

NUTRITIOUS SWEETPOTATO FOR NIASSA

2013 – 2015 Progress in 8 Districts

Introduction

Sweetpotato is one of the most important crops in Niassa province, Mozambique. It is the third most important crop following maize and bean and is eaten mainly for breakfast in rural areas. In 2013-14, the Nutritious Sweetpotato for Niassa project tested ten new varieties in eight districts in Niassa. Three varieties were selected by participants in each district and eight varieties were adopted. About 37,000 kg of vines from five varieties were multiplied starting in 2013 and were distributed to 13,790 households by June 2015, 55% of whom were women. The lowland areas were explored for vine multiplication and conservation and communities had improved access to Vitamin A through OFSP production and consumption. Since 2014 OFSP processing has been developed to increase consumer access to OFS.

Objectives

The key objective of the project was to contribute to reducing food insecurity & vitamin A deficiency through the effective delivery of a biofortified crop.

Looking forward to March 2016, the key objectives are to:

1. Increase vitamin A & energy intake in 20,000 vulnerable households in 8 districts
2. Increase sustained access to quality planting material, leading to average yields increasing by at least 50%
3. At least 20% of OFSP producing households earn 50 USD or more per year from OFSP sales
4. Build capacity of partners to effectively deliver OFSP and improve its utilization through product development

Intervention zones

The project covers eight districts in Niassa province, north of Mozambique. They are: Chimbanila, Lago, Lichinga, Muembe and Sanga (from 2013) and Cuamba, Mandimba and Mecanheles (from 2014).

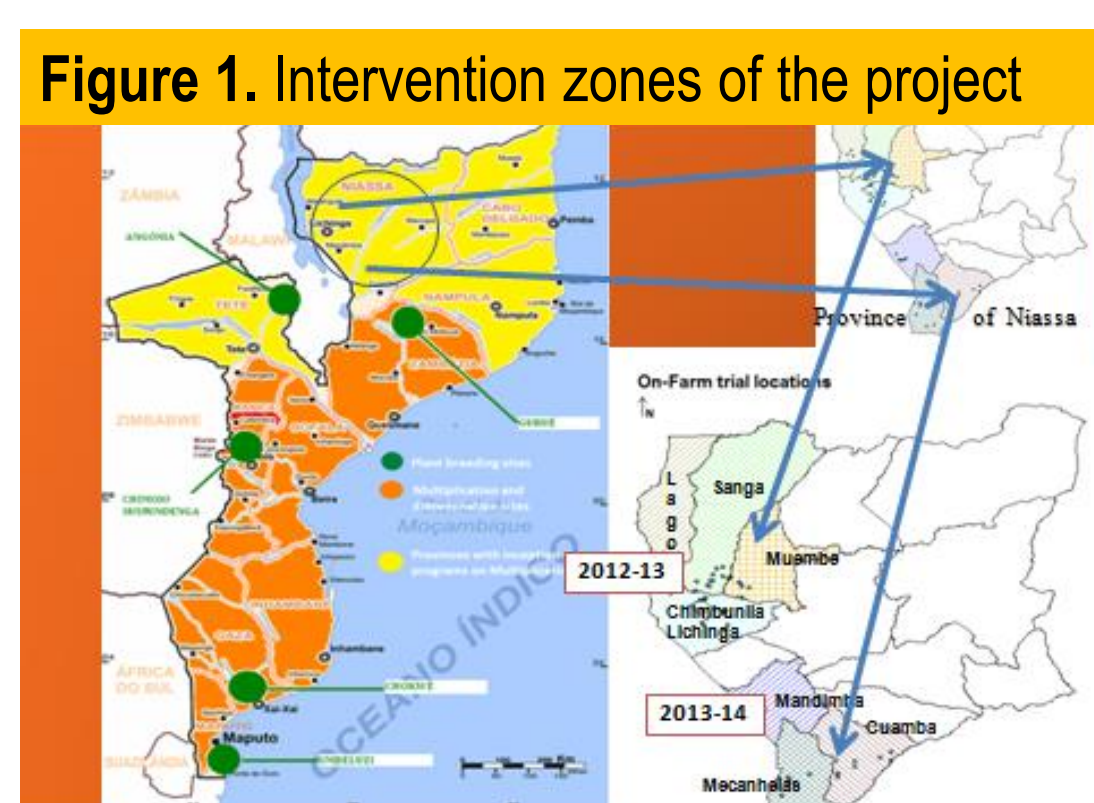


Figure 1. Intervention zones of the project

Methodology

On-Farm trials were conducted with 10 new varieties at 42 sites across four districts in Niassa North in 2013 and at 30 sites in Niassa South in 2014 at the farmer level. Leaf and root taste were tested through a participatory process. Root taste and yield were found to be the most important parameter for variety choice.

