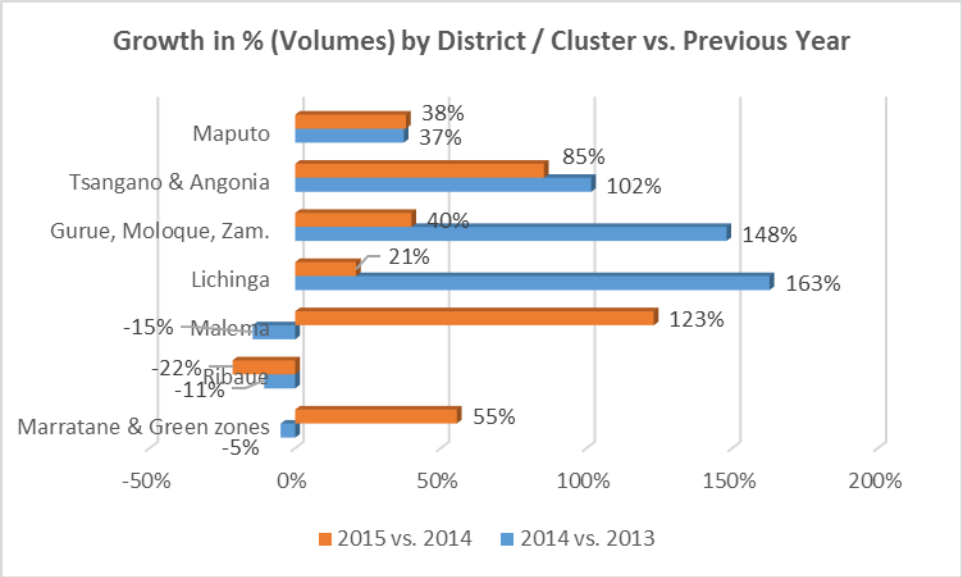
New leaders can develop within this context and continue to drive the networks and alliances of industry that will serve as power brokers within government and the community to continue to evolve a demand-driven framework.

By working with clusters, community organizations and other support services may be able to increase their efficiency and effectiveness by directing services toward larger groups of firms.

The Main Clusters of the Nacala Corridor

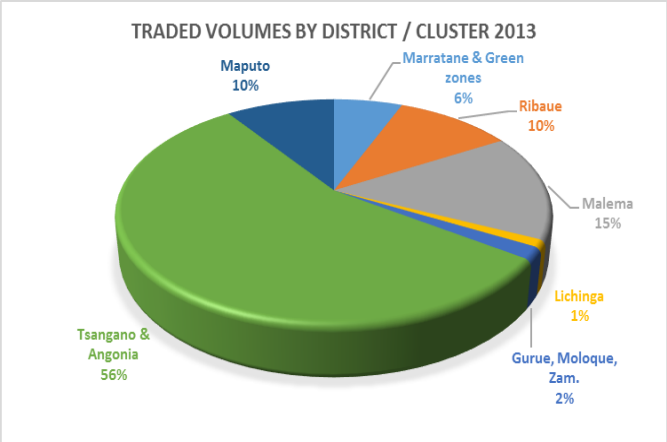
- As a general trend the districts (clusters) of Tsangano & Angonia and Alto de Gurue and Moloque show consistent and strong growth over the period 2013 – 2015, while Ribaue has the worst performance with two negative growth rates in a row. In 2015 it must be highlighted the spectacular performance of Malema (+123% vs. 2014) that highly benefited from the completion of the tar road (N13) connecting the district with the city of Nampula and also the strong growth of Tsangano & Angonia (+85%) and of Nampula Marratene and Green zones mostly due to tomato and lettuce.

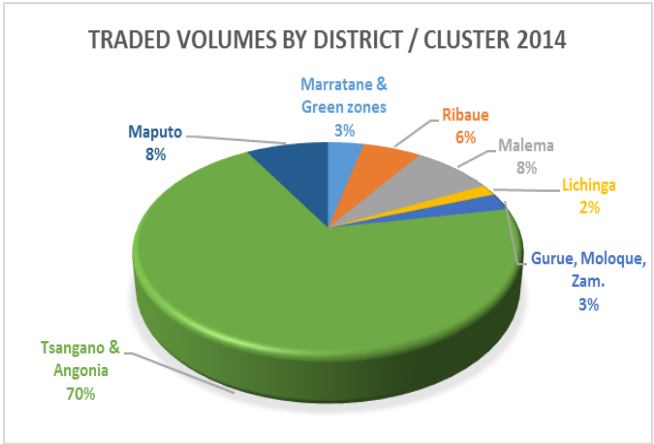
Figure 30: District % Growth in Volumes 2015 – 2014 vs. Previous Year

