

Baseline Survey Report of Cashew Producers and Processors

MozaCajú Project

**Prepared for TechnoServe – Mozambique and the Aga Khan
Foundation – Mozambique**

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Introduction

This report presents the results of the baseline survey of cashew producers undertaken for the MozaCajú project implemented by TechnoServe, in partnership with the Aga Khan Foundation, under a grant from the United States Department of Agriculture (USDA) in 14 districts in Cabo Delgado, Nampula, and Zambezia Provinces, Mozambique. The survey was undertaken between October and December 2013. The purpose of this baseline survey is to provide baseline values for MozaCajú project indicators measured at the level of cashew producers, and also to provide general information about conditions, cashew production and marketing activities, and problems faced by cashew farmers within the MozaCajú project area. These baseline results will serve as the benchmark values to be used for measuring project impacts on cashew producers over the life of the MozaCajú project.

In addition, the producer survey has been designed to collect information relevant for TechnoServe's 'shared value' approach to develop linkages among agents in value chains. In the case of this project, the survey collects information from cashew producers about their perceptions of the most serious problems in their communities. This information may be used to inform strategies that processing companies may pursue to establish and strengthen long-term ties with cashew producers and the communities in which cashew factory workers live.

The producer survey is a statistically representative sample of cashew producers within the 14 districts of the MozaCajú project area, so the results from the survey may be considered as representative of all cashew producers within the project area.

Methodology

The survey of cashew producers is designed to capture information to compute all project indicators at the level of cashew producers, as well as additional background information about household demographic characteristics, cashew production and marketing practices, training received, farm management practices, membership in farmer groups, access to and use of credit for cashew production, and assessments of principal problems in the communities where the producers reside. This last information is to provide information about possible areas where processing companies could provide support to communities under TechnoServe's 'shared value' approach. The producer level project indicators are provided in **Annex 1**. Details for calculation of the producer level indicators are provided in **Annex 2**. Processor level indicators (taken from the processor baseline report) are provided in **Annex 3**. The full producer questionnaire is provided in **Annex 4**.

The survey of cashew producers is designed to be a statistically representative sample of cashew producers within the 14 districts of the project area. Under this design, the results from the survey may be considered as representative of all cashew producers within the project area. The sample was also designed to provide a sufficient level of statistical accuracy of estimates at the district level, so that comparisons across districts can be made with a certain degree of statistical confidence.

In order to meet these sampling requirements, the sample size was computed to be able to detect a difference in cashew productivity per tree (kg/tree) of 30% between any pair of the 14 districts in the project area with a 95% statistical confidence and 80% statistical power. The required minimum sample was computed using the following formula:¹

$$n = D [(Z_{\alpha} + Z_{\beta})^2 * (sd_1^2 + sd_2^2) / (X_2 - X_1)^2]$$

Where:

n = required minimum sample size per survey round or comparison group

D = design effect for complex surveys (value = 2). The two-stage process for selecting cashew producers in each district is described below.

X₁ = the estimated level of an indicator in one district (assumed to be 1.0)

X₂ = the *expected* level of the indicator another district such that the quantity (X₂ - X₁) is the size of the magnitude of difference in the indicator between districts that it is desired to be able to detect (assumed to be 1.30, or a change of 30%)

sd₁ and sd₂ = *expected* standard deviations for the indicators for the respective districts being compared (assuming Coefficient of Variation of 0.5, sd₁= 0.5 and sd₂=0.65)

Z_α = the z-score corresponding to the degree of confidence with which it is desired to be able to conclude that an observed change of size (X₂ - X₁) would not have occurred by chance (statistical confidence)

Z_β = the z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of size (X₂ - X₁) if one actually occurred (statistical power).

Assuming that the standardized expected productivity of cashew trees in a given district, X₁ is 1.0 and we want to be able to detect a difference of 30% in productivity of cashew trees between this district and any other district in the sample, then X₂ = 1.30. Assume that the coefficient variation (standard deviation / mean) of the productivity of cashews is 0.5, consistent with other estimates of variation in cashew productivity of smallholder producers in Africa, then sd₁ = 0.5 (1.0 * 0.5), and sd₂ = 0.65 (1.30 * 0.5). Using a confidence level of 95% (Z_α = 1.645) and a power level of 80% (Z_β = 0.840). A design effect of 2.0 is used, which combines the offsetting effects of a 2-stage clustered design with a stratified sample of survey sites. Plugging these parameter values into the sample size formula gives:

$$\begin{aligned} n &= D [(Z_{\alpha} + Z_{\beta})^2 * (sd_1^2 + sd_2^2) / (X_2 - X_1)^2] \\ &= 2.0[(1.645 + 0.840)^2 * (0.5^2 + 0.65^2) / (1.30 - 1.0)^2] \\ &= 67.3 \end{aligned}$$

Correcting for a non-response factor of 5%, the minimum target sample size to be selected is

$$= 67.3 * 1.05$$

$$= 70.7$$

≈72 (This figure was chosen for logistical purposes, to have an even number of households per district)

¹ Magnani, Robert. Sampling Guide. Food and Nutrition Technical Assistance Project (FANTA), 1997.

The sample selection process is designed to provide an unbiased sample of cashew producers. As described above, the sample was stratified into 14 districts across the three provinces of Cabo Delgado, Nampula, and Zambezia, where the project will operate. Because an equal number of producers (72) were selected from each district, but the districts all have different populations, sample weights were applied to each district to adjust for the differences in the proportion of households sampled from each district compared to the proportion of households residing in each district. The weighting is based on population, so the implicit assumption is that the relative proportions of cashew producers across districts are equal to the relative proportion of the population across the districts.

Because the districts are very large geographically, the MozaCajú project will operate in particular administrative posts (identified by project staff prior to the baseline) rather than across districts as a whole. For this baseline, the selection of producers within the districts was done in a two-stage process. First, a total of four communities were selected from the total list of communities within the identified administrative posts in each district. Second, within the selected communities, a total of 18 households were interviewed. The four communities per district were selected based on probability proportional to size (PPS), so that each household within the district had an equal chance of being selected. **Annex 5** provides the selected communities by district and province.

The preferred means to select respondents for a randomly selected sample is to draw from complete lists of all respondents. The sample frame for the producer survey includes households that produce cashews. Since there are no lists of cashew producers available, a random walk procedure was used to select respondents for the survey. Within the selected communities, enumerators would begin from a central location in a village, and each move along a separate path, randomly chosen by the team supervisor. Interviewers would skip a fixed-number of households based on the last digits of serial numbers from randomly selected bank notes, and ask the individual at the selected home whether members of that household produced cashews. If they responded positively, the household was interviewed, and if negatively, the next household along the path would be asked if they produced cashews. In this way, only households that produce cashews were included in the sample.

All of the results presented in this report are broken down in three different ways:

1. Province (Cabo Delgado, Nampula, Zambezia)
2. Gender of household head
3. Category of volume of cashew sales

The third category is to permit comparisons of characteristics by “scale” of cashew farmer. The three categories are defined as the terciles (three groups with equal numbers of cases), based on the ranking of the volume of sales of cashews and cashew products (fruit, juice and processed products) per household. Thus the households in the “Low” category are the 33% of households with the lowest value of cashew sales in the sample, the “High” are the 33% of households with the highest value of cashew sales, and the “Mid” category are the households that fall in the middle in terms of the value of their cashew sales (Error! Reference source not found.).

For the purpose of analysis, sample weights have been applied to data collected from the sample in order for the information presented in the following tables to reflect the respective population proportions in each of the districts. Sample weights were calculated using the following formula²:

$$W_i = 1 / P_i$$

W_i = sampling weight for district_i

P_i = probability of selection for a sampled household in district_i (72 / district population / avg. household size)

A normalization factor, equivalent to the proportion of total households in the sample to total households in the 14 sampled districts (1,008 / 161,752³) is then applied to the weights so that all of the computed household counts in the data analysis correspond with the number of households sampled.

Table 1: Sample Weights

Province	District	Pop.	%	# HH Sampled (a)	Sample Weight (b)	Weighted # HH (a * b)	%
Cabo Delgado	Mueda	44,669	4.8%	72	0.672	48	4.8%
	Nangade	61,371	6.6%	72	0.924	67	6.6%
	Palma	2,843	0.3%	72	0.043	3	0.3%
	Muidumbe	50,766	5.5%	72	0.764	55	5.5%
	Mocimboa da Praia	17,268	1.9%	72	0.260	19	1.9%
	Metuge	30,101	3.2%	72	0.453	33	3.2%
	Chiure	72,687	7.8%	72	1.094	79	7.8%
	Macomia	61,205	6.6%	72	0.921	66	6.6%
	<i>Total</i>	340,910	36.7%	576	N/A	369	36.7%
Nampula	Meconta	19,033	2.0%	72	0.286	21	2.0%
	Mogovolas	127,783	13.7%	72	1.923	138	13.7%
	Angoche	116,395	12.5%	72	1.752	126	12.5%
	Moma	76,238	8.2%	72	1.148	83	8.2%
	<i>Total</i>	339,449	36.7%	288	N/A	368	36.7%
Zambezia	Gile	87,355	9.4%	72	1.315	95	9.4%
	Pebane	162,361	17.5%	72	2.444	176	17.5%
	<i>Total</i>	249,716	26.5%	144	N/A	271	26.5%
	Total	930,075	100.0%	1,008	N/A	1008	100.0%

Sample Weight = [District Population / Avg. HH Size (5.75) / Households Sampled per District (72)] * Normalization Factor (.0062)

Indicator values in **Annex 1** have been inflated to population values using the sample weights in **Table 1** without the normalization factor. Thus the estimates are based on the proportion of the surveyed households in the total population in each district.

² Magnani, Robert. Sampling Guide. Food and Nutrition Technical Assistance Project (FANTA), 1997.

³ The number of households in the population is calculated using an estimate of the number of members per household across the 14 districts: 930.075 / 5.75 = 161,752.

Table 2: Characteristics of cashew sales categories

	Sales Categories		
	Low	Mid	High
Range of value of sales (USD/HH)	0-25.67	26.67-58.33	60 – 5,866.67
Mean value of cashew sales (USD/HH)	14.51	39.15	295.55
Median value of cashew sales (USD/HH)	16.67	40	133.33
N=	257	291	275

The determination of the total area planted in cashew trees is very problematic for smallholder producers in Mozambique. Some producers have their trees in well-designed orchards, with well-defined spacing between trees, while others have trees widely dispersed in very unorganized patterns. Thus, two producers with the same number of trees may have those trees planted over very different areas. In order to standardize the area, we have computed the “effective” area in cashews based on the number of cashews that the farmer has. In particular, we estimated the median area per tree, based on the reported number of cashew trees farmed, and the reported area planted in cashews, from the sample. The median area per cultivated tree computed from the sample is 286 square meters (35 trees per ha). We computed the effective area in cashews by multiplying the number of trees cultivated by the farmer times 286 square meters. This is the measure of area used for the total area under cashew production, as well as the area under specific techniques and technologies.

Throughout the body of the report, text highlighted in **red** denotes indicators that are officially tracked as part of the MozaCajú Performance Monitoring Plan (PMP) created by the United States Department of Agriculture (USDA).

Producers’ Level Findings

Demographic Characteristics

In the three provinces selected for this study, 20.1% of households were female-headed. The proportion of female-headed households was slightly higher in Zambezia Province (23.2%) (Error! Reference source not found.). Error! Reference source not found. indicates that the percentage of female-headed households was highest in the low sales category (23.6%) and lowest in the high sales category (13.9%) and that the difference is statistically significant.

Table 3: % of female-headed households by province

	Province			Total
	Cabo Delgado	Nampula	Zambezia	
% of female-headed households	18.70%	19.30%	23.20%	20.10%
N=	369	369	269	1008

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado.

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 4: % of female-headed households by sales category

	Sales Categories			Total
	Low	Mid	High	
% of female-headed households	23.60%	19.50%	13.9% ³	18.90%
N=	258	291	277	826

p<.10; 1:Mid different than Low; 2: High different than Mid; 3: High different than Low.

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Male-headed households were significantly older than female-headed households by 5.3 years. The oldest male-headed households were in Cabo Delgado (mean age of 52.0 years) and the youngest were found in Nampula (mean age of 41.4 years). Households were significantly larger in male-headed households (mean of 5.8 persons) and the largest households were found in Cabo Delgado (mean of 6 persons) while the smallest households were found in Zambezia (mean of 5.1 persons) (Error! Reference source not found.).

Table 5: Age of heads of household and average household size by gender of head of household and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Average age HoH	46.9*	41.6	52.0	41.4	43.3 ³	45.9
N=	796	196	369	362	260	992
Average household size	5.8*	5.0	6.0	5.8	5.1 ^{2,3}	5.7
N=	805	203	369	369	269	1008

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

When households were disaggregated between high, medium, and low sales terciles, the average age of the head of household was significantly higher for households that were in the high sales tercile (48.5 years). The same was true for size of household: larger households were found in the high sales category. In summary, households that were in the high sales tercile were larger and were predominantly headed by older men (Error! Reference source not found.).

Table 6: Average age of head of household and household size by sales categories

	Sales Categories			Total
	Low	Mid	High	
Average age HoH	40.6	44.4	48.5 ³	44.6
N=	251	288	275	814
Average household size	5.2	5.4 ²	6.5 ³	5.7
N=	258	291	277	826

p<.10; 1:Mid different than Low; 2: High different than Mid; 3: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

The percentage of female respondents who were heads of households and who could not read or write was higher (68.8 percent) than the percentage of males who were head of households (53.1 percent) and the difference is significant (**Table 7**). Only 23.3% of females could read and

write as compared to 35.5% of men. The percentage of household heads that could not read and write was higher in Cabo Delgado (72.4%) and lowest in Zambezia (46.1 %). Zambezia and Nampula were the provinces where the highest proportion of literate heads of household could be found (39.7% and 36.7%, respectively).

Table 7: Literacy by gender and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Can't read or write	53.1*	68.80%	72.40%	47.3% ¹	46.1% ³	56.20%
Can only read	11.50%	7.90%	3.00%	16.0% ¹	14.2% ³	10.80%
Can read and write	35.5%*	23.30%	24.70%	36.7% ¹	39.7% ³	33.00%
N=	801	202	369	368	267	1003

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Cashew Tree Cultivation

Tree holding and acquisition

Cashew nut farmers were asked questions regarding the number of trees they own, their number of productive trees, and whether their trees were planted in a concentrated or dispersed manner. Male-headed households owned significantly more trees than female-headed households (at the median, 92 versus 75) and also had more trees under cultivation (75 versus 54). In addition, male-headed households were more likely to plant their trees in a concentrated manner (25.4%) as opposed to female-headed households, who tended to plant theirs in a more dispersed way (**Table 8**). The vast majority of trees owned by both male and female-headed households were under cultivation.

Cashew farming households in the province of Cabo Delgado, at the median, owned the most trees. However, many trees that these households owned were not used for cashew production (only 72%). This is interesting since households in this province had the fewest number of young trees (immature) and the largest number of trees at peak productive age (Error! Reference source not found.). There are several possible reasons why the trees aren't used in cultivation, including old age, being in poor condition, or not bearing fruit at all (for various reasons). Cashew farming households in Nampula and Zambezia, on the other hand, owned fewer trees (medians of 75 and 80, respectively) than farmers in Cabo Delgado (median of 117) but the majority of these trees were used for production (82.7% and 84.8%, respectively).