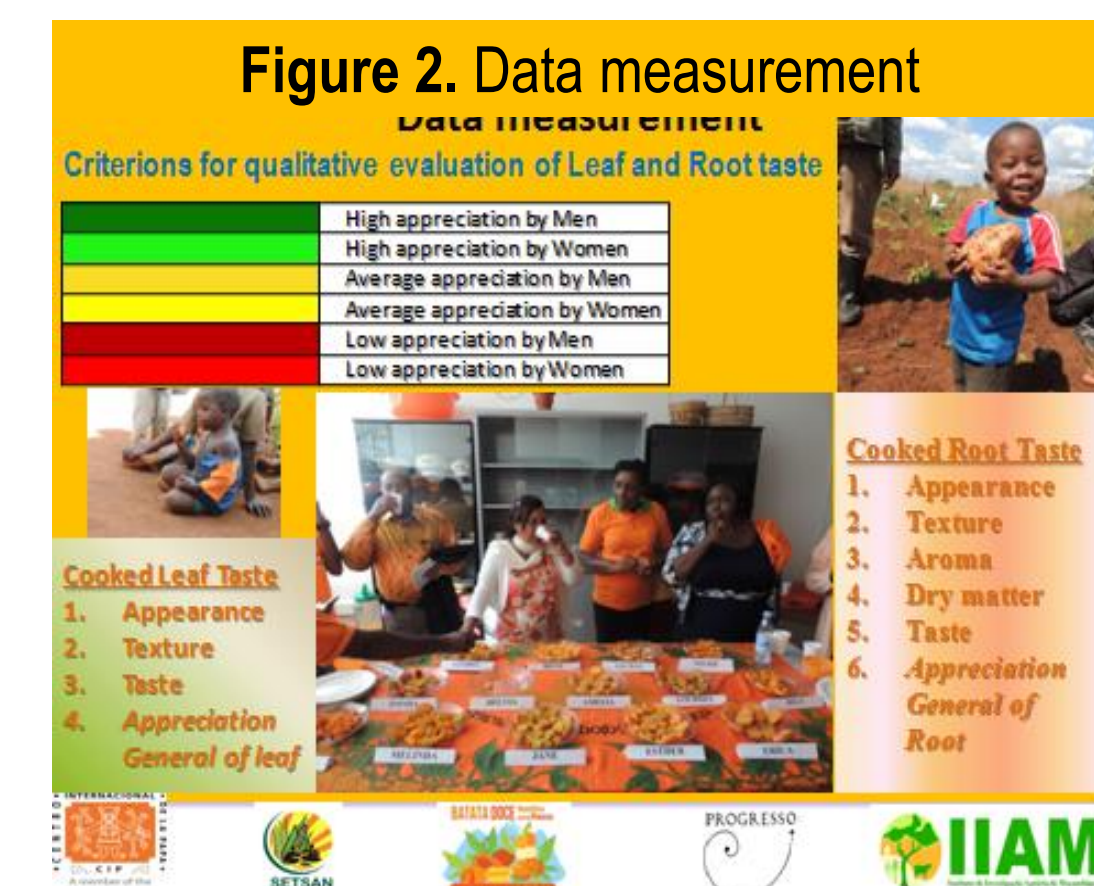


Figure 2. Data measurement

Figure 3. Means of root taste test on ten (10) varieties for across 33 sites at 4 districts north Niassa by gender in %