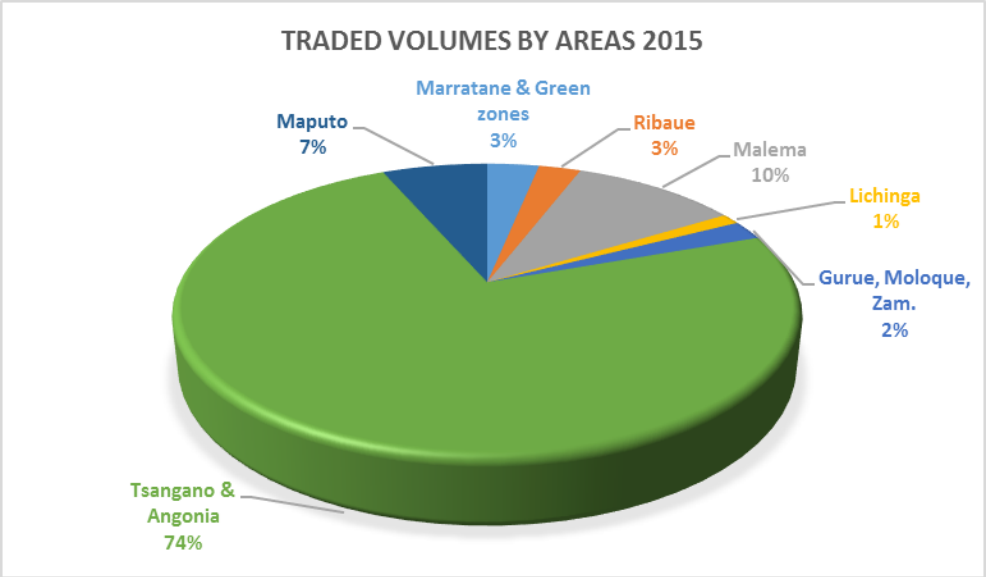


- Over the years 2013 – 2015 the district of Tsangano & Angonia has strengthened its leadership and account now (2015) for a share of 74% of the traded volumes of vegetables in the Nacala Corridor (vs. a share respectively of 56% and 70% in 2013 and 2014).
- The dependency on imports from Maputo has decreased (from 10% in 2013 to only 7% in 2015).
- Ribaue has lost progressively ground (from a share of 10% in 2013 to only 3% in 2015). While Malema has reversed a negative trend in 2015 jumping from a share of 8% in 2014 to 10% in 2015.

Figure 31: Share % by District 2013 to 2015



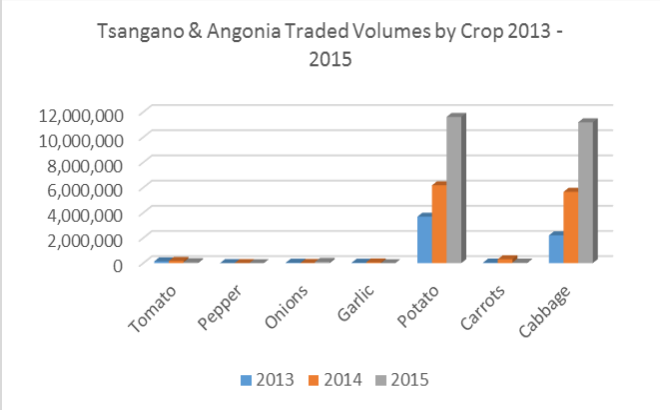


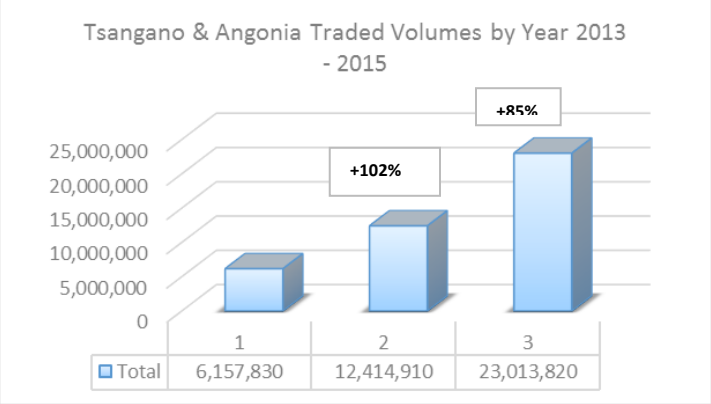


Tsangano & Angonia

- With an increase of +85% in 2015 vs. 2014 the cluster of the high lands of Tsangano & Angonia has further consolidated its position of top suppliers of vegetables in the Nacala Corridor, reaching a share of 74% (56% in 2014). This means than almost two out three kilos of vegetables traded in the Nacala Corridor originates from Tsangano & Angonia.
- Interestingly Tsangano & Angonia has become also in 2014 the leading supplier in the Nacala Corridor of carrots (from 47.1MT in 2013 to 309.4MT in 2014) overcoming Maputo and Ribaue thanks mainly to a strong production in the out-of-season months of December to May.