Table 8: Tree holding and tree density by gender head of household and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Avg. # trees owned	195.0*	135	252.1	143.2 ¹	140.6 ³	182.8
Median # trees owned	92	75	117	75	80	80
N=	796	203	369	362	267	998
Avg. # trees cultivated	154.5*	100.5	188.5	124.0 ¹	108.6 ³	143.7
Median # trees cultivated	75	54	75	57	75	70
N=	799	201	369	364	267	1000
Avg. Trees cultivated / Trees owned per farmer	79.1%	80.1%	72.0%	82.7% ¹	84.8% ³	79.3%
N=	790	201	369	358	264	991
% farmers planting concentrated (vs. dispersed)	25.4%*	15.8%	14.4%	33.3% ¹	22.7% ^{2,3}	23.6%
N=	794	203	367	366	264	997

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Households belonging to the high sales category owned significantly more trees and had more productive trees compared with households in the medium and low sales categories. It is interesting to note that for all households actively selling cashew, regardless of the sales categories they belonged to, the average number of trees used for cashew production was high. In addition, most farmers planted their trees in a dispersed manner, as opposed to a more efficient concentrated planting density.

Table 9 shows that the two main ways that households acquired cashew trees were through inheritance (56.1%) and purchase (31.5%). It is worth noting that the questionnaire only allowed for one response and the findings may not reflect households who have obtained trees through a number of different methods. Female-headed households primarily acquired cashew trees through inheritance (67.0%) as opposed to 53.2% for their male counterparts. Male-headed households, on the other hand, could purchase trees far more easily than female-headed households (33.2% versus 24.1%).

Not surprisingly, households that belong to the high sales category were able to purchase trees more easily than households in the medium and low sales categories (37.2% versus 32.3% and 23.2%, respectively). Across all sales categories, households acquired trees mainly through inheritance (55%, **Table 10**).

Table 9: Tree acquisition by gender head of household and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Inheritance	53.2%*	67.0%	55.1%	65.2% ¹	45.0% ^{2,3}	56.1%
Purchase	33.2%*	24.1%	38.4%	22.7% ¹	33.8% ²	31.5%
Family Member	3.7%	4.9%	5.9%	1.6% ¹	4.5%	4.0%
Rental	0.5%	0.0%	0.5%	0.5%	0.0%	0.4%
Other	9.2%*	3.9%	0.0%	9.9% ¹	16.7% ^{2,3}	8.1%
N=	802	203	370	365	269	1004

Other= planted (themselves)

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 10: Tree acquisition by sales categories

	Sales Categories			Total
	Low	Mid	High	
Inheritance	57.9%	52.6%	54.9%	55.0%
Purchase	23.2%	32.3% ¹	37.2% ³	31.1%
Family Member	4.7%	3.8%	3.6%	4.0%
Rental	0.0%	1.0%	0.4%	0.5%
Other	14.2%	10.3%	4.0% ^{2,3}	9.4%
N =	254	291	277	822

p<.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Age of trees

Farming households in the province of Cabo Delgado reported having cultivated cashew trees significantly longer than households in the two other provinces (**Table 11**). In Cabo Delgado, 66% of farming households reported their trees to be at peak production age as opposed to less than 50% in the two other provinces. This could be explained by the fact that in Nampula and Zambezia, cashew trees were significantly younger than in Cabo Delgado. Female-headed households reported cultivating significantly more young trees than male-headed households. On the other hand, male-headed households had more trees in peak production years.

When comparing households in the three sales categories, it is not surprising that households in the highest sales tercile had been cultivating cashew trees longer and had more trees in peak production years than households in the other two terciles (**Table 12**). Male-headed households had planted more new trees in the past 12 months than female-headed households, as had households in the province of Zambezia (**Table 13**) and households belonging to the high sales category (**Table 14**). Among those farmers who did not report planting new trees in the previous twelve months, the two main reasons cited were lack of access to cuts or germilings and lack of money. These two issues were more prominent among female-headed households, households in Zambezia and Nampula provinces, and households in the low and mid sales terciles (**Table 15** and **Table 16**).

Table 11: Age of trees and farmer experience by gender head of household and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Avg. years of cashew cultivation	15.7	14.9	17.2	14.7 ¹	13.3 ³	15.5
N=	641	137	349	270	160	778
How many trees are young? (<9 years)	18.9%	30.3%*	11.7%	28.5% ¹	24.4% ³	21.2%
N=	801	203	369	367	267	1004
How many trees are in peak production years? (9-25 years)	54.3%*	47.2%	66.0%	44.0% ¹	46.9% ³	52.8%
N=	803	202	369	367	269	1006
How many trees are in declining production years? (>25 years)	16.2%	14.9%	12.5%	18.6% ¹	17.1% ³	15.9%
N=	800	200	369	361	269	1000
How many trees are old? (no age given)	11.0%*	7.9%	9.9%	9.9%	11.8%	10.4%
N=	803	202	369	367	269	1006

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

*p<0.10: Female different than Male

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 12: Age of trees and farmer experience by sales categories

	Sales Categories			Total
	Low	Mid	High	
Avg. years of cashew cultivation	13.5	14.4	17.5 ^{2,3}	15.2
N=	199	222	227	649
How many trees are young? (<9 years)	24.8%	22.4%	16.9% ^{2,3}	21.3%
N=	258	286	277	822
How many trees are in peak production years? (9-25 years)	48.6%	48.1%	60.5% ^{2,3}	52.4%
N=	258	290	275	824
How many trees are in declining production years? (>25 years)	16.5%	18.2%	15.2% ²	16.6%
N=	252	291	276	818
How many trees are old? (no age given)	10.5%	11.8%	7.9% ²	10.1%
N=	258	289	277	824

p<.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 13: Average number of newly planted trees by gender of head of household and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
How many new trees planted (previous 12 months)	8.4*	4.3	10.0	4.7	8.4 ^{2,3}	7.6
N=	790	192	361	363	258	982

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 14: Average number of newly planted trees by sales categories

	Sales Categories			Total
	Low	Mid	High	
How many new trees planted (previous 12 months)	4.5	5.4 ¹	15.0 ³	8.4
N=	253	278	270	801

1: Mid different than Low; 2: High different than Mid; 3: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 15: Reasons why no new trees were planted in the last 12 months by gender head of household and province (among those households not planting new trees)

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
No access to local cuts or germilings	52.5%*	63.8%	34.4%	68.7% ¹	71.1% ³	55.7%
Lack of money	11.0%	8.7%	16.5%	4.7% ¹	9.4%	10.4%
No market exists	7.4%	9.4%	19.2%	0.0% ¹	0.8% ³	7.8%
Requires too much labor	11.0%	6.7%	14.3%	8.4%	3.9% ³	9.7%
Other	18.1%	11.4%	15.6%	18.2%	14.8%	16.4%
N=	419	149	224	214	128	566

*p<0.10: Female different than Male

*p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 16: Reasons why no new trees were planted in the previous 12 months by sales categories (among new households not planting new trees)

	Sales Categories			Total
	Low	Mid	High	
No access to local cuts or germilings	61.5%	62.4%	41.4% ^{2,3}	55.5%
Lack of money	4.9%	8.9%	12.1%	8.6%
No market exists	4.2%	5.1%	5.0%	4.8%
Requires too much labor	8.4%	5.7%	20.7% ^{2,3}	11.4%
Other	21.0%	17.8%	20.7%	19.8%
N=	143	157	140	440

Other = lack of land/space; time constraints; problems with personal health

p<.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Planting material

Across gender and provinces, the most common planting material was seeds (55.7%), distantly followed by shoots/grafts (10.4%) that were mostly grown in farmers' own nurseries (**Table 17** and **Table 19**). The lack of commercial nurseries might be one reason why farmers maintained their own nurseries. Male-headed households and households in the high sales tercile were able to purchase more shoots/grafts (**Table 18**).

Table 17: Type of planting material used by gender of head of household and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Seeds (semente)	75.1%*	92.6%	34.4%	68.7% ¹	71.1% ³	55.7%
Shoot/Graft (enxerto)	6.1%	1.9%	16.5%	4.7% ¹	9.4%	10.4%
Local cut (muda)	18.8%*	5.6%	19.2%	0.0% ¹	0.8% ³	7.8%
N=	377	54	224	214	128	566

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 18: Type of planting material by sales categories

	Sales Categories			Total
	Low	Mid	High	
Seeds (semente)	61.5%	62.4%	41.4% ^{2,3}	55.5%
Shoot/Graft (enxerto)	4.9%	8.9%	12.1%	8.6%
Local cut (muda)	4.2%	5.1%	5.0%	4.8%
N=	143	157	140	440

<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 19: Source of planting material by gender of head of household and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Own nursery	72.7%	74.1%	87.6%	56.9% ¹	73.8% ^{2,3}	72.7%
Neighboring producers	9.8%	5.6%	5.5%	16.4% ¹	5.7% ²	9.3%
Trader	9.0%	9.3%	3.4%	14.4% ¹	9.9%	9.3%
NGO	0.5%	1.9%	0.0%	1.4%	0.7%	0.7%
Other	8.0%	9.3%	3.4%	11.0% ¹	9.9%	8.1%
N=	377	54	145	146	141	432

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 20: Source of planting material by sales categories

	Sales Categories			Total
	Low	Mid	High	
Own nursery	70.8%	62.3%	78.2% ²	70.5%
Neighboring producers	9.7%	13.1%	6.0%	9.6%
Trader	6.2%	15.4%	8.3%	10.1%
NGO	0.0%	0.8%	1.5%	0.8%
Other	13.3%	8.5%	6.0%	9.0%
N=	113	130	133	376

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

In the vast majority of instances where farmers responded “other” in **Table 19** and **Table 20**, the source was from their own trees (“seeded personally”). Other sources included family or the government.

Table 21: Existence of nursery in the community by gender of head of household and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
No	82.4%	80.8%	96.5%	77.9% ¹	68.4% ^{2,3}	82.2%
Yes	10.0%	6.4%	3.0%	9.5%	17.1% ^{2,3}	9.2%
Don't know	7.6%*	12.8%	0.5%	12.5% ¹	14.5% ³	8.7%
N=	803	203	369	367	269	1005

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 22: Existence of nursery in the community by sales categories

	Sales Categories			Total
	Low	Mid	High	
No	78.3%	79.5%	91.7% ^{2,3}	83.2%
Yes	10.9%	9.0%	3.2% ^{2,3}	7.7%
Don't know	10.9%	11.5%	5.1% ^{2,3}	9.1%
N=	258	288	277	823

p<.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Post-harvest loss

Post-harvest loss was reported in roughly half of surveyed households. Farmers in Nampula province most frequently suffered losses, with close to 60% indicating they had losses in the most recent harvest (**Table 23**). The two main sources of loss across all farmers were spoilage (61.2%) and theft (37.8%). Female-headed households and households in Zambezia province were most likely to be affected by these two sources of loss (**Table 25**).

Table 23: Post-harvest loss from most recent harvest by gender of head of household and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
No	44.4%*	35.0%	48.9%	33.1% ¹	46.2% ²	42.5%
Yes	51.5%	55.7%	50.5%	58.9%	45.5% ²	52.2%
Don't know	4.2%*	9.4%	0.5%	8.1% ¹	8.3% ³	5.3%
N=	793	203	370	360	266	996

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 24: Post-harvest loss from most recent harvest by sales categories

	Sales Categories			Total
	Low	Mid	High	
No	43.6%	42.2%	36.5%	40.7%
Yes	49.8%	51.2%	60.1%	53.7%
Don't know	6.6%	6.6%	3.3%	5.5%
N=	257	287	271	815

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 25: Sources of loss by gender of head of household and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Spoilage	57.9%*	73.2%	48.1%	59.7% ¹	84.5% ^{2,3}	61.2%
Theft	36.1%	43.8%	32.1%	30.3%	59.6% ^{2,3}	37.8%
Other	30.0%*	16.7%	36.6%	26.6% ¹	13.3% ^{2,3}	27.1%
N=	409	114	189	213	121	523

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Note: More than one response is possible for this question, therefore disaggregated proportions may sum to more than 100%.

Table 26: Source of loss by sales categories

	Sales Categories			Total
	Low	Mid	High	
Spoilage	57.4%	69.9% ¹	51.1% ²	59.3%
Theft	40.2%	38.8%	29.0%	35.6%
Other	25.9%	17.1%	31.8% ²	25.1%
N=	129	149	163	440

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Note: More than one response is possible for this question, therefore disaggregated proportions may sum to more than 100%.

The most frequently cited “other” sources of loss were disease, pests, and uncontrolled burning. Additional responses included: weather (drought, wind, or sun), lack (or delay in delivery) of spray, and wild animals.

The most common pests and diseases affecting production were the coconut insect, cashew beetle, and blemishing (**Table 27**). The cashew beetle appears to be particularly problematic for female-headed households and for farmers in Zambezia.

Table 27: Main pests/diseases affecting trees by gender of head of household and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
None	1.0%*	0.1%	0.5%	1.8% ¹	0.0% ²	0.8%
Atracnose	23.3%	22.3%	27.5%	18.1% ¹	23.8%	23.1%
Mildew	23.4%*	34.2%	30.4%	21.8% ¹	24.1%	25.6%
Spots/Blemishes	61.7%	60.8%	57.4%	56.8%	73.4% ^{2,3}	61.5%
Coconut Insect	41.8%	38.0%	38.2%	43.2%	42.1%	41.1%
Cashew Beetle	44.1%*	52.9%	32.3%	50.4% ¹	58.3% ³	45.9%
Ants	53.1%	49.0%	35.9%	68.5% ¹	52.8% ^{2,3}	52.3%
Other	10.6%*	6.5%	9.5%	12.8% ²	6.0%	9.8%
N=	802	203	369	366	269	1004

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Note: More than one response is possible for this question, therefore disaggregated proportions may sum to more than 100%.

Table 28: Main pests/diseases affecting trees by sales categories

	Sales Categories			Total
	Low	Mid	High	
None	2.3%	0.9%	0.0% ³	1.0%
Atracnose	25.7%	20.7%	26.6%	24.3%
Mildew	20.7%	22.5%	17.6%	20.3%
Spots/Blemishes	52.6%	59.8%	69.6% ^{2,3}	60.8%
Coconut Insect	36.4%	41.0%	39.3%	39.0%
Cashew Beetle	39.5%	55.5% ¹	48.5%	48.2%
Ants	61.7%	49.6% ¹	40.8% ^{2,3}	50.4%
Other	12.4%	10.4%	7.1%	9.9%
N=	257	291	275	823

p<.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Note: More than one response is possible for this question, therefore disaggregated proportions may sum to more than 100%.

Other pests/diseases mentioned include: fungus and unknown pests.

Producers were asked whether they used chemicals or spraying services for their trees in order to minimize losses. Female-headed households were less likely to use chemicals or spraying services. Farmers in Cabo Delgado appear to have substantially greater access and/or means available to procure chemical products, having reported their use at triple the rate of the other two provinces (**Table 29**). Not surprisingly, farmers in the highest sales category were more likely to use chemicals and spraying services compared to farmers with lower sales. It should be noted that spraying services were reported at a much higher rate than chemical use (45.2% vs. 19.9%), although spraying inherently involves using chemicals.