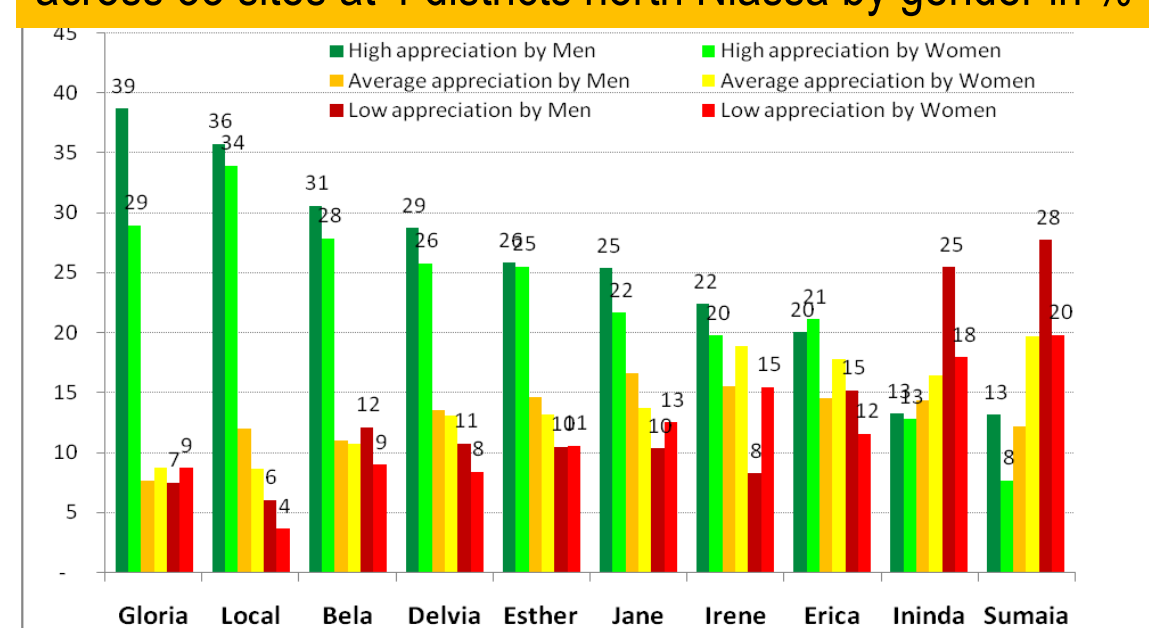
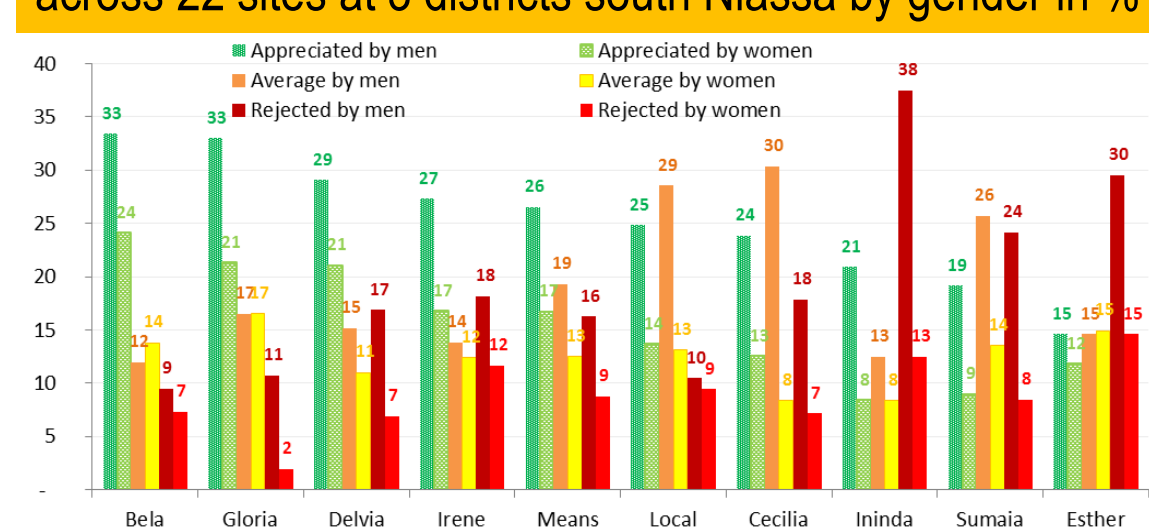


Figure 4. Means of root taste test on nine (9) varieties for across 22 sites at 3 districts south Niassa by gender in %



The variety Delvia has the highest average yields of 16t/ha, followed by the variety Sumaia with 13t/ha. The local and Irene varieties had a yield of 11 and 10t/ha respectively as shown in figure 5.