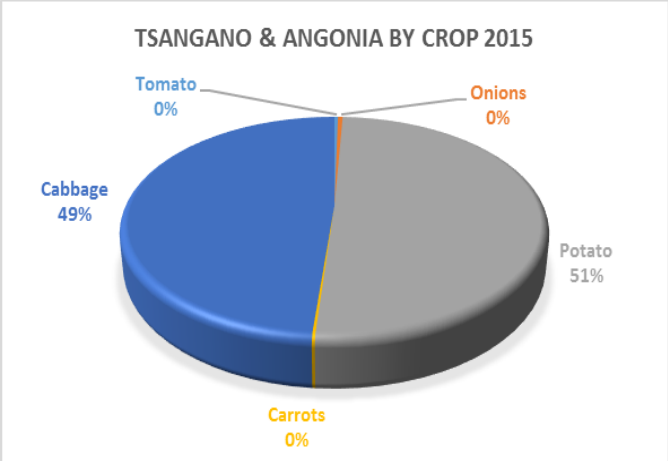
Figure 33: Share % by District 2013 to 2015

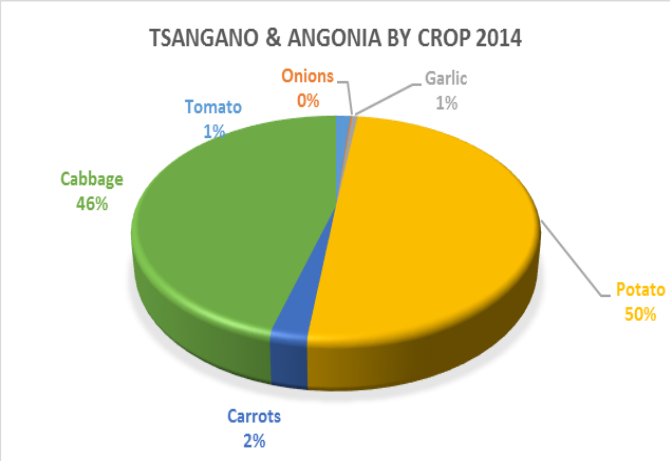




- The cluster of Tsangano & Angonia has heavily specialized on the production of two crops: potato, and cabbage where it holds respectively a dominant share of 91%, and 99%.

Figure 34: Share % by Crop 2013 to 2015 District of Tsangano & Angonia

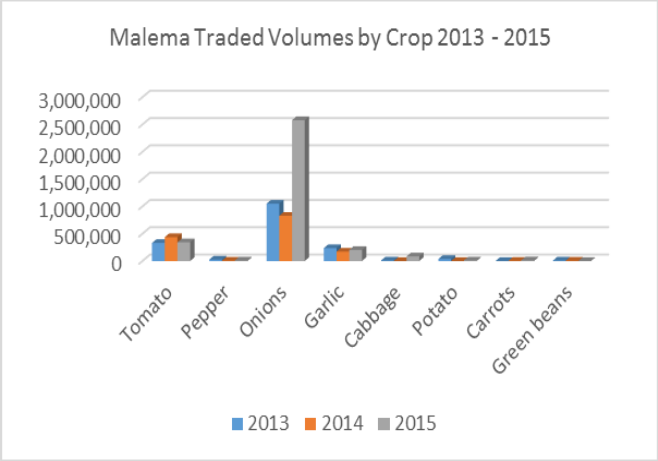


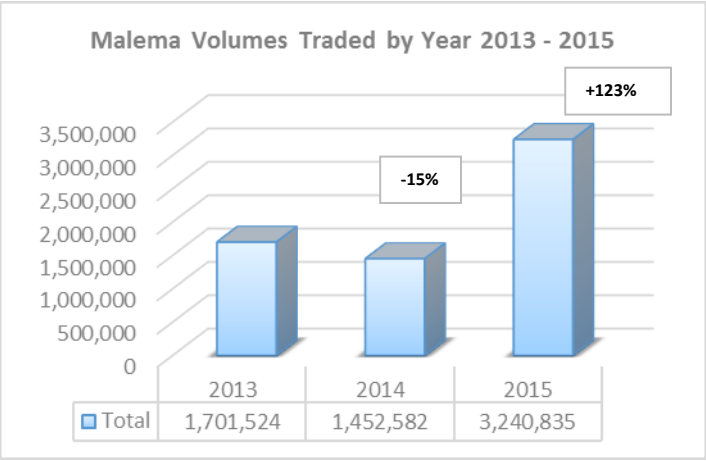


Malema

- The cluster of Malema has rebounded in 2015 after a bad 2014 thanks to the recovery of onions on which the district heavily depends.