Table 29: Use of chemical products or spraying services by gender of head of household and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Do you use any chemical products (pesticides, fungicides, fertilizer)?						
No	71.8%*	79.3%	64.0%	80.0% ¹	77.0% ³	73.3%
Yes	21.5%*	13.8%	35.8%	11.0% ¹	10.4% ³	19.9%
Don't know	6.7%	6.9%	0.3%	9.0% ¹	12.6% ³	6.8%
N=	801	203	369	365	269	1004
Have you used any spraying services?						
No	48.8%*	69.7%	49.2%	48.8%	63.9% ^{2,3}	53.0%
Yes	49.3%*	28.4%	50.8%	49.3%	32.0% ^{2,3}	45.2%
Don't know	1.9%	2.0%	0.0%	1.9% ¹	4.1% ³	1.8%
N=	803	201	370	365	269	1004

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 30: Use of chemicals or spraying services by sales categories

	Sales Categories			Total
	Low	Mid	High	
Do you use any chemical products (pesticides, fungicides, fertilizer)?				
No	82.0%	78.6%	61.4% ^{2,3}	73.8%
Yes	9.8%	12.1%	37.5% ^{2,3}	20.0%
Don't know	8.2%	9.3%	1.1% ^{2,3}	6.2%
N=	255	290	277	822
Have you used any spraying services?				
No	25.6%	20.7%	26.5%	24.1%
Yes	66.5%	60.8%	26.0% ^{2,3}	50.9%
Don't know	32.7%	37.1%	72.9% ^{2,3}	47.8%
Don't know	0.8%	2.1%	1.1%	1.3%
N=	254	291	277	822

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Reasons for planting new trees

Overall, most farmers responded that they intended to plant trees in the upcoming year. Approximately 85% of all farmers reported affirmatively, with a slightly lower proportion of female-headed households vs. male-headed households (**Table 31**).

For those households that reported they did not intend to plant trees, lack of money and weak demand were the most cited reasons (**Table 33**). Farmers in Cabo Delgado were more likely to cite weak demand/low prices as a reason for not planting in the upcoming year, granted the absolute number of farmers this comprises was low (45.8% of N=48, **Table 33**).

Table 31: Intent to plant trees next year, by gender head of household and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
No	9.5%	14.3%*	12.2%	9.5%	9.3%	10.4%
Yes	88.1%	74.9%*	87.0%	83.4%	85.9%	85.4%
Don't know	2.5%	10.8%*	0.8%	7.1% ¹	4.8% ³	4.2%
N=	804	203	370	367	270	1007

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 32: Intent to plant trees next year, by sales categories

	Sales Categories			Total
	Low	Mid	High	
No	15.1%	9.0% ¹	10.1%	11.3%
Yes	79.8%	84.1%	86.6% ³	83.6%
Don't know	5.0%	6.9%	3.2% ²	5.1%
N=	258	289	277	824

p<.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 33: Reasons for not planting trees next year, by gender head of household and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Lack of money	51.8%	64.3%	41.7%	62.7% ¹	65.5% ³	55.5%
Weak demand/low prices	27.1%	21.4%	45.8%	17.6% ¹	3.4% ³	25.0%
Already produce all that I want or am able to	0.0%	0.0%	2.1%	0.0%	0.0%	0.8%
Other	21.2%	14.3%	10.4%	19.6%	31.0% ³	18.8%
N=	85	42	48	51	29	128

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 34: Reasons for not planting trees next year by sales categories

	Sales Categories	
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	Low	Mid	High	Total
Lack of money	44.2%	66.7%	59.4%	56.1%
Weak demand/low prices	32.6%	12.8%	28.1%	24.6%
Already produce all that I want or am able to	23.3%	20.5%	12.5%	19.3%
Other	23.3%	20.5%	12.5%	19.3%
N=	43	39	32	114

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Other reasons cited for not anticipating planting in the upcoming year included lack of land, lack of labor, age/sickness, and lack of motivation.

Labor

On average, 30% of surveyed farmers reported using contracted labor. This percentage was higher in Cabo Delgado (41%), perhaps reflecting the somewhat larger scale of farmers surveyed in that province. Male-headed households were also significantly more likely to contract labor (32% vs. 20%, **Table 35**).

Table 35: Use of contracted labor by gender of head of household and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
No	67.5%*	80.3%	58.9%	76.5% ¹	77.0% ³	70.1%
Yes	32.2%*	19.7%	41.1%	23.5% ¹	22.3% ³	29.7%
Don't know	0.2%	0.0%	0.0%	0.0%	0.7%	0.2%
N=	801	203	370	366	269	1005

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 36: Use of contracted labor by sales categories

	Sales Categories			Total
	Low	Mid	High	
No	89.8%	73.4% ¹	40.8% ^{2,3}	67.5%
Yes	10.2%	26.6% ¹	59.2% ^{2,3}	32.5%
Don't know	0.0%	0.0%	0.0%	0.0%
N=	254	290	277	821

p<.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

The most common form of payment for hired labor was cash, with roughly 65% of farmers hiring labor reporting to use this form of payment. Payment in cash was significantly higher in Cabo Delgado compared to the other two provinces, perhaps suggesting a tighter labor market for agricultural workers who demand payment in cash vs. cashew/other products (**Table 37**).

Table 37: Method of payment for hired labor by gender head of household and by province

	Gender HoH	Province	
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	Male	Female	Cabo Delgado	Nampula	Zambezia	Total
Cash	64.6%	59.5%	88.1%	32.2% ¹	47.4% ³	63.7%
Exchange of cashew products	15.2%	8.1%	7.3%	16.1% ¹	29.8% ³	14.2%
Exchange of other products	20.2%	32.4%	4.6%	51.7% ¹	22.8% ^{2,3}	22.0%
N=	257	37	151	87	57	295

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 38: Method of payment for hired labor by sales categories

	Sales Categories			Total
	Low	Mid	High	
Cash	51.9%	45.8%	70.7% ²	62.0%
Exchange of cashew products	25.9%	23.6%	7.9% ²	14.1%
Exchange of other products	22.2%	30.6%	21.3%	24.0%
N=	27	72	164	263

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Cashew nut harvesting methods

Nearly all farmers surveyed reported harvesting fruit once it fell from the tree (95.6%, **Table 39**). Once harvested, most farmers dried using the ground, most typically within farmers' homes (84.4%, **Table 41**). While still not very prevalent, households in Zambezia reported using sacks more frequently for drying (14.1%, **Table 41**). Households in Cabo Delgado were more likely to dry cashew nuts for a shorter period of time, between 1-3 days, then households in the other two provinces. By contrast, households in Nampula and Zambezia more commonly dried their cashew nuts for a longer period (**Table 43**).

Table 39: Cashew harvesting method by gender head of household and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Pick the fruit from the tree	4.6%	4.0%	1.6%	5.8% ¹	6.4% ³	4.4%
Collect fruit after it falls from tree	95.4%	96.0%	98.4%	94.2% ¹	93.6% ³	95.6%
N=	796	202	369	362	267	998

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 40: Cashew harvesting method by sales categories

	Sales Categories			Total
	Low	Mid	High	
Pick the fruit from the tree	4.3%	3.8%	6.5%	4.9%
Collect fruit after it falls from tree	95.7%	96.2%	93.5%	95.1%
N=	254	286	277	817

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 41: Surface used to dry cashew nuts by gender of head of household and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Solid ground	83.3%	88.2%	83.0%	86.8%	82.9%	84.4%
Canvas/Tarp	2.7%	3.4%	3.5%	2.5%	2.6%	2.9%
Sacks	9.6%	3.4%*	4.3%	8.2% ¹	14.1% ²	8.4%
Bamboo/cane/stick mat	2.5%	1.5%	3.8%	2.2%	0.4%	2.3%
Other	1.9%	3.4%	5.4%	0.3% ¹	0.0%	2.1%
N=	802	203	370	365	269	1004

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 42: Surface used to dry cashew nuts by sales categories

	Sales Categories			Total
	Low	Mid	High	
Solid ground	89.8%	82.0%	76.3%	82.5%
Canvas/Tarp	1.2%	2.4%	6.1%	3.3%
Sacks	5.5%	10.4%	13.3%	9.8%
Bamboo/cane/stick mat	2.3%	3.1%	0.7%	2.1%
Other	1.2%	2.1%	3.6%	2.3%
N=	256	289	278	823

p<.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 43: Cashew nut drying times by gender head of household and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
1 - 3 days	34.8%	49.0%*	53.1%	17.5%	43.5%	37.6%
4 - 5 days	29.1%	31.7%	25.2%	34.5%	29.0%	29.6%
More than 5 days	36.2%	19.3%*	21.7%	47.9%	27.5%	32.8%
N=	802	202	369	365	269	1003

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 44: Cashew nuts drying time by sales categories

	Sales Categories
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	Low	Mid	High	Total
1 - 3 days	33.5%	27.8% ¹	29.2% ^{2,3}	30.0%
4 - 5 days	33.5%	31.6%	27.4%	30.8%
More than 5 days	33.1%	40.5% ¹	43.3% ²	39.2%
N=	254	291	277	822

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Storage practices and equipment

Storage practices were fairly similar across all provinces, gender, and sales categories. The majority of farmers reported storing their cashew production in sacks (76%) with the remaining most frequently piling their harvest outside (22%, **Table 45**). The vast majority of farmers reported that the cashew storage locations they used were ventilated (**Table 47**). The reported need for additional equipment for farming and/or processing was universal at 99% of farmers (**Table 49** and **Table 50**).

Table 45: Cashew nut storage practices by gender of head of household and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Sacks	77.3%	69.2%*	82.9%	69.1% ¹	74.0% ³	75.5%
Pile outdoors	20.4%	28.9%*	13.8%	29.% ¹	24.2% ³	22.1%
Boxes	1.1%	1.0%	1.9%	1.1%	0.0% ³	1.1%
Other	1.2%	1.0%	1.4%	0.8%	1.9%	1.3%
N=	805	201	369	369	269	1007

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 46: Cashew nuts storage practices by sales categories

	Sales Categories			Total
	Low	Mid	High	
Sacks	68.3%	74.4%	86.6% ^{2,3}	76.6%
Pile outdoors	27.8%	25.3%	11.6% ^{2,3}	21.5%
Boxes	1.5%	0.0% ¹	1.1%	0.8%
Other	2.3%	0.3% ¹	0.7%	1.1%
N=	259	289	277	825

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 47: Presence of ventilation in storage facility by gender of head of household and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
No	2.9%	8.4%*	1.6%	5.2% ¹	5.6% ³	4.0%
Yes	93.5%	85.2%*	98.1%	89.6% ¹	86.6% ³	91.9%
Don't know	3.6%	6.4%	0.3%	5.2% ¹	7.8% ³	4.1%
N=	801	203	370	365	269	1004

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 48: Presence of ventilation in storage facility by sales categories

	Sales Categories			Total
	Low	Mid	High	
No	2.7%	6.6% ¹	2.9% ²	4.1%
Yes	92.2%	89.3%	96.4% ^{2,3}	92.6%
Don't know	5.1%	4.1%	0.7% ^{2,3}	3.3%
N=	255	290	277	822

p<.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 49: Need for material/new equipment to produce/process cashew nuts by gender of head of household and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
No	0.1%	0.5%	0.3%	0.0%	0.0%	0.1%
Yes	99.4%	99.0%	99.7%	99.1%	99.2%	99.4%
Don't know	0.5%	0.5%	0.0%	0.9%	0.8%	0.5%
N=	784	196	369	351	259	979

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 50: Need for material/new equipment to produce/process cashew nuts by sales categories

	Sales Categories			Total
	Low	Mid	High	
No	0.0%	0.0%	0.4%	0.1%
Yes	98.8%	99.3%	99.6%	99.2%
Don't know	1.2%	0.7%	0.0%	0.6%
N=	247	276	274	797

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Production Practices

Farmers were asked about use of new techniques and technologies. Adoption rates were high (above 95%) across gender, province, and sales tercile lines (**Table 51** and **Table 52**). The most prevalent practices cited were cessation of crop residue burning, canopy pruning, and weeding; each practice had a total subscription of nearly 80% (**Table 55**). Application of organic inputs, grafting, and fungicide were at the low end with less than 6% of producers using these techniques. Fertilizer use was significantly higher in Cabo Delgado (22.9%) than in the other regions (both under 3%). It should be noted that this baseline survey did not delve into details on the *quality* of the techniques/technologies being implemented. For instance, while canopy pruning was commonly practiced, the extent to which this pruning was done well cannot be ascertained from these figures.

Intercropping was practiced significantly less in the high sales tercile (24.1%) as compared to the other sales categories (over 40% each). The use of fertilizer and spraying were significantly higher in the top sales category (21% and 50.8%, respectively). The percentage of farmers fertilizing in the low and mid categories was below 7% (**Table 56**).

In **Table 53** and **Table 54**, the definition of improved techniques or technologies was limited to a smaller portfolio of improved practices: spraying, fertilizer, fungicide, grafting, and the use of organic inputs. Using this definition, only 40.5% of all farmers sampled were applying these improved practices. Farmers in Cabo Delgado were significantly more likely to apply one of these practices than farmers in the other provinces (51.5% vs. 39% and 27.4%). These practices were also more common among male-headed households (43.4% vs. 29%). Given the near universal prevalence of weeding and the avoidance of burning land or crop residue, it was decided that these did not warrant inclusion as the types of ‘improved’ techniques that the MozaCajú project will aim to implement. As such, the figure of 40.5% of farmers should be seen as the ‘official’ baseline figure used in reporting the percentage of farmers applying improved techniques or technologies.

Improved production techniques and technologies

Table 51: Effective area under improved techniques or technologies (inclusive of all practices initially listed in the baseline) by gender of HoH and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Avg. effective area (ha)	4.42*	2.87	5.39	3.54 ¹	3.1 ³	4.11
N=	799	201	369	364	267	1000
Avg. # hectares (effective area) under improved techniques/technologies	4.08*	2.72	5.27	2.96 ¹	2.92 ³	3.81
N=	784	194	365	355	258	978
% farmers applying improved techniques/technologies	98.2%	96.5%	98.7%	98.6%	95.8% ^{2,3}	97.9%
N=	805	203	369	369	269	1008

*p<0.10: male different than female

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 52: Effective area under improved techniques or technologies (inclusive of all practices initially listed in the baseline) by sales categories

	Sales Categories			Total
	Low	Mid	High	
Avg. effective area (ha)	1.84	2.85	8.85 ^{2,3}	4.56
N=	255	287	275	818
Avg. # hectares (effective area) under improved techniques/technologies	1.69	2.62	8.14 ^{2,3}	4.18
N=	254	281	270	805
% farmers applying improved techniques/technologies	99.7%	96.8%	98.5%	98.3%
N=	258	291	277	826

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 53: Effective area under improved techniques or technologies (reduced # of practices) by gender of HoH and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Avg. effective area (ha)	6.44*	4.54	8.65	4.621	3.223	6.18
N=	359	58	191	142	85	418
Avg. # hectares (effective area) under improved techniques/technologies	4.81*	3.28	6.76	2.84 ¹	2.68 ³	4.59
N=	359	58	191	142	85	418
% farmers applying improved techniques/technologies	43.4%*	29.0%	51.5%	39.0% ¹	27.4% ^{2,3}	40.5%
N=	802	203	369	366	269	1004

*p<0.10: male different than female

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 54: Effective area under improved techniques or technologies (reduced # of practices) by sales category

	Sales Categories			Total
	Low	Mid	High	
Avg. effective area (ha)	2.22	3.02	10.99 ^{2,3}	6.57
N=	88	105	171	365
Avg. # hectares (effective area) under improved techniques/technologies	1.77	2.37	7.92 ^{2,3}	4.83
N=	88	105	171	365
% farmers applying improved techniques/technologies	31.7%	34.0%	63.3% ^{2,3}	43.1%
N=	257	291	275	823

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 55: Improved techniques and technologies by gender HoH and province

	Gender HoH		Total	Province			Total
	Male	Female		Cabo Delgado	Nampula	Zambezia	
Mulching	50.8%	42.6%	49.0%	64.5% ^{1,3}	41.0%	39.4%	49.2%
Intercrop bean	36.2%	46.5%	38.3%	41.1%	33.1% ^{1,2}	41.6%	38.3%
Intercrop other	53.3%	57.6%	54.1%	54.4%	50.2% ²	59.1%	54.1%
Pruning	79.5%	77.7%	79.2%	68.2% ^{1,3}	85.3%	85.9%	79.2%
Organic inputs	5.4%	5.0%	5.3%	5.5%	6.4%	3.6%	5.3%
Fertilizer	10.9%	5.6%	9.9%	22.9% ^{1,3}	2.6%	1.8%	9.9%
Grafting	2.9%	2.2%	2.7%	1.8%	2.9%	3.8%	2.7%
Weeding	79.6%	75.0%	78.6%	86.3%	69.0% ¹	81.3% ²	78.6%
Spraying	34.1%	21.1%	31.5%	34.1%	34.1%	24.1% ^{2,3}	31.5%
Fungicide	1.0%	2.1%	1.2%	2.7% ¹	0.0%	0.9%	1.2%
Burn Avoidance	82.2%	75.5%	80.8%	83.1%	78.8%	80.5%	80.8%
N=	805	203	808	369	269	269	907

*p<0.10: male different than female

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 56: Improved techniques and technologies by sales categories

	Sales Categories			Total
	Low	Mid	High	
Mulching	42.9%	43.3%	43.9%	43.4%
Intercrop bean	41.3%	42.1%	24.1% ^{2,3}	35.8%
Intercrop other	53.5%	61.6%	54.1%	56.5%
Pruning	80.1%	83.9%	83.0%	82.4%
Organic inputs	6.8%	3.2%	4.7%	4.9%
Fertilizer	4.6%	6.6%	21.0% ^{2,3}	10.8%
Grafting	4.3%	4.3%	1.3%	3.3%
Weeding	67.0% ^{1,3}	80.6%	86.6%	78.4%
Spraying	26.6%	26.0%	50.8% ^{2,3}	34.5%
Fungicide	1.9%	0.8%	1.4%	1.3%
Burn Avoidance	86.2%	80.6%	85.3%	83.9%
N=	258	291	277	826

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Training

Few farmers (between 3% and 4% of the total) reported receiving short-term agricultural productivity training (**Table 57**). Among those farmers that did receive training, the types of trainings received are disaggregated by the gender of the head of household, province, and sales categories in **Table 59** and **Table 60**. Significance testing was not carried out for these indicators because of low numbers.