Figure 5. Average yield in 4 Districts in t/ha

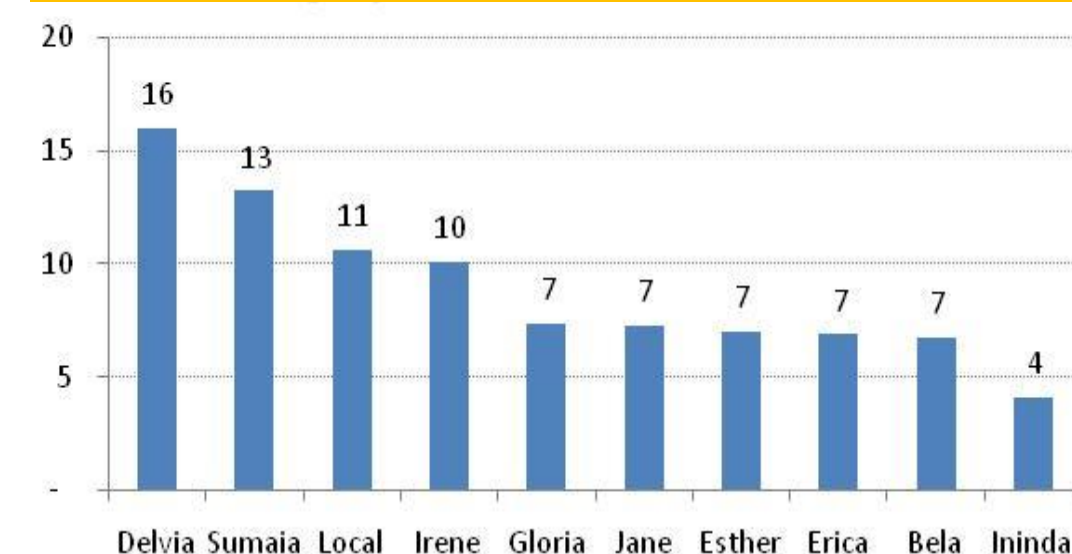


Figure 6. Different yields between 3 sites in t/ha



Figure 6 shows the yields of 6 varieties repeated at 3 sites which present values between sites from 4.2 to 54.1 t/ha according to the soil fertility and to variety adaptation.

Associação Progresso produced and distributed 2,500 leaflets in three languages for their literacy classes.

For 2014-2015: 15 First Decentralized Vine Multipliers (DVM1) with 5 women produced quality vines from 15 net tunnels (Fig. 7) and distributed to 44 Second Decentralized Vine Multipliers (DVM2).

Figure 7. Net tunnel vines production



Figure 8. Vines production potentiality



The DVM2 produced 37 tons of vines which were distributed directly to households (to date). The minimum multiplication rate within 2 months is 10 with a potential multiplication rate of more than 50 (Fig. 8).