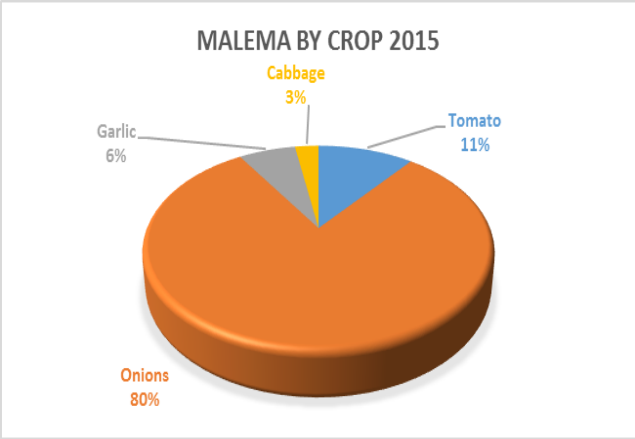
Figure 35: District % Growth in Volumes 2015 – 2014 vs. Previous Year

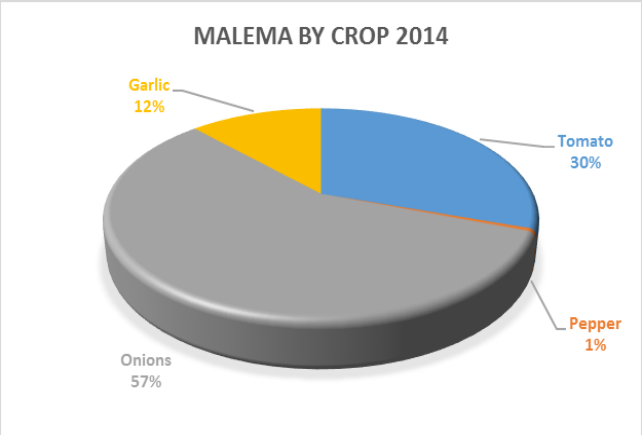




- Onions accounts in 2015 for 80% of the traded volumes originated in the district, followed by tomato (11%), and garlic (65).

Figure 36: Share % by Crop 2013 to 2015 District of Malema

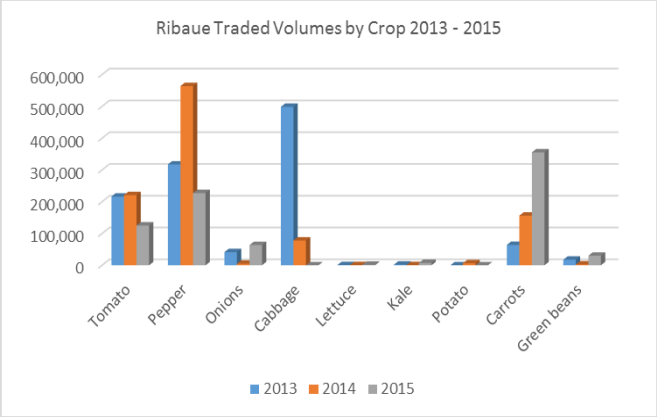


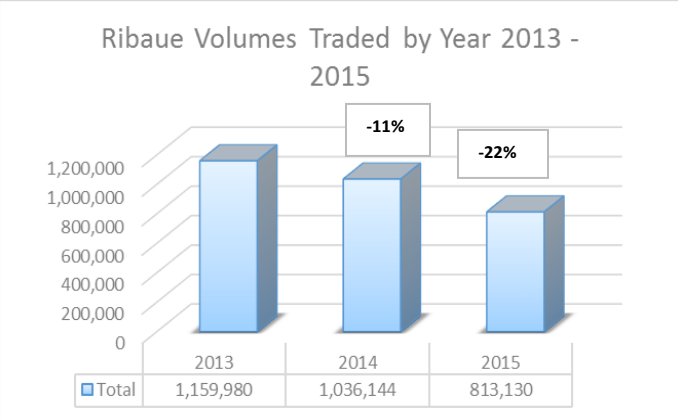


Ribaue

- The volumes traded from the district have continued to decline in 2015 (-22% vs. 2014) due to a strong decrease in pepper and tomato, and despite the strong rise of carrots that have replaced pepper as leading crop in the district (share % of 44% in 2015).

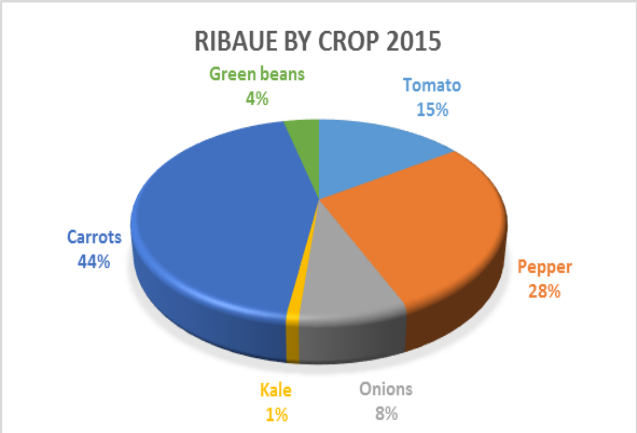
Figure 37: District % Growth in Volumes 2015 – 2014 vs. Previous Year