Table 57: % of households receiving short-term training by gender HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% farmers receiving short-term agricultural sector productivity training	3.9%*	0.6%	2.9%	4.6%	1.8%	3.2%
N=	805	203	369	369	269	1008

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 58: % of households receiving short-term training by sales categories

	Sales Categories			Total
	Low	Mid	High	
% farmers receiving short-term agricultural sector productivity training	1.8%	4.4%	5.5% ³	4.0%
N=	258	291	277	826

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 59: % of farmers receiving specific trainings by gender of HoH and province (of those farmers who reported receiving training)

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Pruning	79.1%	100.0%	67.3%	82.0%	100.0%	79.8%
Spacing	46.8%	0.0%	34.7%	36.0%	100.0%	45.1%
Weeding	76.7%	100.0%	42.5%	93.3%	100.0%	77.5%
Spraying	51.3%	0.0%	38.0%	56.6%	50.0%	49.5%
Drying	26.1%	0.0%	14.8%	24.7%	50.0%	25.2%
Intercropping	33.9%	0.0%	45.4%	19.7%	50.0%	32.7%
Planting	37.6%	0.0%	25.7%	24.7%	100.0%	36.3%
Grafting	14.5%	0.0%	17.1%	1.7%	50.0%	14.0%
Organic	10.7%	0.0%	8.5%	0.0%	50.0%	10.3%
Harvest Timing	35.6%	100.0%	31.8%	38.2%	50.0%	37.9%
Sorting	44.8%	100.0%	17.2%	50.2%	100.0%	46.7%
Storage	30.5%	100.0%	27.5%	31.5%	50.0%	32.9%
Fertilizer Use	24.3%	0.0%	15.1%	6.7%	100.0%	23.4%
Pesticide Use	14.3%	0.0%	8.5%	6.7%	50.0%	13.8%
Burn Avoidance	66.6%	0.0%	52.6%	61.4%	100.0%	64.3%
Mulching	37.8%	100.0%	28.4%	44.4%	50.0%	40.0%
Other	10.7%	0.0%	8.5%	0.0%	50.0%	10.3%
N=	32	1	11	17	5	33

Table 60: % of farmers receiving specific trainings by sales categories

	Sales Categories			Total
	Low	Mid	High	
Pruning	100.0%	71.9%	80.3%	79.8%
Spacing	75.8%	48.8%	32.5%	45.1%
Weeding	100.0%	80.4%	68.1%	77.5%
Spraying	24.2%	53.7%	53.8%	49.5%
Drying	24.2%	19.1%	30.7%	25.2%
Intercropping	0.0%	38.0%	38.5%	32.7%
Planting	75.8%	34.1%	25.9%	36.3%
Grafting	0.0%	21.3%	12.2%	14.0%
Organic	0.0%	19.1%	6.1%	10.3%
Harvest Timing	48.4%	41.2%	31.7%	37.9%
Sorting	100.0%	21.3%	51.5%	46.7%
Storage	48.4%	22.6%	36.8%	32.9%
Fertilizer Use	51.6%	22.6%	15.4%	23.4%
Pesticide Use	0.0%	19.1%	13.6%	13.8%
Burn Avoidance	75.8%	53.0%	70.2%	64.3%
Mulching	48.4%	53.0%	26.4%	40.0%
Other	0.0%	19.1%	6.1%	10.3%
N=	5	13	15	33

Access to extension

Access to extension was gender blind (**Table 61**). Farmers in Zambezia reported very low access to extension officers (1.9%) as compared to farmers in Cabo Delgado (17.1%) and Nampula (15.3%). While still low on an absolute basis, three times as many farmers (21.3%) in the highest sales tercile reported having access to extension as compared to the lowest sales tercile (7.1%) (**Table 62**).

Table 61: Extension access by gender HoH and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Yes	12.3%	12.4%	17.1%	15.3%	1.9% ^{2,3}	12.4%
No	79.2%	80.6%	82.9%	72.2% ¹	85.0% ²	79.5%
Don't know	8.5%	7.0%	0.0%	12.5% ¹	13.1% ³	8.2%
N=	803	201	369	367	267	1003

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 62: Extension access by sales categories

	Sales Categories			Total
	Low	Mid	High	
Yes	7.1%	10.7%	22.0% ^{2,3}	13.4%
No	85.4%	78.3%	74.0% ³	79.0%
Don't know	7.5%	11.0%	4.0% ²	7.6%
N=	254	290	277	821

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Extension knowledge

For the small number of farmers that reported using extension services, most were confident in the abilities of the officer supporting them (70%, **Table 63**).

Table 63: % of farmers satisfied with the knowledge of their extension officer by gender HoH and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Yes	73.3%	59.3%	68.3%	74.6%	50.0%	70.0%
No	19.8%	33.3%	31.7%	15.3%	0.0%	22.3%
Don't know	6.9%	7.4%	0.0%	10.2%	50.0%	7.7%
N=	101	27	63	59	8	130

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 64: % of farmers satisfied with the knowledge of their extension officer by sales categories

	Sales Categories			Total
	Low	Mid	High	
Yes	54.2%	62.5%	82.0%	70.9%
No	29.2%	25.0%	16.4%	21.4%
Don't know	16.7%	12.5%	1.6%	7.7%
N=	24	32	61	117

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Extension quality

It should be noted that there was an error in the coding of the tables for the responses for this question. The first response that should have been labeled “Very Unsatisfied” was errantly labeled “Very Satisfied”. Therefore, any interpretations of the results in this table should be made cautiously. Comparing Cabo Delgado and Nampula, where comparatively more farmers had access to extension officers, levels of satisfaction with the quality of extension was higher in Nampula (**Table 65**).

Table 65: % of farmers satisfied with the quality of extension services received, by gender HoH and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Very unsatisfied	29.5%	31.8%	29.9% ¹	2.0%	0.0%	29.9%
Unsatisfied	25.3%	45.5%	29.9% ^{1,3}	40.8% ²	100.0%	29.9%
Satisfied	42.1%	22.7%	37.6% ¹	53.1%	0.0%	37.6%
Very satisfied	3.2%	0.0%	2.6%	4.1%	0.0%	2.6%
N=	95	22	63	49	5	117

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 66: % of farmers satisfied with the quality of extension services received, by sales category

	Sales Categories			Total
	Low	Mid	High	
Very unsatisfied	20.0%	33.3%	27.6%	28.2%
Unsatisfied	26.7%	30.0%	31.0%	30.1%
Satisfied	53.3%	36.7%	36.2%	38.8%
Very satisfied	0.0%	0.0%	5.2%	2.9%
N=	15	30	58	103

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Production and Sales

Average sales

Self-reported data on sales are often problematic in terms of accuracy. Surveyed farmers reported receiving, on average, \$117 in total sales (median: \$40) across all cashew products. Roughly 75% of surveyed farmers reported selling cashew nuts (826 farmers, **Table 67**), while about half (53 farmers) reported receiving income from the sale of cashew byproducts (wine, juice, and fruit). Farmers in Cabo Delgado reported significantly higher levels of sales per farmer than in the other two provinces. The difference is likely explained by the much higher area under production and the higher number of trees cultivated by the average farmer in Cabo Delgado, compared to farmers in the other two provinces. This is also consistent with the greater number of trees in peak productivity years and use of fertilizer in Cabo Delgado.

It should be noted, however, that in a number of the sampled districts of Cabo Delgado – namely Metuge, Macomia, and Chiure – large numbers of producers were not actively selling. The low denominator for Cabo Delgado reflects larger numbers of non-selling producers. Any interpretation the sales data should take this into account.

Table 67: Average and median sales per farmer (USD) in the previous 12 months, by gender of HoH and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Avg. sales per farmer (nuts, wine, juice, and fruit) (USD)	125.33*	81.1	244.94	79.151	45.993	116.97
Median sales per farmer (nuts, wine, juice, and fruit) (USD)	41.67	26.67	80	33.67	31.67	40
N=	670	156	237	345	244	826
Avg. sales per farmer cashew nuts only (USD)	111.64	74.81	226.49	71.841	41.763	104.52
Median sales per farmer cashew nuts only (USD)	33.33	26.67	53.33	26.67	26.67	26.67
N=	601	144	199	330	216	745
Avg. sales per farmer other (wine, juice and fruit) (USD)	39.77*	23.74	84.75	17.241	15.493	37.24
Median sales per farmer other (wine, juice, and fruit) (USD)	15.88	6.67	34.74	9.74	11.67	13.33
N=	424	80	153	207	144	503

*p<0.10: Female different than Male.

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 68: Average and median sales per farmer (USD) in the previous 12 months, by sales category

	Sales Categories			Total
	Low	Mid	High	
Avg. sales per farmer (nuts, wine, juice, and fruit) (USD)	14.53	39.15	294.00 ^{2,3}	117
Median sales per farmer (nuts, wine, juice, and fruit) (USD)	16.67	40	133.33	40
N=	258	291	277	826
Avg. sales per farmer cashew nuts only (USD)	13.8	31.7	260.7 ^{2,3}	104.5
Median sales per farmer cashew nuts only (USD)	13.33	26.67	98.13	26.67
N=	215	276	254	745
Avg. sales per farmer other (wine, juice and fruit) (USD)	6.2	15.3	74.3 ^{2,3}	37.2
Median sales per farmer other (wine, juice, and fruit) (USD)	5	11.67	33.33	13.33
N=	124	173	206	503

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Variation in production

Farmers, by and large, reported a decrease in production over the past five campaigns. On average, 71-73% of farmers reported declining production (**Table 69** and **Table 70**).

Table 69: Variation in production over the last five campaigns, by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% Farmers reduced production	70.4%	74.2%	74.3%	71.1%	67.0%	71.2%
% Farmers maintained production	21.6%	15.7%	15.1%	21.6%	26.2% ³	20.4%
% Farmers increased production	7.9%	10.1%	10.5%	7.3%	6.7%	8.4%
N=	795	198	370	356	267	993

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 70: Variation in production over the last five campaigns by sales category

	Sales Categories			Total
	Low	Mid	High	
% Farmers reporting reduced production	76.2%	74.7%	68.5%	73.1%
% Farmers reporting maintained production	14.5%	18.7%	22.0%	18.5%
% Farmers reporting increased production	9.3%	6.6%	9.5%	8.4%
N=	248	289	273	810

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

For those smaller number of farmers reporting an increased level of production, the main reasons cited included an increased number of trees in production and better management of trees (**Table 71** and **Table 72**).

Table 71: Reasons for increase in production by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Increase in number of trees in production	53.8%	48.0%	38.0%	56.0%	78.7% ³	52.5%
Better management of trees	42.9%	43.9%	39.4%	24.8%	78.7% ^{2,3}	43.1%
Use of better/more inputs	4.6%	5.6%	5.8%	6.6%	0.0%	4.8%
Increased availability of labor	11.6%	11.1%	24.6%	0.0% ¹	0.0% ³	11.5%
More profitable to produce	7.2%	12.4%	0.7%	16.1% ¹	13.8%	8.4%
Obtained credit for investment	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other	22.5%	5.8%	2.0%	36.7% ¹	27.7% ³	18.6%
N=	63	20	39	26	18	83

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 72: Reasons for increase in production by sales category

	Sales Categories			Total
	Low	Mid	High	
Increase in number of trees in production	55.5%	54.1%	38.4%	48.4%
Better management of trees	46.4%	52.4%	40.0%	45.6%
Use of better/more inputs	0.0%	3.6%	8.3%	4.2%
Increased availability of labor	8.8%	11.7%	15.8%	12.3%
More profitable to produce	18.4%	1.5%	9.3%	10.2%
Obtained credit for investment	0.0%	0.0%	0.0%	0.0%
Other	21.4%	11.7%	31.2%	22.6%
N=	23	19	26	68

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

“Spraying became available” compromised the vast majority of “Other” responses for why production had improved.

Among those farmers reporting production decreases, the most common reasons given were tree diseases and pests, at 67% and 61% (Error! Reference source not found. and **Table 74**). Farmers in Zambezia and Nampula were more likely to report declining production due to the age of their trees. Production decreases due to tree age were also most common for farmers in the lowest sales tercile.

Table 73: Reasons for decrease in production by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Disease (trees)	65.9%	72.8%	81.0%	64.3% ¹	50.9% ^{2,3}	67.4%
Pests	60.1%	62.6%	60.4%	72.4% ¹	44.2% ^{2,3}	60.6%
Trees very old	24.8%	22.4%	9.7%	26.4% ¹	43.7% ^{2,3}	24.3%
Lack of labor	19.1%*	27.1%	20.2%	20.4%	22.2%	20.8%
Not profitable to produce	10.3%	7.5%	7.5%	3.1%	22.3% ^{2,3}	9.7%
Climate change	6.7%*	14.3%	4.7%	6.3%	16.5% ^{2,3}	8.3%
Erosion	3.3%*	0.7%	1.2%	3.0%	4.9% ³	2.8%
Other	17.6%	16.2%	13.1%	25.4% ¹	12.6% ²	17.3%
N=	560	147	275	253	179	707

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 74: Reasons for decreases in production by sales category

	Sales Categories			Total
	Low	Mid	High	
Disease (trees)	49.2%	66.3% ¹	79.1% ^{2,3}	64.9%
Pests	55.5%	59.9%	60.6%	58.7%
Trees very old	27.1%	30.8%	17.1% ^{2,3}	25.3%
Lack of labor	21.7%	23.1%	23.9%	22.9%
Not profitable to produce	9.3%	11.9%	6.5%	9.4%
Climate change	9.8%	9.8%	8.5%	9.4%
Erosion	3.4%	3.2%	1.6%	2.8%
Other	27.1%	10.9% ¹	10.6% ³	16.0%
N=	189	216	187	593

p<.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Theft, lack of spraying services, uncontrolled burning, wild animals, and weather (drought) were the most common (in order of frequency) “other” reasons given for decreases in production.