Figure 9. Varieties selected at each District

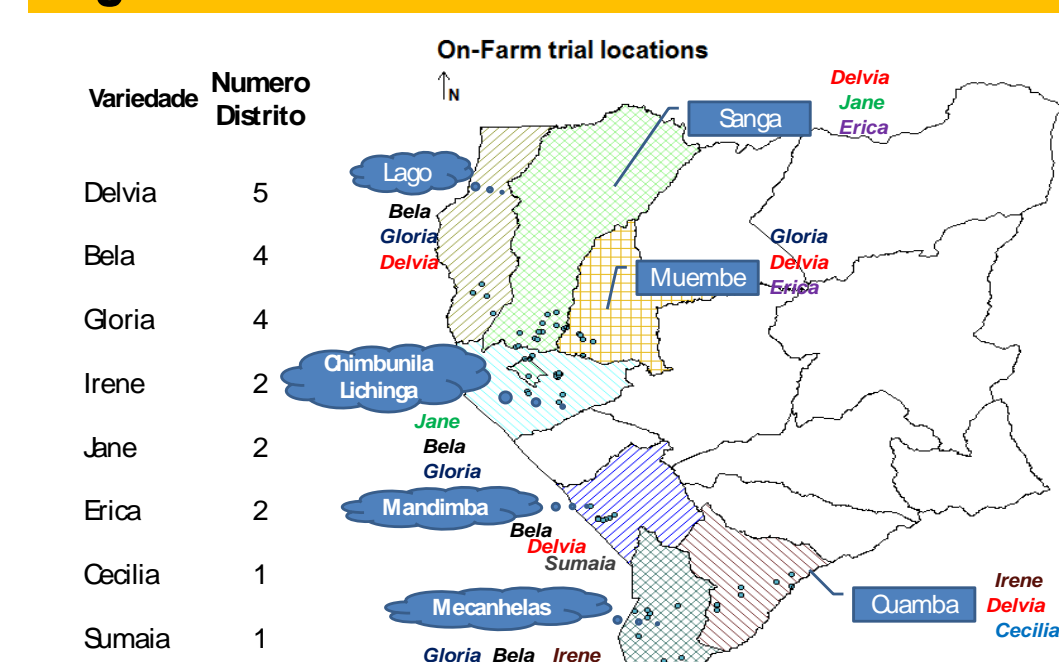


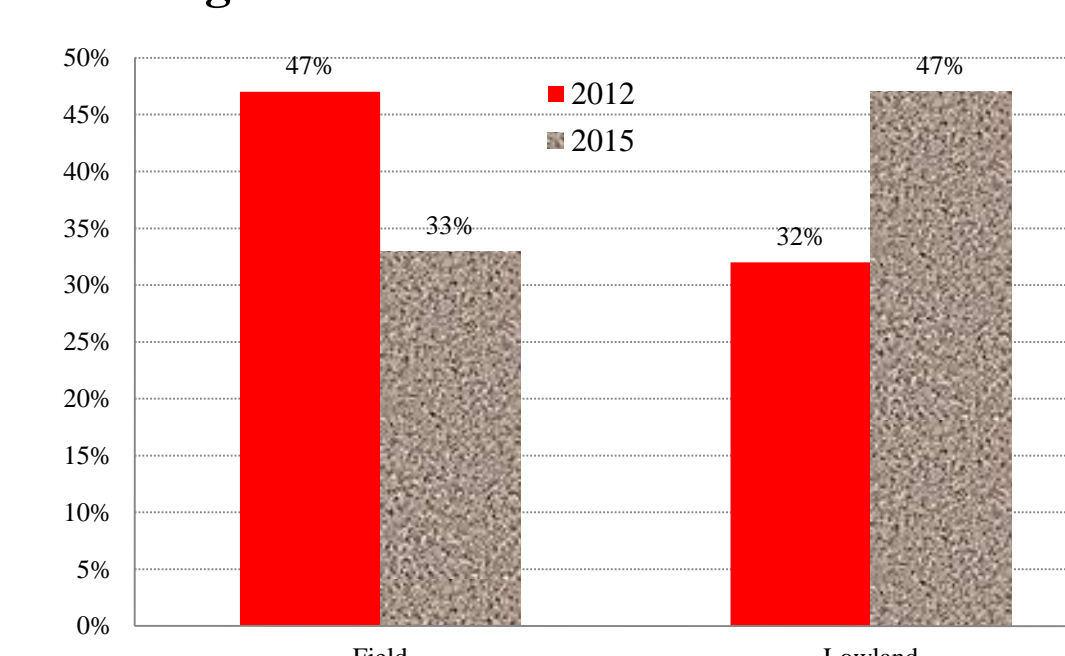
Figure 10. Vines production potentiality

Year	Program	Area	Number	Yield	Area	Number	Yield	Total
2013	1	1,425	3,192	344	2,172	3	1,381	2,174
2014	1	1,775	3,465	765	2,700	1	2,388	2,704
2015	1	1,537	3,495	2	1,967	165	420	2,122
2016	1	1,537	3,495	2	1,967	165	420	2,122
Total	2,588	2,587	1,588	1,768	2,664	724	475	6,441
Number	100%	40%	100%	100%	100%	100%	100%	100%

13,790 HHs, with 55% of women were registered as direct beneficiaries (Fig. 10). Utilisation of OFSP developed significantly from 2014. 4,113 HHs (61% women) with children less than 5 years were trained on OFSP food preparation.