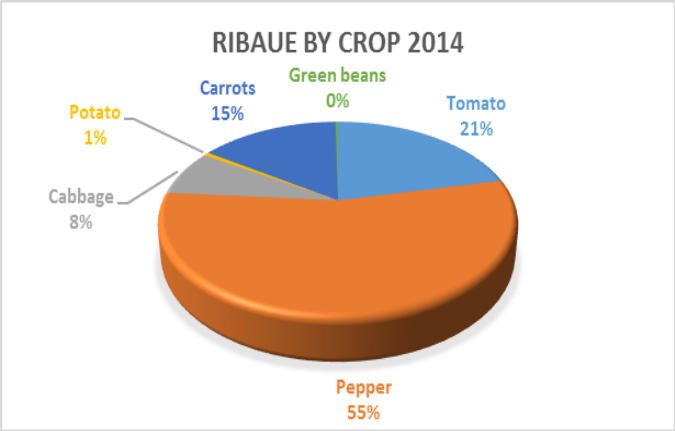




- The production pattern of Ribaue has changed quite significantly from 2013 to 2015. The district got specialized now in pepper and carrots and has become a marginal supplier of tomatoes and cabbage on which it had a significant importance in the Nacala Corridor until 2013.

Figure 38: Share % by Crop 2013 to 2015 District of Ribaue

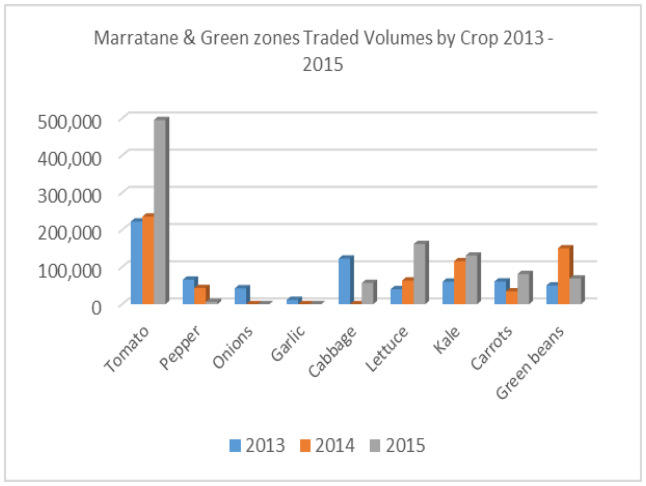


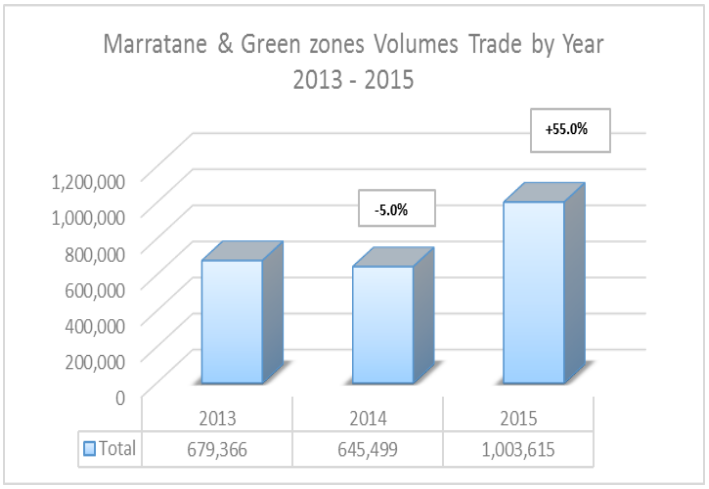


Nampula Green Belt

- The production pattern of the Nampula green belt remains heavily skewed on highly perishable crops such as tomatoes, lettuce, and kale. The strong growth in 2015 (+55% vs. 2014) is due to strong increases in tomato and lettuce.

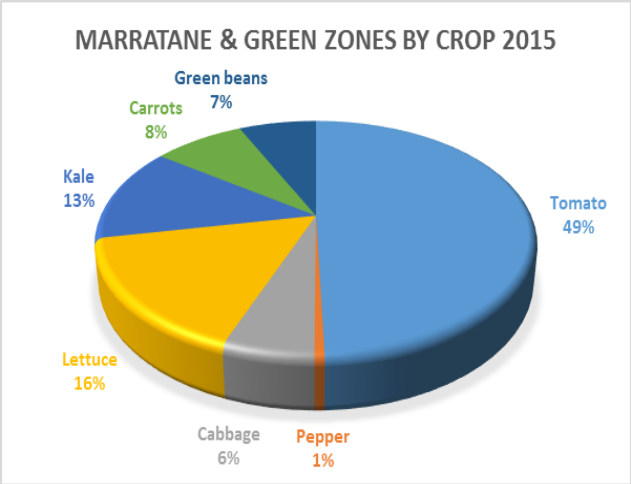
Figure 39: District % Growth in Volumes 2015 – 2014 vs. Previous Year

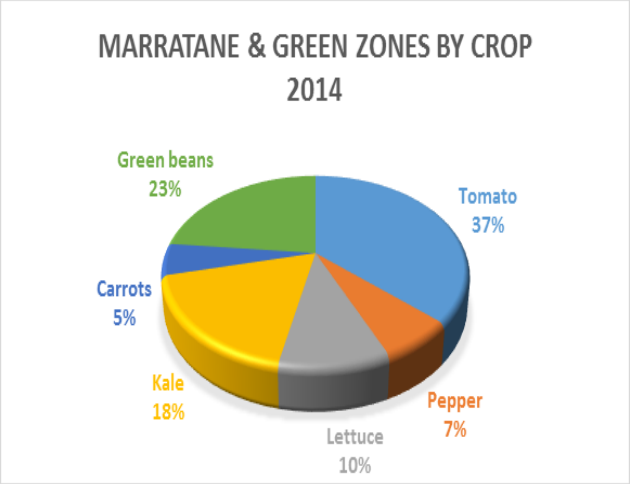




- Local tomato production has partially replaced expensive imports from Maputo that have fallen by half during the year 2015. Tomato and green leaves (lettuce and kale) account in 2015 for almost 80% of the traded volumes.