Prices and product types

Few farmers were satisfied with the prices they received for their marketed product. Low levels of satisfaction were consistent across gender, province, and sales levels (**Table 75** and **Table 76**).

Table 75: % of farmers satisfied with prices received for cashew nuts by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% Farmers satisfied with price received for cashew nuts with the shell?	4.2%	2.5%	7.7%	2.1% ¹	0.9% ³	3.9%
N=	794	195	368	354	267	989

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 76: % of farmers satisfied with prices received for cashew nuts by sales categories

	Sales Categories			Total
	Low	Mid	High	
% Farmers satisfied with price received for cashew nuts with the shell?	3.9%	3.9%	4.5%	4.1%
N=	246	288	273	807

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

A higher proportion of farmers in Zambezia and Nampula reported sales of cashew byproducts. This was particularly true of cashew wine where between one-quarter and one-third of farmers in those two provinces reported sales (**Table 77**). Interestingly, farmers in the highest sales tercile also reported higher sales of wine and fruit (**Table 79** and **Table 82**), suggesting that the higher earning farmers in Nampula and Zambezia have more opportunities to market their byproducts.

Table 77: % of farmers producing cashew wine by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% producing cashew wine	25.1%*	15.9%	14.6%	23.0% ¹	35.4% ^{2,3}	23.3%
N=	804	198	368	365	269	1003

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 78: % of farmers producing cashew wine by sales category

	Sales Categories			Total
	Low	Mid	High	
% Producing cashew wine	22.0%	30.4% ¹	31.8% ³	28.3%
N=	253	291	274	817

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values.

In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 79: % of farmers producing cashew juice by gender of HoH and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% Producing cashew juice	9.4%*	5.8%	4.3%	12.6% ¹	9.5% ³	8.7%
N=	795	195	367	358	264	990

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 80: % of farmers producing cashew juice by sales category

	Sales Categories			Total
	Low	Mid	High	
% producing cashew juice	11.6%	9.6%	10.2%	10.4%
N=	248	288	273	808

p<.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 81: % of farmers selling cashew fruit by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% selling cashew fruit	34.2%*	24.9%	31.3%	38.8% ¹	25.1% ²	32.4%
N =	802	203	369	366	269	1004

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 82: % of farmers selling cashew fruit by sales category

	Sales Categories			Total
	Low	Mid	High	
% selling cashew fruit	28.2%	37.2% ¹	51.2% ^{2,3}	39.1%
N=	257	291	275	823

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Buyers

A reasonably small percentage of farmers reported that they had encountered a situation where a buyer promised to purchase cashew nuts but did not show or failed to follow through on a purchase (less than a quarter of farmers overall) (**Table 83 and Table 84**).

Table 83: % of farmers encountering a situation where a buyer promised to buy cashew nuts but did not show by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% of farmers	21.6%*	13.8%	16.0%	23.1% ¹	21.6%	20.1%
N=	792	195	368	355	264	987

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 84: % of farmers encountering a situation where a buyer promised to buy cashew nuts but did not show by sales category

	Sales Categories			Total
	Low	Mid	High	
% of farmers	16.9%	21.8%	28.8% ³	22.6%
N=	248	289	271	808

1: Mid different than Low; 2: High different than Mid; 3: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

When asked what was most important when marketing their product, most farmers reported price as the determining factor (84%, **Table 85** and **Table 86**). Buyers appear to mostly compete on price, infrequently competing on the basis of additional service offerings. Only 7.5% of survey respondents reported having inputs advanced to them by buyers in exchange for supply guarantees (**Table 87**).

Table 85: Farmers' most important factor in choosing a buyer by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Best price offered	83.6%	87.3%	77.7%	85.6% ¹	92.1% ^{2,3}	84.3%
Confidence that sale will go through	1.8%	3.0%	2.2%	1.7%	1.9%	2.0%
Offers inputs and other services	1.1%	0.5%	0.8%	0.6%	1.9%	1.0%
Only one buyer (no choice)	6.3%	5.6%	4.1%	10.1% ¹	3.7% ²	6.2%
Other	7.2%	3.6%	15.3%	2.0% ¹	.4% ³	6.5%
N=	793	197	367	355	267	990

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 86: Farmers' most important factor in choosing a buyer by sales category

	Sales Categories			Total
	Low	Mid	High	
Best price offered	82.9%	89.5%	79.7% ²	84.2%
Confidence that sale will go through	2.4%	1.4%	1.5%	1.7%
Offers inputs and other services	0.8%	1.4%	0.4%	0.9%
Only one buyer (no choice)	10.0%	3.8% ¹	4.4% ³	5.9%
Other	4.0%	3.8%	14.0% ^{2,3}	7.3%
N=	251	287	271	809

1: Mid different than Low; 2: High different than Mid; 3: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Almost exclusively, the other reason given for choosing a buyer was that there was no ability to choose (e.g. “never chose”, “isn’t possible to choose”).

Table 87: % of farmers that had a buyer advance inputs in exchange for cashew nut supply guarantees by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% of farmers	8.0%	5.4%	5.9%	8.6%	8.3%	7.5%
N=	775	186	370	338	253	961

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 88: % of farmers that had a buyer advance inputs in exchange for cashew nut supply guarantees by sales category

	Sales Categories			Total
	Low	Mid	High	
% of farmers	4.7%	9.6%	10.5% ³	8.5%
N=	235	280	266	781

1: Mid different than Low; 2: High different than Mid; 3: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Farmers sold cashew nuts an average of one time in the most recent campaign (**Table 89** and **Table 90**).

Table 89: Average number of times farmers sold cashew nuts during the most recent campaign in which they sold, by gender of HoH and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
How many times did farmers sell cashew nuts during most recent campaign	1.3*	1.1	0.7	1.81	1.4 ^{2,3}	1.3
N=	737	181	369	319	229	918

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula; ³Zambezia different than Cabo Delgado

Table 90: Average number of times farmers sold cashew nuts during the most recent campaign in which they sold, by sales category

	Sales Categories			Total
	Low	Mid	High	
How many times did farmers sell cashew nuts during most recent campaign	1.4	1.5	1.4	1.5
N=	240	283	261	783

*p<0.101: Mid different than Low; 2: High different than Mid ; 3: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Farmers in Nampula reported significantly higher yields per cultivated tree (4.4 kg/tree, **Table 91**) relative to the other two provinces. This may suggest that higher sales reported (per farmer) in Cabo Delgado district are solely a function of greater area planted as opposed to higher productivity of farmers in that province. It should be noted that regardless of the relatively higher productivity of Nampula farmers, 4 kg per tree, on an absolute basis, is a low yield compared to potential yields. Overall yield data in the MozaCajú project area show extremely low yields – with an average yield of 3.2 kg per tree.

Table 91: Average and median yield in kg per tree cultivated by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Average yield (kg / tree cultivated)	3.2	3.3	2.7	4.41	2.22	3.2
Median yield (kg / tree cultivated)	1.6	1.5	1.5	2	1.1	1.6
N=	709	188	325	328	245	897

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 92: Average and median yield in kg per tree cultivated by sales category

	Sales Categories			Total
	Low	Mid	High	
Average yield (kg / tree cultivated)	2.5	2.7	4.6 ^{2,3}	3.3
Median yield (kg / tree cultivated)	1.5	1.2	2.4	1.6
N=	229	271	248	748

1: Mid different than Low; 2: High different than Mid; 3: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Management Practices

Male farmers that head their household, as well as, farmers in Nampula regardless of gender, were more likely to keep a range of business records including production records, income and expense statements, and household asset records. Roughly 25-35% of farmers in Nampula engaged in these forms of recordkeeping (**Table 93 Table 95, Table 97**). The average for all farmers in the sample across all forms of recordkeeping was 14-22%.

Table 93: % of farmers keeping production records by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% of farmers	15.6%*	6.4%	10.3%	25.8% ¹	2.2% ^{2,3}	13.8%
N=	800	203	370	364	269	1003

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 94: % of farmers keeping production records by sales category

	Sales Categories			Total
	Low	Mid	High	
% of farmers	13.3%	16.6%	15.6%	15.2%
N=	256	289	275	820

p<0.10: ¹Mid different than Low; ²High different than Mid ; ³High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 95: % of farmers keeping a record of income and expenses by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% of farmers	17.1%*	3.5%	8.9%	26.8% ¹	5.2% ²	14.4%
N=	803	199	370	362	270	1002

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 96: % of farmers keeping a record of income and expenses by sales category

	Sales Categories			Total
	Low	Mid	High	
% of farmers	16.1%	15.1%	17.8%	16.3%
N=	254	291	276	821

p<0.10: ¹Mid different than Low; ²High different than Mid ; ³High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 97: % of farmers keeping a record of household assets by gender of HoH and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% of farmers	23.8%*	13.9%	14.9%	35.6% ¹	12.6% ²	21.8%
N=	802	202	370	365	270	1005

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 98: % of farmers keeping a record of household assets by sales category

	Sales Categories			Total
	Low	Mid	High	
% of farmers	20.3%	26.2%	30.2% ³	25.7%
N=	256	290	275	821

p<0.10: ¹Mid different than Low; ²High different than Mid ; ³High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Few farmers surveyed were either familiar with or practiced organic production. Of the overall farmers sampled, 17% had heard of organic farming (**Table 99**) while only 13 farmers reported following organic standards as part of their farming practices (**Table 103**).

Table 99: % of farmers that have heard of organic production by gender of HoH and province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% of farmers that have heard of organic production	19.5%*	7.5%	16.8%	18.7%	15.3%	17.1%
N=	793	199	369	359	262	992

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 100: % of farmers who have heard of organic production by sales category

	Sales Categories			Total
	Low	Mid	High	
% of farmers that have heard of organic production	12.8%	14.3%	22.3% ^{2,3}	16.6%
N=	250	286	273	809

p<0.10: ¹Mid different than Low; ²High different than Mid ; ³High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some

Table 101: % of farmers that are familiar with the requirements for organic production by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% of farmers	22.6%	26.3%	53.2%	8.5% ¹	4.0% ³	22.4%
N=	164	19	62	71	50	183

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 102: % of farmers that are familiar with requirements for organic production by sales category

	Sales Categories			Total
	Low	Mid	High	
% of farmers	25.0%	13.0%	24.2%	20.9%
N=	40	46	62	148

p<.10: ¹Mid different than Low; ²High different than Mid ; ³High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 103: % of farmers that follow standards for organic production by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% of farmers	33.3%	0.0%	33.3%	20.0%	0.0%	28.3%
N=	39	7	33	10	2	46

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 104: % of farmers that follow standards for organic production by sales category

	Sales Categories			Total
	Low	Mid	High	
% of farmers	18.2%	42.9%	21.4%	25.0%
N=	11	7	14	32

p<.10: ¹Mid different than Low; ²High different than Mid ; ³High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Group Participation

Awareness of producer associations was low among sampled farmers, with only 17% of farmers reporting an association existing in their community (**Table 105**). Among the 178 farmers who reported that a group did exist in their community, the participation rate was approximately 38% (**Table 107**).

Table 105: % of farmers reporting producer associations in their area by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
No	68.9%	65.7%	92.1%	61.3% ¹	45.1% ^{2,3}	68.4%
Yes	19.0%	11.1%*	5.4%	20.2% ¹	30.5% ^{2,3}	17.4%
Don't know	12.0%	23.2%*	2.4%	18.5% ¹	24.4% ³	14.1%
N=	798	198	369	357	266	992

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo

Delgado; **Note:** A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 106: % of farmers reporting producer associations in their area by sales categories

	Sales Categories			Total
	Low	Mid	High	
No	69.2%	56.4% ¹	71.0% ²	65.3%
Yes	17.6%	23.5%	19.0%	20.2%
Don't know	13.2%	20.1% ¹	9.9% ²	14.5%
N=	250	289	274	813

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 107: Cashew nut producer group membership by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
No	60.4%	75.0%	65.0%	39.7% ¹	82.5% ²	61.8%
Yes	39.6%	25.0%	35.0%	60.3% ¹	17.5% ²	38.2%
N=	154	24	20	78	80	178

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 108: Cashew nut producer group membership by sales categories

	Sales Categories			Total
	Low	Mid	High	
No	54.2%	78.6% ¹	46.0% ²	61.9%
Yes	45.8%	21.4% ¹	54.0% ²	38.1%
N=	48	70	50	168

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Among those farmers who were members of a producer group, about half were members of a basic loose grouping and around half were members of a more formalized association (**Table 109**). Associational membership was much more common among farmers in Zambezia province. Only around 2% of farmers belonging to a group reported being members of a cooperative. Notably, a higher percentage of those in the high sales tercile were members of an association – 76% (**Table 110**).

Table 109: Membership in different producer groups by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Group	50.0%	33.3%	66.7%	53.5%	26.7%	48.4%
Association	48.3%	66.7%	33.3%	46.5%	66.7%	50.0%
Cooperative	1.7%	0.0%	0.0%	0.0%	6.7%	1.6%
N=	58	6	6	43	15	64

*p<0.10: Female different than Male

p<.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 110: Membership in different producer groups by gender of HoH and by province

	Sales Categories			Total
	Low	Mid	High	
Group	77.8%	66.7%	20.7%	48.4%
Association	22.2%	26.7%	75.9%	48.4%
Cooperative	0.0%	6.7%	0.0%	1.6%
Other	0.0%	0.0%	3.4%	1.6%
N=	18	15	29	62

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

For those farmers that had joined producer groups, the main motivation for doing so was to obtain better prices for their cashew (**Table 111**).

Table 111: Reasons for joining producers' groups (among those who are members) by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Obtain better prices	46.6%	55.7%	41.6%	43.3%	64.4%	47.4%
Access to credit	15.8%	15.3%	48.2%	7.8% ¹	27.4%	15.7%
Access to inputs	5.1%	15.3%	24.1%	0.0% ¹	17.8% ²	6.0%
Access to storage	3.7%	29.0%*	0.0%	8.6%	0.0%	6.0%
Other	24.7%	0.0%	0.0%	32.1%	0.0% ²	22.5%
N=	61	6	7	47	14	68

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 112: Reasons for joining producers' groups (among those who are members) by sales categories

	Sales Categories			Total
	Low	Mid	High	
Obtain better prices	25.5%	40.4%	66.3% ³	46.3%
Access to credit	8.8%	13.1%	21.2%	15.1%
Access to inputs	0.0%	20.5% ¹	3.4%	6.3%
Access to storage	0.0%	11.5%	8.4%	6.3%
Exchange of ideas experience	48.1%	23.1%	4.2% ³	23.6%
N=	22	15	27	64

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Other: Exchange of ideas and exchange of experience.

Among the small number of farmers who were members of some type of producer group, around half reported that their groups had the capacity to find buyers (**Table 113** and **Table 114**).

Table 113: Group capacity to find buyers by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
No	15.5%	50.0%*	28.6%	9.3%	46.7% ²	20.0%
Yes	58.6%	16.7%*	57.1%	65.1%	20.0% ²	53.8%
Don't know	25.9%	33.3%	14.3%	25.6%	33.3%	26.2%
N=	58	6	7	43	15	65

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 114: Group capacity to find buyers by sales categories

	Sales Categories			Total
	Low	Mid	High	
No	11.1%	6.3%	35.7% ²	21.0%
Yes	50.0%	50.0%	60.7%	54.8%
Don't know	38.9%	43.8%	3.6% ^{2,3}	24.2%
N=	18	16	28	62

p<.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

The main reason cited by farmers for not joining any type of producer group was due to a lack of perceived benefit in the efficiency of such groups. The lack of existence of such groups was an equally important reason cited (**Table 115** and **Table 116**).