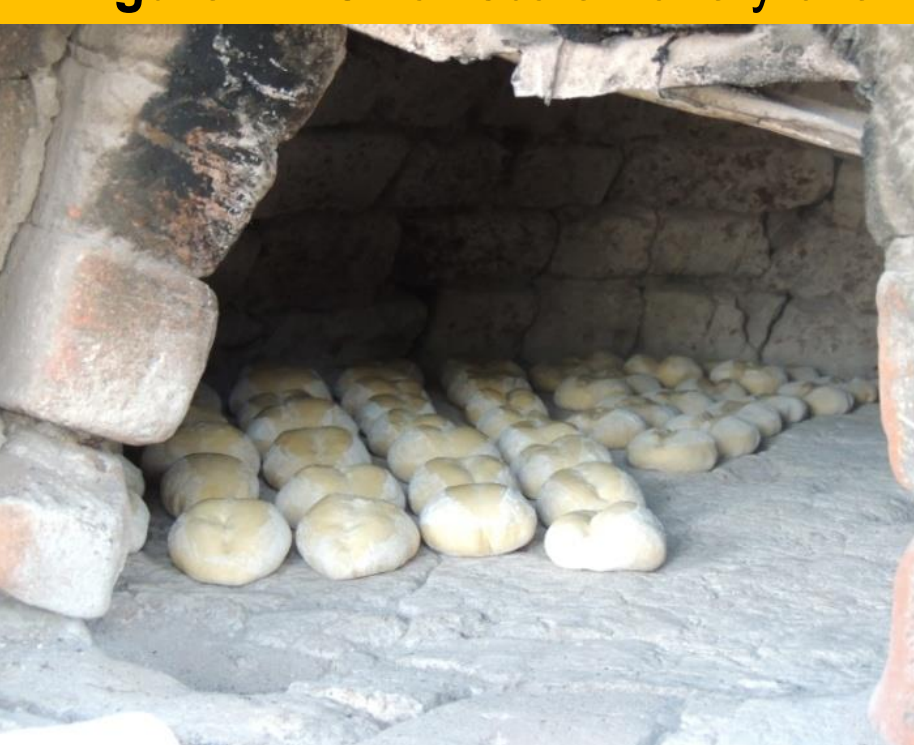
The use of lowland areas has increased. Vine conservation in lowland areas increased from 32% recorded in the baseline survey in 2013 to 47% in April 2015. Conservation in the upland field dropped from 47% to 33% in 2015 as shown in figure 11.

Figure 11: Evolution of use of lowland



Consequently root production has increased and the harvest period extended from October to January to improve OFSP access for consumers and income for producers.

Figure 12. Small scale Bakery oven



Processing training of small bakeries from different districts was organized to create income to small scale farmers and increase access to nutritious bread. Results of the assessment showed that 94% (58% men and 36% women) of consumers prefer power bread (with 35% of OFSP) over the 100% wheat flour option in regards to taste and 90% (54% men and 36% women) in regards to appearance.

Lessons learned

Quality vines are very important for net tunnels. The most relevant success for HHs is how they manage their vines. Using managed lowland (Fig. 13) areas during the dry season or planting as a small garden (Fig. 14).

Figure 13. Managed lowland



Figure 14: Form of vine conservation during dry season

Figure 15: Lessons from the implementation

Figure 15: Lessons from the implementation

Resource management can reduce or increase productivity. Successive wild fire leads to poor soil and poor yield but it can be used to produce compost and in Niassa this led to improved productivity as shown in figure 15.

Conclusions

- An awareness campaign should be implemented to train communities in the management of natural resources in order to improve soil fertility, to use lowland areas more effectively and to link OFSP production to the market and to improved nutrition. This would contribute to the reduction of malnutrition in Niassa province.

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