Figure 40: Share % by Crop 2013 to 2015 District of Nampula Green belt

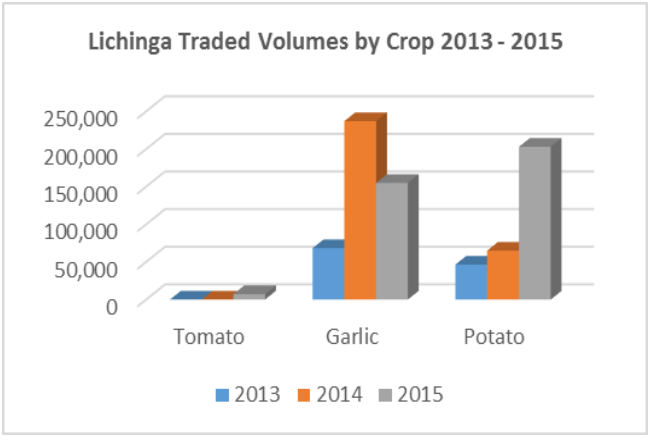




Lichinga

- The production of the Lichinga basically concentrates on only two crops: garlic and potatoes. In 2015 Lichinga has lost the leadership on garlic at the expense of Gurue Alto de Moloque and has slipped in third position behind Malema as well. On the other hand, the district has experienced a strong rise in potato in 2015 (+312% vs. 2014) that have become now the leading traded crop in the area with a share of 56%, replacing garlic (42%).

Figure 41: District % Growth in Volumes 2015 – 2014 vs. Previous Year



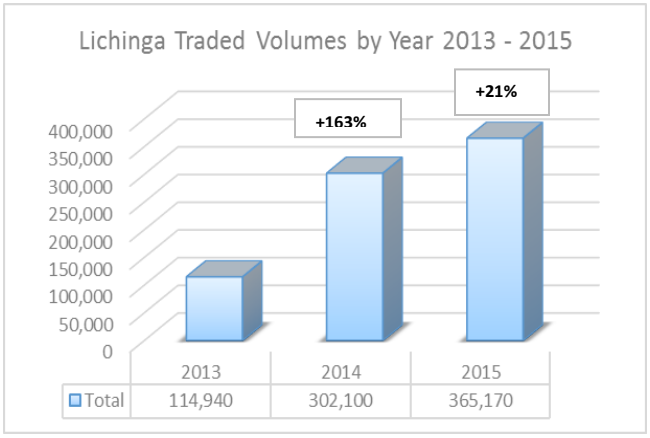
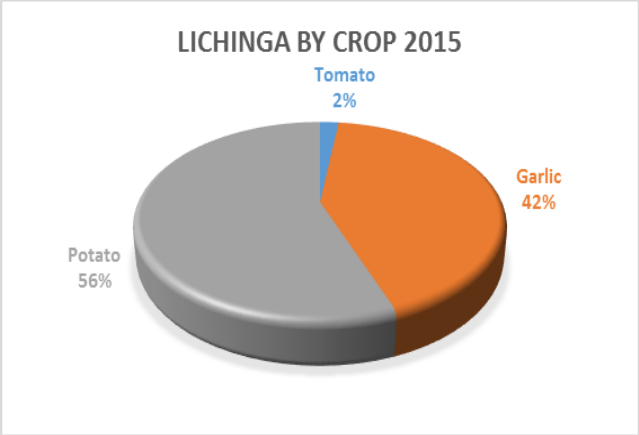
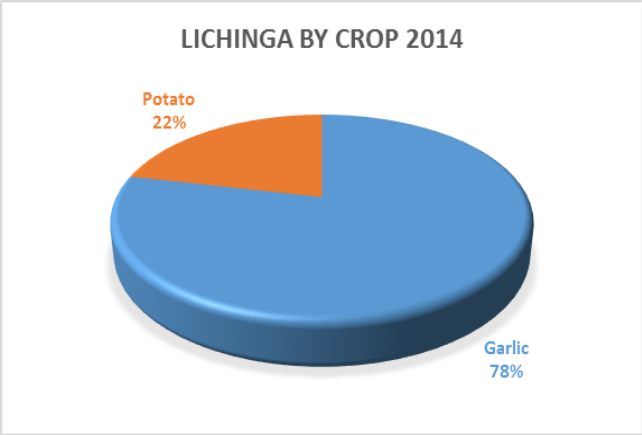