Table 115: Reasons for not becoming a member of a producer by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
Don't have time	26.1%	37.5%	46.2%	48.0%	15.4% ^{2,3}	27.2%
Don't think it will be efficient	33.0%	31.3%	30.8%	28.0%	35.4%	33.0%
It's very expensive to be a member	5.7%	0.0%	7.7%	8.0%	3.1%	4.9%
Other	35.2%	31.3%	15.4%	16.0%	46.2% ^{2,3}	35.0%
N=	88	16	13	25	65	103

*p<0.10: Female different than Male

p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 116: Reasons for not becoming a member of a producer group by sales categories

	Sales Categories			Total
	Low	Mid	High	
Don't have time	48.0%	22% ¹	17.4% ³	27.6%
Don't think it will be efficient	16.0%	46% ¹	26.1%	33.7%
It's very expensive to be a member	4.0%	4.0%	8.7%	5.1%
Other	32.0%	28.0%	47.8%	33.7%
N=	25	50	23	98

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Access to Credit

Availability of credit was generally low for all farmers surveyed. Overall, only 10% of farmers were aware that credit-providing organizations existed in their communities (**Table 117**). Interestingly, farmers with higher cashew sales more frequently reported availability of credit compared to farmers with fewer sales on average, though this is still in relation to low overall figures (**Table 118**).

Table 117: % of farmers reporting the existence of formal/informal credit organizations in their communities by gender of HoH and by province

	Gender HoH		Province			Total
	Male	Female	Cabo Delgado	Nampula	Zambezia	
% of farmers	10.2%	11.2%	11.6%	17.0% ¹	0.0% ^{2,3}	10.5%
N=	796	197	370	358	267	995

*p<0.10: Female different than Male; p<0.10: ¹Nampula different than Cabo Delgado; ²Zambezia different than Nampula ; ³Zambezia different than Cabo Delgado

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Table 118: % of farmers reporting the existence of formal/informal credit organizations in their communities by sales category

	Sales Categories			Total
	Low	Mid	High	
% of farmers	5.2%	8.3%	16.0% ^{2,3}	10.0%
N=	250	289	275	814

p<0.10; ¹:Mid different than Low; ²: High different than Mid; ³: High different than Low

Note: A sample weight adjustment has been applied to all calculated figures in tables, including N values. In some instances, disaggregated N values (i.e. by province, sales tercile) may not sum to total N value due to rounding.

Main Problems in the Community

Farmers surveyed identified problems with water, health services, and education most frequently when asked what were the principal problems in their communities. Generally, female-headed households reported problems with access to health services more frequently than their male counterparts. All other problems were cited by fewer than 10% of respondents (Table 119).

Table 119: % of farmers reporting 3 principal problems in their communities (in order of priority) by gender of HoH

Type of problem	Priority 1		Priority 2		Priority 3		Total
	Male	Female	Male	Female	Male	Female	
Problems with water	30.8%	27.6%	24.5%	20.3%	11.8%	11.6%	30.2%
Problems with health services	19.0%*	27.6%	19.5%	25.4%	12.4%	9.5%	20.7%
Problems with education	11.0%	14.3%	6.2%	6.1%	7.4%	5.3%	11.7%
Lack of buyers	10.3%	8.7%	10.2%	10.2%	17.8%	19.6%	10.0%
Problems with roads	6.8%	3.1%	8.0%	8.1%	9.5%	10.6%	6.0%
Other	5.3%	3.1%	5.8%	2.5%	11.8%	4.2%	4.8%
Problems with electricity	3.9%	3.1%	3.3%	5.1%	4.7%	5.8%	3.7%
Lack of access to capital and/or inputs	3.0%	1.5%	6.3%	4.6%	3.2%*	9.0%	2.7%
Theft/crime	2.5%	5.1%	3.9%	4.6%	3.2%	3.2%	3.0%
Under/unemployment	1.4%	0.5%	3.0%	2.5%	3.3%	4.2%	1.2%
Climate change	1.4%	2.0%	1.8%	1.5%	1.4%	1.6%	1.5%
Destruction of crops by wild animals	1.1%	0.5%	0.9%	1.0%	1.2%	2.1%	1.0%
None	0.9%	1.0%	1.9%	1.0%	5.1%	3.7%	0.9%
Irresponsibility of men	0.9%	0.0%	0.4%	0.0%	1.0%	0.5%	0.7%
Lack of public transport	0.6%	1.0%	2.0%	1.5%	3.3%	3.2%	0.7%
Poor community leadership/corruption	0.6%	0.0%	1.8%	1.0%	1.5%	3.2%	0.5%
Untimely Pregnancy	0.4%	0.5%	0.3%	1.5%	0.9%	2.1%	0.4%
Economic domination by immigrants	0.1%	0.5%	0.3%	3.0%	0.3%	0.5%	0.2%

Other (Priority 1,2,3) = hunger, lack of a market/stores, lack of maternity assistance, lack of credit/funds, uncontrolled burns, low prices, lack of training, lack of equipment/tools, lack of old age insurance.

Processor Level Findings

A total of six companies were interviewed in the study: Cabo Cajú, Export Trading Group, Gani Comercial, Condor, OLAM, and Indo-Africa Trading. Factories were visited in Pemba (Cabo Cajú), Chiure (Export Trading Group), Lumbo (Gani Comercial), Monapo (OLAM), Nametil (Condor), Angoche (Gani Comercial), Anchilo (Condor), and Murrupula (Indo-Africa). Because Cabo Cajú is not currently operating, this company is not included in the baseline project statistics, although the project has plans to collaborate with any entity that re-launches operations at this specific site. This facility is of particular interest to the project because the owner has expressed interest to restart the factory in order to get into organic production, with project support. For this reason it has been included in the baseline survey, even though it is not currently operational, and does not figure into the baseline statistics.

Annex 6 provides the topical outline that was used to guide the interviews with processors. In addition to processors, the team interviewed representatives from the African Cashew Initiative and the Mozambique National Cashew Institute (INCAJU) to get additional background about the cashew industry in Mozambique, and the types of support being provided by these organizations.

The following sections provide information collected from each of the companies.

Cabo Cajú

This company is not currently operating, but the owner has expressed interest to restart operations, with a focus on selling organically certified cashews. The plant has a 1,200 Metric Tons (MT) processing capacity. When the company was in operation, the owner focused on producing retail packaging. He sold locally and also exported, but after having problems with his international buyer (Delta Trading), he was unable to find sufficient market demand for his retail-packaged product. The owner is interested in making the necessary investments and to establish linkages with producers to obtain organic certification.

Export Trading Group (ETG)

Export Trading Group is engaged in selling both raw cashew nuts (RCN) and raw kernels. For the current year, the company reports selling 1,400 MT of kernels. The Korosho processing facility at Chiure (Cabo Delgado) was visited by the data collection team. This plant currently processes 1,200 MT of RCN per year, but has recently constructed a major expansion that will double capacity to 2,400 MT next year. The building has already been constructed. A new plant is also planned to be built in Angoche. Shelling will be fully mechanized in the expanded facility. The plant currently has certification for Hazard Analysis and Critical Control Points (HACCP), Kosher, ISO19000, ISO22000 and Social Accountability. The company expresses an interest in obtaining organic certification.

	Export Trading Group (ETG)
Sales	280 T Kernels ^a
Types of products sold	Kernels and RCN

	Export Trading Group (ETG)
Locations	US, UK, UAE , South Africa
Future plans	Increased capacity (doubling capacity at Chiure) Organic certification. Have taken over another factory in Nangade, where they plan to process approximately 600 MT next year.
Chiure facility	
Processing Capacity	1,200 MT (plan to expand to 2,400 MT next year)
Storage capacity	2,000 MT, plans to expand to 3,000 MT
shelling (manual/machine)	10% machine, 90% manual (Plans to convert to all machine next year)
% Wholes in final packaging	70% (72% last year with 100% manual deshelling)
Processing (batch)	Not currently batch process, but plan to start, for quality control purposes
Traceability	To district level, but not to kernel level, only for internal monitoring
Certification	HACCP, Kosher, ISO19000, ISO22000, Social Accountability
Fumigation	No
Labor force	450 registered, currently 350 working
Absentee rate	22%
Services for workers	Canteen, child care, health post (health worker visits weekly)
Satellite processing activities	No
Food safety practices	Training to workers, wash basins with soap, aprons and gloves to workers
Food safety audits	Have already had audits undertaken

	Export Trading Group (ETG)
Procurement of RCN	Through own buyers
Types of suppliers	Associations/forum, brokers
Consistent relationships with buyers	Yes
Services to suppliers	Provide saplings (to improve farm-level yield)
Main challenges	
Labor	High turnover of workers and high absentee rate.
Equipment	Plant in process of being expanded. Plant will be shifting to fully mechanized shelling.
Working capital	Not a constraint

^a Estimated on basis of reported kernels/RCN ratio of 0.23, and processing of 1,200 MT of RCN.

Condor

Condor sells only raw kernels, about 80 percent sold to US buyers (Kraft, Costco). Condor has plants in Nametil and Anchilo. Last year, the company experimented with selling a small amount of Fair Trade certified kernel with support from the African Cashew Initiative (ACI). However, this was found to be a lot of trouble in terms of organizing the warehouse and batch processing, and for now, the company is not interested to continuing. The factory in Nametil has been conducting some deshelling in satellite operations in outlying areas, as a way to overcome labor shortages at the plant, but may discontinue this activity because of the management and security challenge.

	Condor
Sales	Approximately 1,800 MT raw kernels (whole and broken)
Types of products sold	Kernels – wholes and broken. Have no problem selling wholes, but problems finding buyers for broken
Locations	80% sold to US (Kraft, Costco), most of rest to Europe Costco buys some broken, rest to India Sold 3.5 containers fair trade certified to Europe, with support from ACI
Future plans	Have plans to get African Cashew Alliance (ACA) Seal (industry certification), have started making investments in appropriate stocking materials to store kernels appropriately.

	Condor	
	Interested in investments to extract cashew nut shell liquid (CNSL)	
	Nametil	Anchilo
Processing Capacity	3,500 – 4,000 MT	4,000 MT (expect 5,000 next year)
Storage capacity	5,000 MT, at a combination of on-site and rural warehouses	6,000 MT
Shelling (manual/machine)	30 deshelling machines (20 additional have been purchased) 500 deshelling stations	100 deshelling machines 300 deshelling stations
Breakage rate (deshelling)		20% machines, 8% manual
Processing (batch)	none	For fair trade certification
Traceability	By district (warehouse), not to kernel level (for internal quality control purposes only)	By district (warehouse) (By association, only for fair trade batch)
Certification		Plans for ACA certification next year Trial fair trade batch this year
Fumigation	Yes	Yes
Labor force	500 (67% female)	1,200 (65% female)
Absentee rate	15% (currently 60% in deshelling)	
Services for workers	Dormitory for workers living distant from plant, crèche, canteen	Dormitory for workers living distant from plant, crèche, canteen
Satellite processing activities	Has used for scooping and peeling, but plans to discontinue	
Food safety practices	None currently (washing facilities not currently functioning)	Hand washing facilities, gloves, caps, aprons to workers

	Condor	
		Want to learn from Brazilians
Food safety audits	No	No
Procurement of RCN	Through own buyers	Through own buyers
Types of suppliers	Associations/forum, brokers	Associations/forum, brokers
Consistent relationships with buyers	Yes	Yes
Services to suppliers		
Main challenges		
Labor	Absenteeism, particularly in rainy season	Absenteeism, particularly in rainy season
Equipment	Peeling machines do not work properly	Problems of humidity in kernels
Working capital	Not a constraint	Not a constraint

OLAM

OLAM is a large international firm that trades a wide range of agricultural products. In Mozambique, OLAM sells RCN as well as kernel. OLAM sells primarily to US markets. The company is interested in implementing complete traceability of the kernels it sells.

	OLAM
Sales	2,880 MT of kernels (whole and broken)
Types of products sold	RCN and kernels
Locations	US (Kraft, Costco) and Europe – 90%, South Africa – 10%
Future plans	Want to implement complete traceability Want to work on food safety Plant to start to work more directly with producers in Angoche
Monapo Facility	
Processing Capacity	6,000 MT

	OLAM
Storage capacity	
shelling (manual/machine)	65% machine, 35% manual
Breakage rate (deshelling)	8-12% mechanical; 6-12% manual
Processing (batch)	Batch processing (from different warehouses) only for quality control.
Traceability	
Certification	None. Wants to get HACCP certification, and has started making investments
Fumigation	Yes
Labor force	2,500 registered(currently 2,000 working)
Absentee rate	20% (highest in deshelling)
Services for workers	Canteen
Satellite processing activities	Peeling done outside plant
Food safety practices	Workers provided with hairnets, gloves, workers wash hands before entering factory Plan to get certified under BRC Global Standards
Food safety audits	Not at present
Procurement of RCN	Direct -through own buyers, from 5-6 units
Types of suppliers	Associations/forum, brokers
Consistent relationships with buyers	Yes
Services to suppliers	
Main challenges	
Labor	High absenteeism, turnover ratio
Equipment	Peeling machine (from Vietnam) does not work properly
Working capital	Not a constraint

Gani Comercial

Gani Comercial is a large general trading company based in Nampula. The company trades a wide range of agricultural products, and is also involved in non-agricultural trade. The company has a large network of warehouses throughout Nampula province.

Gani reports that they plan to set up a network of extension agents (500 in Angoche) to provide services for cashew producers through a matching grant from African Cashew Initiative (ACI). About 70% of their sales of kernel are to the US, with the remainder sold to South Africa. These extension agents (tratadores) will provide samplings and, fuel for spraying. This service is intended to have two advantages for the firm: i) to increase the productivity of producers and ii) localize the source of RCN, thereby reducing assembly and transport costs. Gani reports that they are interested to get ACA certification (which includes HACCP conditions).

The survey team made a rapid visit to the factory in Lumbo, but the operations were closing down for the day, and time did not permit to get detailed information about operations at this facility.

	Gani Comercial (Cajú Ilha)
Sales	1,875 MT of raw kernels (whole and broken), including stock from 2012 sold in 2013
Types of products sold	RCN and Kernels
Locations	US (70%) and South Africa (30%). Broken are sold in US.
Future plans	Want to get ACA certification Want to set up network of extension workers (tratadores) who will work with producers
	Angoche Facility
Processing Capacity	4,000-5,000 MT (3,300 MT processed last year)
Storage capacity	20,000 MT
shelling (manual/machine)	37 machines , capacity 60 kg/hour 306 manual shelling stations, capacity 40 kg/station/day
Breakage rate (deshelling)	11-12% machines; 7-9% manual
% Wholes in final packaging	74%
Processing (batch)	Batch processing through cutting
Traceability	To level of supplying warehouse (5-6 supply the facility)

	Gani Comercial (Cajú Ilha)
Certification	None
Fumigation	No
Labor force	700 registered (56% female)
Absentee rate	34% (deshellers)
Services for workers	Canteen (breakfast and lunch), health post, provide food to caretakers of children, sports club, social events for workers, health services to workers
Satellite processing activities	No
Food safety practices	Hand washing before entering,
Food safety audits	No
Procurement of RCN	From company warehouses
Types of suppliers	n.a.
Consistent relationships with buyers	n.a.
Services to suppliers	Plans to establish network of extension agents (tratadores) to work with producers, and associations. Plans to supply saplings, and pay fuel costs of spraying
Main challenges	
Labor	High turnover and absenteeism
Equipment	Major problem finding qualified personnel to maintain machines
Working capital	Not a constraint

Indo-Africa Trading

Indo-Africa Trading is primarily a trader of RCN, the largest RCN trader in Mozambique, but has gotten into processing as well. The company has two operational processing facilities, one in Murrupula and one in Mecua (also in Murrupula District). The plant in Murrupula had just closed operations for the year when the team visited; so detailed information about plant operations was not available. Indo-Africa trades RCN primarily to India and kernel primarily to the US, but also to South Africa. The company employs about 750 workers in the two facilities.