Figure 42: Share % by Crop 2013 to 2015 District of Lichinga

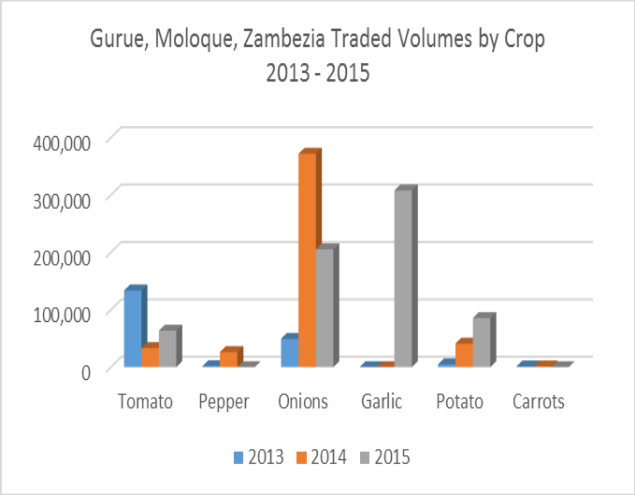




Gurue, Alto de Moloque & Zambezia

- Gurue & Zambezia has scored a growth rate of +40% (2015 vs. 2014) thanks to a strong rise on garlic on which the district is currently market leader. On the other hand the district has no significant volumes in any other crop (onions, potato), and not even tomato where traditionally it was an important supplier.

Figure 43: District % Growth in Volumes 2015 – 2014 vs. Previous Year



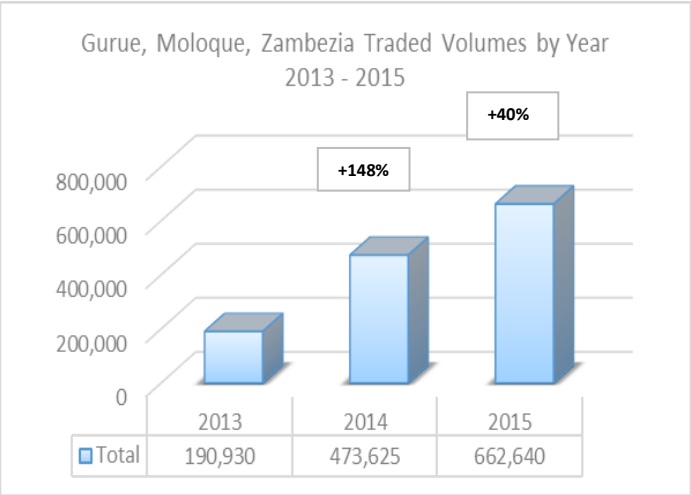
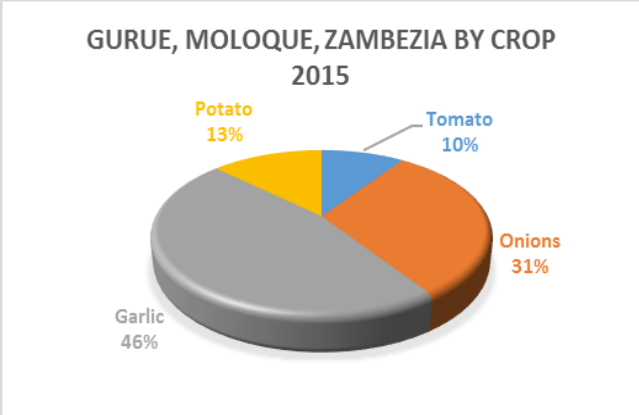
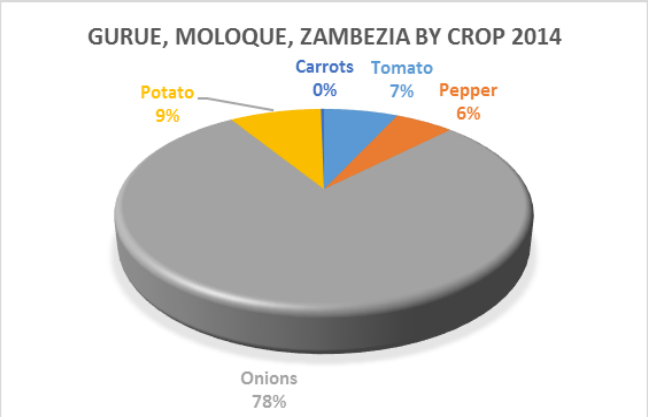


Figure 44: Share % by Crop 2013 to 2015 District of Gurue, Alto de Moloque, Zambezia

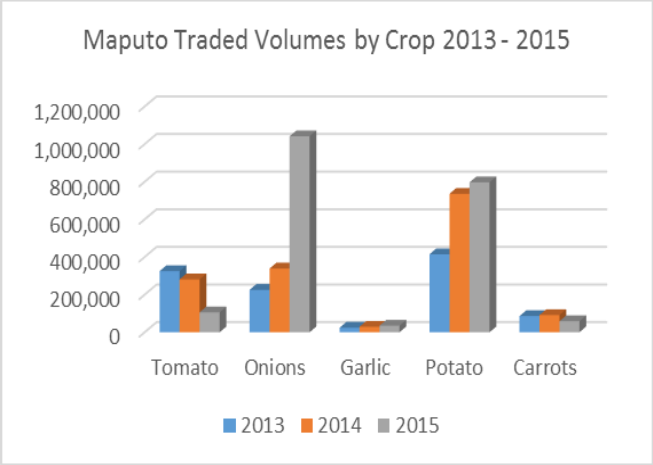


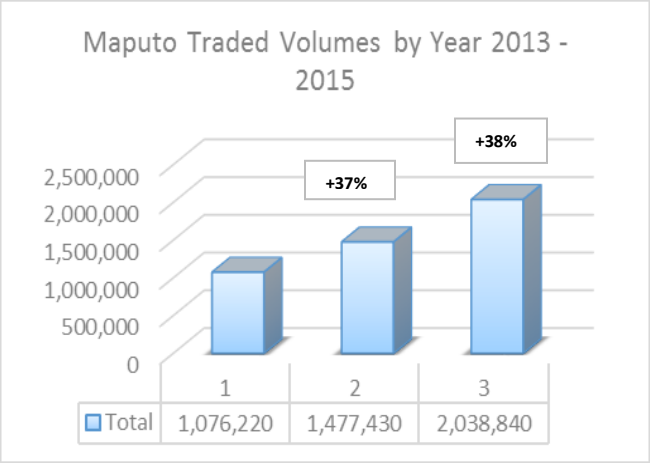


Maputo

- Shipments of horticultural products traded in the WARESTA market procured in Maputo have increased by +38% in 2015 vs. 2015 mainly due to a strong increase in onions (+307%) and despite a decrease in tomato (-62%).
- The strong increase in onions confirms the growing demand and acceptance in Northern Mozambique, for white onions that are mostly imported from South Africa via Maputo, but still little cultivated in the Nacala Corridor where red onion prevails.

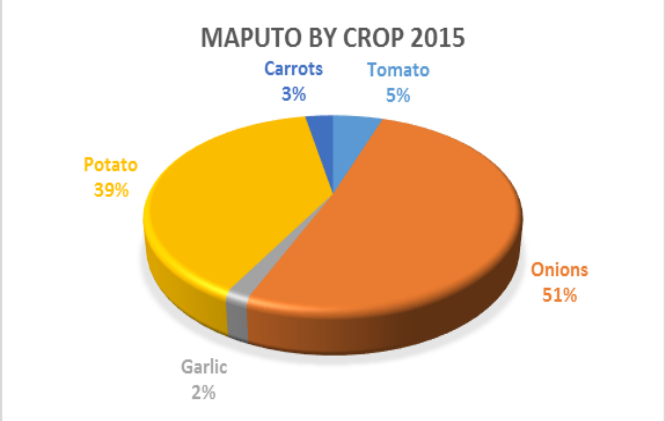
Figure 45: District % Growth in Volumes 2015 – 2014 vs. Previous Year

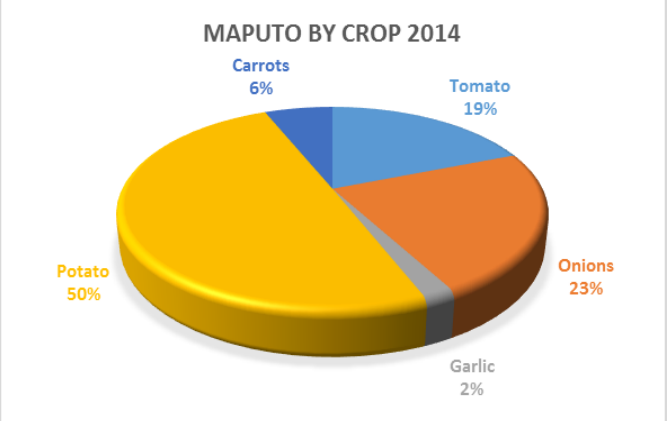




- Shipments from Maputo concentrates more on less perishable crops such as potato, and onions but steadily decrease on more perishable crops such tomato and carrots.

Figure 46: Share % by Crop 2013 to 2015 Maputo





Nacala

- As highlighted in the introduction of this document, the WARESTA Horticulture Index has almost no coverage of the volumes produced in the Nacala district since Nacala is a net importer of vegetables product but does consume internally all its internal production.
  Nacala cluster is extremely diversified with a production designed to satisfy mainly the demand of the sophisticated institutional market (HORECA) that have higher standard of quality and "range" and ask for just in time supply all around the year.
  There is anecdotal evidence the production of Nacala cluster have dramatically increased in 2014 vs. 2013 (possibly at a rate higher than 50%). Horti-sempre Project will work with ADPP in order to produce statistic data that measure more accurately the growth of horticultural production during the last year in the Nacala cluster.