Conclusions

Cashew Producers

Several findings from this baseline survey of cashew farmers in the MozaCajú project areas are worth emphasizing. First, the average number of cultivated trees per household is around 145, with almost 200 trees per farmer in Cabo Delgado, 120 in Nampula, and 100 in Zambezia. Productivity is very low, with average productivity per tree of only about 3 kg/tree, and a median production of only 1.6 kg/tree. Interestingly, the productivity per tree is significantly higher for households in the highest category of sales, at over 4.5 kg/tree compared with less than 2.5 kg/tree for the other sales categories. This may be explained by the fact that a larger proportion of farmers in the highest sales category apply fertilizer and spray their trees. Thus there appears to be significant scope for increasing the productivity of cashew producers within the MozaCajú project area, and smaller farmers appear to have particular potential to catch up with the performance of the larger farmers.

Adoption of several improved technologies in general is quite high, particularly avoiding burning, pruning of canopy, and weeding, which are each reported to be practiced by approximately 80 percent of all surveyed farmers. However, other practices are less widespread, such as spraying, intercropping with beans, and mulching, which are reported by only 30-40 percent of farmers, while application of fertilizer is reported by only 10 percent of farmers. A higher proportion of larger producers (in the highest sales category) report adopting spraying, weeding, and use of fertilizer, compared with smaller farmers.

Access to support and services is very limited for cashew producers in the project area. Overall access to training is very low. Only about three percent of interviewed farmers reported that they received any agricultural productivity training. Likewise membership in groups is low, with fewer than 20 percent of interviewed farmers reporting participation in groups. Only about 10 percent of farmers report that they have access to any sources of credit to invest in cashew production.

The overall situation of cashew producers in the MozaCajú production area is one of low productivity, but with much scope for adoption of key techniques, and provision of training, access to improved inputs and credit.

Cashew processors

Currently the processors interviewed in the baseline do not face major marketing problems for whole kernels, but several of the firms reported that they had difficulties finding buyers for broken kernels. However, even though they can presently find buyers for whole kernels, all the companies are aware that the international market for cashews is changing and that they need to make changes in their operations to meet more stringent demands. Since all of the companies interviewed sell the majority of their kernels to US and European markets, they are particularly aware of the growing demands of buyers in these two markets. This perceived need falls squarely within the scope of the MozaCajú project, which has a focus of helping Mozambican processors to meet needs of buyers – traceability, organic, and fair trade.

None of the processors indicated that they faced problems in acquiring raw materials during the 2012 harvest. With the exception of Indo-Africa, which had just finished processing prior to the team visit; all the factories had supplies of RCN to stay in operation until the RCN from the 2013 harvest was in stock. The processors in Nametil and Monapo indicated that as 2013 buying was getting started there was some competition with other processors, but they were able to find sufficient quantity of raw material, even though they had to procure from some more distant locations.

Without exception, all interviewed processors reported facing major labor problems due to high rates of turnover and absenteeism. These are the major problems that limit the processors' processing capacities. High turnover is costly, because it takes 1-2 months to train new workers. Currently, official payment of workers in cashew processing plants is based on standardized rates established by ICAJU. However, respondents in the companies noted that there is competition among companies for workers, and that poaching of workers by offering bonuses is commonly practiced.

Problems in access to labor point to opportunities for TechnoServe to promote companies to apply shared value strategies – particularly investments and practices – to secure and retain workers. Time constraints did not allow for extensive interviews with workers at all the plants visited. It is recommended that a separate qualitative exercise to interview workers should be undertaken by the project. This study should be organized in a manner that minimizes the perception that the interviews are organized by the companies themselves. If possible the interviews should be undertaken away from the workplace, so that respondents will be freer to give honest answers about any concerns about workplace conditions. In addition, the survey should try to capture individuals that have left employment at the processing factories.

Those companies that wish to adopt traceability, organic, and/or fair trade standards will need to forge ongoing relations with suppliers, either at the level of individual farmers or farmer associations. Both OLAM and Gani have reported that they already plan to establish networks to provide more direct support to cashew producers. In addition, several of the processors (Condor, Gani, OLAM) indicated that they would like to concentrate in their immediate geographic area from which they source RCN, to reduce assembly and transport costs. TechnoServe's shared value approach can point to ways to help companies to establish stronger ties with producers.

Annex 1. Producer-Level Project Indicators

Province	District	Gender Household Head	Effective area under improved techniques or technologies	Weighted N	Effective Area	Weighted N	% Tech / Effective Area	Weighted N
Cabo Delgado	Mueda	M	71,209	6,690	72,787	6,905	98.0%	6,690
		F	7,337	863	7,337	863	100.0%	863
		All	78,546	7,553	80,124	7,769	98.2%	7,553
	Nangade	M	115,677	9,339	118,409	9,339	98.2%	9,339
		F	16,099	1,334	17,369	1,334	95.8%	1,334
		All	131,776	10,673	135,779	10,673	97.9%	10,673
	Palma	M	2,069	385	2,126	385	98.2%	385
		F	535	110	630	110	88.3%	110
		All	2,603	494	2,755	494	96.0%	494
	Muidumbe	M	21,843	6,867	22,969	7,235	96.4%	6,867
		F	3,259	1,594	3,335	1,594	93.3%	1,594
		All	25,101	8,461	26,304	8,829	95.8%	8,461
	Mocimboa da Praia	M	7,491	2,461	7,505	2,461	98.5%	2,461
		F	1,932	542	1,951	542	95.2%	542
		All	9,423	3,003	9,456	3,003	97.9%	3,003
	Metuge	M	5,668	3,926	5,827	3,926	97.7%	3,926
		F	1,406	1,309	1,444	1,309	95.8%	1,309
		All	7,073	5,235	7,271	5,235	97.2%	5,235
	Chiure	M	12,992	8,954	14,974	8,954	95.8%	8,954
		F	9,751	3,687	9,942	3,687	94.6%	3,687
		All	22,743	12,641	24,916	12,641	95.5%	12,641
	Macomia	M	29,625	8,870	29,977	8,870	98.3%	8,870
		F	1,964	1,626	1,964	1,626	100.0%	1,626
		All	31,589	10,497	31,941	10,497	98.6%	10,497
Nampula	Meconta	M	3,807	2,115	4,575	2,161	83.7%	2,115
		F	950	1,103	1,182	1,103	90.1%	1,103
		All	4,757	3,218	5,757	3,264	85.9%	3,218
	Mogovolas	M	40,132	16,359	43,873	16,976	86.3%	16,359
		F	4,421	4,013	5,706	4,630	92.3%	4,013
		All	44,553	20,371	49,579	21,606	87.5%	20,371
	Angoche	M	68,477	17,993	96,827	17,993	89.3%	17,993
		F	8,762	1,687	9,816	1,687	91.7%	1,687
		All	77,239	19,680	106,643	19,680	89.5%	19,680
	Moma	M	31,810	9,392	34,583	9,576	90.7%	9,392
		F	7,175	3,499	8,039	3,499	91.4%	3,499
		All	38,985	12,890	42,623	13,075	90.9%	12,890
Zambezia	Gile	M	30,492	11,816	32,772	12,027	94.2%	11,816
		F	4,751	2,743	5,516	3,165	94.2%	2,743
		All	35,243	14,559	38,288	15,192	94.2%	14,559
	Pebane	M	69,536	20,001	76,710	20,785	89.0%	19,609
		F	16,417	7,059	18,287	7,059	88.9%	7,059
		All	85,952	27,060	94,996	27,845	89.0%	26,668
Project		M	510,827	125,167	563,914	127,594	92.4%	124,775
		F	84,758	31,169	92,519	32,209	92.8%	31,169
		All	595,585	156,337	656,433	159,802	92.5%	155,944

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	Number of farmers and others who have applied new techniques and technologies	% Farmers Applying New Tech	Weighted N
Cabo Delgado	<i>Mueda</i>	M	6,690	96.9%	6,905
		F	863	100.0%	863
		All	7,553	97.2%	7,769
	<i>Nangade</i>	M	9,339	100.0%	9,339
		F	1,334	100.0%	1,334
		All	10,673	100.0%	10,673
	<i>Palma</i>	M	385	100.0%	385
		F	110	100.0%	110
		All	494	100.0%	494
	<i>Muidumbe</i>	M	6,867	94.9%	7,235
		F	1,594	100.0%	1,594
		All	8,461	95.8%	8,829
	<i>Mocimboa da Praia</i>	M	2,419	98.3%	2,461
		F	542	100.0%	542
		All	2,961	98.6%	3,003
	<i>Metuge</i>	M	3,926	100.0%	3,926
		F	1,309	100.0%	1,309
		All	5,235	100.0%	5,235
	<i>Chiure</i>	M	8,954	100.0%	8,954
		F	3,687	100.0%	3,687
		All	12,641	100.0%	12,641
	<i>Macomia</i>	M	8,870	98.4%	9,018
		F	1,626	100.0%	1,626
		All	10,497	98.6%	10,644
Nampula	<i>Meconta</i>	M	2,161	97.9%	2,207
		F	1,103	100.0%	1,103
		All	3,264	98.6%	3,310
	<i>Mogovolas</i>	M	16,667	98.2%	16,976
		F	4,630	93.8%	4,938
		All	21,297	97.2%	21,914
	<i>Angoche</i>	M	18,275	100.0%	18,275
		F	1,687	100.0%	1,687
		All	19,961	100.0%	19,961
	<i>Moma</i>	M	9,576	98.1%	9,760
		F	3,499	100.0%	3,499
		All	13,075	98.6%	13,259
Zambezia	<i>Gile</i>	M	11,816	98.2%	12,027
		F	2,743	86.7%	3,165
		All	14,559	95.8%	15,192
	<i>Pebane</i>	M	20,393	96.3%	21,178
		F	6,667	94.4%	7,059
		All	27,060	95.8%	28,237
Project		M	126,338	98.2%	128,645
		F	31,394	96.5%	32,517
		All	157,732	97.9%	161,162

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	Effective area under improved techniques or technologies (w/o burn avoidance)	Weighted N	% Tech / Effective Area	Weighted N
Cabo Delgado	Mueda	M	70,353	6,690	95.4%	6,690
		F	7,119	863	92.2%	863
		All	77,473	7,553	95.0%	7,553
	Nangade	M	114,089	9,339	97.4%	9,339
		F	16,099	1,334	95.8%	1,334
		All	130,188	10,673	97.2%	10,673
	Palma	M	1,952	385	94.2%	385
		F	460	110	79.7%	110
		All	2,412	494	91.0%	494
	Muidumbe	M	21,843	6,867	96.4%	6,867
		F	3,259	1,594	93.3%	1,594
		All	25,101	8,461	95.8%	8,461
	Mocimboa da Praia	M	7,491	2,461	98.5%	2,461
		F	1,932	542	95.2%	542
		All	9,423	3,003	97.9%	3,003
	Metuge	M	5,668	3,926	97.7%	3,926
		F	1,406	1,309	95.8%	1,309
		All	7,073	5,235	97.2%	5,235
	Chiure	M	12,963	8,954	95.6%	8,954
		F	9,322	3,687	89.9%	3,687
		All	22,285	12,641	93.9%	12,641
	Macomia	M	29,609	8,870	98.1%	8,870
		F	1,964	1,626	100.0%	1,626
		All	31,573	10,497	98.4%	10,497
Nampula	Meconta	M	3,404	2,023	76.7%	2,023
		F	816	1,011	84.7%	1,011
		All	4,220	3,034	79.4%	3,034
	Mogovolas	M	37,382	16,050	76.2%	16,050
		F	4,091	4,013	88.5%	4,013
		All	41,473	20,063	78.7%	20,063
	Angoche	M	65,331	17,993	86.3%	17,993
		F	8,641	1,687	87.5%	1,687
		All	73,972	19,680	86.4%	19,680
	Moma	M	29,680	9,392	84.3%	9,392
		F	6,977	3,499	90.1%	3,499
		All	36,658	12,890	85.9%	12,890
Zambezia	Gile	M	29,541	11,816	89.7%	11,816
		F	4,373	2,743	89.4%	2,743
		All	33,914	14,559	89.7%	14,559
	Pebane	M	65,635	20,001	83.0%	19,609
		F	15,485	7,059	85.4%	7,059
		All	81,120	27,060	83.6%	26,668
Project	M	494,942	124,767	88.5%	124,375	
	F	81,944	31,077	89.7%	31,077	
	All	576,886	155,844	88.8%	155,452	

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	Number of farmers and others who have applied new techniques and technologies (w/o burn avoidance)	% Farmers Applying New Tech	Weighted N	Number of individuals receiving short-term agricultural sector productivity or food security training	% receiving training	Weighted N
Cabo Delgado	Mueda	M	6,690	96.9%	6,905	216	3.1%	6,905
		F	863	100.0%	863	0	0.0%	863
		All	7,553	97.2%	7,769	216	2.8%	7,769
	Nangade	M	9,339	100.0%	9,339	445	4.8%	9,339
		F	1,334	100.0%	1,334	0	0.0%	1,334
		All	10,673	100.0%	10,673	445	4.2%	10,673
	Palma	M	385	100.0%	385	0	0.0%	385
		F	110	100.0%	110	0	0.0%	110
		All	494	100.0%	494	0	0.0%	494
	Muidumbe	M	6,867	94.9%	7,235	368	5.1%	7,235
		F	1,594	100.0%	1,594	0	0.0%	1,594
		All	8,461	95.8%	8,829	368	4.2%	8,829
	Mocimboa da Praia	M	2,419	98.3%	2,461	42	1.7%	2,461
		F	542	100.0%	542	0	0.0%	542
		All	2,961	98.6%	3,003	42	1.4%	3,003
	Metuge	M	3,926	100.0%	3,926	73	1.9%	3,926
		F	1,309	100.0%	1,309	0	0.0%	1,309
		All	5,235	100.0%	5,235	73	1.4%	5,235
	Chiure	M	8,954	100.0%	8,954	0	0.0%	8,954
		F	3,687	100.0%	3,687	0	0.0%	3,687
		All	12,641	100.0%	12,641	0	0.0%	12,641
	Macomia	M	8,870	98.4%	9,018	591	6.6%	9,018
		F	1,626	100.0%	1,626	0	0.0%	1,626
		All	10,497	98.6%	10,644	591	5.6%	10,644
Nampula	Meconta	M	2,069	93.8%	2,207	46	2.1%	2,207
		F	1,011	91.7%	1,103	0	0.0%	1,103
		All	3,080	93.1%	3,310	46	1.4%	3,310
	Mogovolas	M	16,359	96.4%	16,976	926	5.5%	16,976
		F	4,630	93.8%	4,938	0	0.0%	4,938
		All	20,989	95.8%	21,914	926	4.2%	21,914
	Angoche	M	18,275	100.0%	18,275	843	4.6%	18,275
		F	1,687	100.0%	1,687	0	0.0%	1,687
		All	19,961	100.0%	19,961	843	4.2%	19,961
	Moma	M	9,576	98.1%	9,760	737	7.5%	9,760
		F	3,499	100.0%	3,499	184	5.3%	3,499
		All	13,075	98.6%	13,259	921	6.9%	13,259
Zambezia	Gile	M	11,816	98.2%	12,027	0	0.0%	12,027
		F	2,743	86.7%	3,165	0	0.0%	3,165
		All	14,559	95.8%	15,192	0	0.0%	15,192
	Pebane	M	20,393	96.3%	21,178	784	3.7%	21,178
		F	6,667	94.4%	7,059	0	0.0%	7,059
Project		All	27,060	95.8%	28,237	784	2.8%	28,237
		M	125,937	97.9%	128,645	5,070	3.9%	128,645
		F	31,303	96.3%	32,517	184	0.6%	32,517
		All	157,240	97.6%	161,162	5,255	3.3%	161,162

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	Effective area under improved techniques or technologies as a result of USDA assistance	Weighted N	# of farmers and others who have applied new techniques and technologies as a result of USDA assistance	Weighted N
Cabo Delgado	Mueda	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Nangade	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Palma	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Muidumbe	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Mocimboa da Praia	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Metuge	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Chiure	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Macomia	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
Nampula	Meconta	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Mogovolas	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Angoche	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Moma	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
Zambezia	Gile	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Pebane	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
Project		M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	# of ind. receiving short-term ag sector productivity or food security training as a result of USDA assistance	Weighted N	Value of agricultural and rural loans	Value of agricultural and rural loans (per farmer)	Weighted N	Value of agricultural and rural loans provided with USDA assistance	Weighted N
Cabo Delgado	Mueda	M	0	161,162	0	0	6,905	0	161,162
		F	0	161,162	0	0	863	0	161,162
		All	0	161,162	0	0	7,769	0	161,162
	Nangade	M	0	161,162	0	0	9,339	0	161,162
		F	0	161,162	0	0	1,334	0	161,162
		All	0	161,162	0	0	10,673	0	161,162
	Palma	M	0	161,162	0	0	385	0	161,162
		F	0	161,162	0	0	110	0	161,162
		All	0	161,162	0	0	494	0	161,162
	Muidumbe	M	0	161,162	0	0	7,235	0	161,162
		F	0	161,162	0	0	1,594	0	161,162
		All	0	161,162	0	0	8,829	0	161,162
	Mocimboa da Praia	M	0	161,162	0	0	2,461	0	161,162
		F	0	161,162	0	0	542	0	161,162
		All	0	161,162	0	0	3,003	0	161,162
	Metuge	M	0	161,162	0	0	3,926	0	161,162
		F	0	161,162	0	0	1,309	0	161,162
		All	0	161,162	0	0	5,235	0	161,162
	Chiure	M	0	161,162	0	0	8,954	0	161,162
		F	0	161,162	0	0	3,687	0	161,162
		All	0	161,162	0	0	12,641	0	161,162
	Macomia	M	0	161,162	0	0	9,018	0	161,162
		F	0	161,162	0	0	1,626	0	161,162
		All	0	161,162	0	0	10,644	0	161,162
Nampula	Meconta	M	0	161,162	0	0	2,207	0	161,162
		F	0	161,162	0	0	1,103	0	161,162
		All	0	161,162	0	0	3,310	0	161,162
	Mogovolas	M	0	161,162	9,259,638	545	16,976	0	161,162
		F	0	161,162	0	0	4,938	0	161,162
		All	0	161,162	9,259,638	423	21,914	0	161,162
	Angoche	M	0	161,162	2,895,818	158	18,275	0	161,162
		F	0	161,162	0	0	1,687	0	161,162
		All	0	161,162	2,895,818	145	19,961	0	161,162
	Moma	M	0	161,162	0	0	9,760	0	161,162
		F	0	161,162	0	0	3,499	0	161,162
		All	0	161,162	0	0	13,259	0	161,162
Zambezia	Gile	M	0	161,162	0	0	12,027	0	161,162
		F	0	161,162	0	0	3,165	0	161,162
		All	0	161,162	0	0	15,192	0	161,162
	Pebane	M	0	161,162	0	0	21,178	0	161,162
		F	0	161,162	0	0	7,059	0	161,162
		All	0	161,162	0	0	28,237	0	161,162
Project		M	0	161,162	12,155,455	94	128,645	0	161,162
		F	0	161,162	0	0	32,517	0	161,162
		All	0	161,162	12,155,455	75	161,162	0	161,162

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	Number of farmers and others who have received training on improved agricultural techniques and technologies as a result of USDA assistance	Weighted N	Number of jobs attributed to USDA assistance	Weighted N
Cabo Delgado	Mueda	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Nangade	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Palma	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Muidumbe	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Mocimboa da Praia	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Metuge	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Chiure	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Macomia	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
Nampula	Meconta	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Mogovolas	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Angoche	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Moma	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
Zambezia	Gile	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Pebane	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
Project		M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	Number of individuals benefiting directly from USDA-funded interventions (Farmers, processor employees, processor owners)	Weighted N	Total number of individuals benefiting indirectly from USDA-funded interventions	Weighted N
Cabo Delgado	Mueda	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Nangade	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Palma	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Muidumbe	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Mocimboa da Praia	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Metuge	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Chiure	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Macomia	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
Nampula	Meconta	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Mogovolas	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Angoche	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Moma	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
Zambezia	Gile	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Pebane	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
Project		M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	Baseline in cashew tree productivity (yield per tree); Disaggregated by Gender and District	Weighted N	Baseline in small holder cashew sales (total USD); Disaggregated by Gender and District	Baseline in small holder cashew sales (USD per farmer); Disaggregated by Gender and District	Weighted N
Cabo Delgado	Mueda	M	4.04	5,071	2,821,595	450.88	6,258
		F	10.73	863	662,846	767.92	863
		All	5.01	5,934	3,484,441	489.31	7,121
	Nangade	M	4.57	6,967	3,855,255	464.41	8,301
		F	2.78	1,186	510,437	382.59	1,334
		All	4.31	8,153	4,365,692	453.08	9,636
	Palma	M	2.66	364	67,878	179.72	378
		F	2.50	110	13,439	122.31	110
		All	2.62	474	81,317	166.78	488
	Muidumbe	M	2.06	6,990	383,488	59.01	6,499
		F	0.64	1,594	29,450	26.69	1,104
		All	1.79	8,584	412,938	54.32	7,603
	Mocimboa da Praia	M	4.50	2,461	254,001	156.15	1,627
		F	2.76	542	44,491	213.33	209
		All	4.19	3,003	298,492	162.64	1,835
	Metuge	M	1.55	3,563	46,448	35.49	1,309
		F	0.90	1,236	4,169	28.67	145
		All	1.38	4,799	50,617	34.81	1,454
	Chiure	M	1.99	8,076	131,855	34.14	3,863
		F	0.61	3,160	40,967	38.89	1,053
		All	1.60	11,237	172,822	35.15	4,916
	Macomia	M	2.18	8,279	443,564	107.15	4,139
		F	1.67	1,626	17,199	19.39	887
		All	2.09	9,905	460,762	91.67	5,026
Nampula	Meconta	M	4.06	2,161	121,094	54.88	2,207
		F	4.29	1,011	22,113	20.91	1,057
		All	4.13	3,172	143,207	43.87	3,264
	Mogovolas	M	4.53	16,359	795,403	47.72	16,667
		F	6.46	4,321	67,955	18.35	3,704
		All	4.94	20,680	863,358	42.38	20,371
	Angoche	M	4.03	15,744	2,112,963	129.58	16,307
		F	2.68	1,406	105,149	62.33	1,687
		All	3.92	17,150	2,218,112	123.27	17,993
	Moma	M	4.22	9,023	952,024	99.42	9,576
		F	5.05	3,499	168,129	50.72	3,315
		All	4.46	12,522	1,120,152	86.90	12,890
Zambezia	Gile	M	1.74	11,394	429,179	39.12	10,972
		F	2.18	3,165	73,499	29.03	2,532
		All	1.83	14,559	502,678	37.22	13,504
	Pebane	M	2.26	18,824	1,032,731	54.86	18,824
		F	2.98	6,667	272,406	38.59	7,059
		All	2.45	25,491	1,305,137	50.42	25,884
Project		M	3.16	115,276	13,447,477	125.76	106,927
		F	3.35	30,387	2,032,247	81.10	25,059
		All	3.20	145,663	15,479,725	117.28	131,986

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	Number of new trees planted; Disaggregated by Gender, District	Number of new trees planted (per farmer); Disaggregated by Gender, District	Weighted N	Number of germilings procured by farmers; Disaggregated by Source (farmer extension agent vs. nursery) and District	Weighted N
Cabo Delgado	Mueda	M	110,594	16.3	6,797	0	161,162
		F	42,835	49.6	863	0	161,162
		All	153,428	20.0	7,661	0	161,162
	Nangade	M	203,681	23.7	8,598	0	161,162
		F	4,744	4.6	1,038	0	161,162
		All	208,424	21.6	9,636	0	161,162
	Palma	M	5,219	14.3	364	0	161,162
		F	1,785	20.0	89	0	161,162
		All	7,004	15.5	453	0	161,162
	Muidumbe	M	55,671	7.7	7,235	0	161,162
		F	3,066	2.1	1,471	0	161,162
		All	58,737	6.7	8,706	0	161,162
	Mocimboa da Praia	M	27,529	11.2	2,461	0	161,162
		F	5,631	10.4	542	0	161,162
		All	33,160	11.0	3,003	0	161,162
	Metuge	M	15,269	3.9	3,926	0	161,162
		F	5,017	3.8	1,309	0	161,162
		All	20,285	3.9	5,235	0	161,162
	Chiure	M	26,336	2.9	8,954	0	161,162
		F	2,634	0.7	3,687	0	161,162
		All	28,969	2.3	12,641	0	161,162
	Macomia	M	62,240	6.9	9,018	0	161,162
		F	4,879	3.0	1,626	0	161,162
		All	67,119	6.3	10,644	0	161,162
Nampula	Meconta	M	6,942	3.1	2,207	0	161,162
		F	1,885	1.7	1,103	0	161,162
		All	8,827	2.7	3,310	0	161,162
	Mogovolas	M	31,791	1.9	16,667	0	161,162
		F	1,543	0.3	4,938	0	161,162
		All	33,335	1.5	21,606	0	161,162
	Angoche	M	132,420	7.5	17,712	0	161,162
		F	1,406	0.8	1,687	0	161,162
		All	133,826	6.9	19,399	0	161,162
	Moma	M	84,893	8.9	9,576	0	161,162
		F	12,154	3.5	3,499	0	161,162
		All	97,047	7.4	13,075	0	161,162
Zambezia	Gile	M	114,785	9.7	11,816	0	161,162
		F	20,045	7.3	2,743	0	161,162
		All	134,831	9.3	14,559	0	161,162
	Pebane	M	189,029	9.1	20,785	0	161,162
		F	24,315	3.9	6,275	0	161,162
		All	213,344	7.9	27,060	0	161,162
Project		M	1,066,398	8.5	126,117	0	161,162
		F	131,937	4.3	30,871	0	161,162
		All	1,198,336	7.6	156,988	0	161,162

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	Number of farmers benefitting from procurement of germilings; Disaggregated by Gender and District	Weighted N	Number of agrodealers created and operational	Weighted N
Cabo Delgado	Mueda	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Nangade	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Palma	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Muidumbe	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Mocimboa da Praia	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Metuge	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Chiure	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Macomia	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
Nampula	Meconta	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Mogovolas	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Angoche	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Moma	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
Zambezia	Gile	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
	Pebane	M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162
Project		M	0	161,162	0	161,162
		F	0	161,162	0	161,162
		All	0	161,162	0	161,162

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	Number of (loans, grants, etc) disbursed to (direct beneficiaries)	% of farmers receiving loans	Weighted N	Number of (loans, grants, etc) disbursed to (direct beneficiaries) as a result of USDA assistance	Weighted N
Cabo Delgado	Mueda	M	0	0.0%	6,905	0	161,162
		F	0	0.0%	863	0	161,162
		All	0	0.0%	7,769	0	161,162
	Nangade	M	0	0.0%	9,339	0	161,162
		F	0	0.0%	1,334	0	161,162
		All	0	0.0%	10,673	0	161,162
	Palma	M	0	0.0%	385	0	161,162
		F	0	0.0%	110	0	161,162
		All	0	0.0%	494	0	161,162
	Muidumbe	M	0	0.0%	7,235	0	161,162
		F	0	0.0%	1,594	0	161,162
		All	0	0.0%	8,829	0	161,162
	Mocimboa da Praia	M	0	0.0%	2,461	0	161,162
		F	0	0.0%	542	0	161,162
		All	0	0.0%	3,003	0	161,162
	Metuge	M	0	0.0%	3,926	0	161,162
		F	0	0.0%	1,309	0	161,162
		All	0	0.0%	5,235	0	161,162
	Chiure	M	0	0.0%	8,954	0	161,162
		F	0	0.0%	3,687	0	161,162
		All	0	0.0%	12,641	0	161,162
	Macomia	M	0	0.0%	9,018	0	161,162
		F	0	0.0%	1,626	0	161,162
		All	0	0.0%	10,644	0	161,162
Nampula	Meconta	M	0	0.0%	2,207	0	161,162
		F	0	0.0%	1,103	0	161,162
		All	0	0.0%	3,310	0	161,162
	Mogovolas	M	309	1.8%	16,976	0	161,162
		F	0	0.0%	4,938	0	161,162
		All	309	1.4%	21,914	0	161,162
	Angoche	M	562	3.1%	18,275	0	161,162
		F	0	0.0%	1,687	0	161,162
		All	562	2.8%	19,961	0	161,162
Moma	M	0	0.0%	9,760	0	161,162	
	F	0	0.0%	3,499	0	161,162	
	All	0	0.0%	13,259	0	161,162	
Zambezia	Gile	M	0	0.0%	12,027	0	161,162
		F	0	0.0%	3,165	0	161,162
		All	0	0.0%	15,192	0	161,162
	Pebane	M	0	0.0%	21,178	0	161,162
		F	0	0.0%	7,059	0	161,162
		All	0	0.0%	28,237	0	161,162
Project		M	871	0.7%	128,645	0	161,162
		F	0	0.0%	32,517	0	161,162
		All	871	0.5%	161,162	0	161,162

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	Number of farmers benefitting from demonstration plots; Disaggregated by Gender and District	Weighted N	Number of farmers who have received training in post-harvest handling; Disaggregated by Gender and District	% of farmers who have received training in post-harvest handling; Disaggregated by Gender and District	Weighted N
Cabo Delgado	Mueda	M	0	161,162	108	1.6%	6,905
		F	0	161,162	0	0.0%	863
		All	0	161,162	108	1.4%	7,769
	Nangade	M	0	161,162	148	1.6%	9,339
		F	0	161,162	0	0.0%	1,334
		All	0	161,162	148	1.4%	10,673
	Palma	M	0	161,162	0	0.0%	385
		F	0	161,162	0	0.0%	110
		All	0	161,162	0	0.0%	494
	Muidumbe	M	0	161,162	0	0.0%	7,235
		F	0	161,162	0	0.0%	1,594
		All	0	161,162	0	0.0%	8,829
	Mocimboa da Praia	M	0	161,162	42	1.7%	2,461
		F	0	161,162	0	0.0%	542
		All	0	161,162	42	1.4%	3,003
	Metuge	M	0	161,162	73	1.9%	3,926
		F	0	161,162	0	0.0%	1,309
		All	0	161,162	73	1.4%	5,235
	Chiure	M	0	161,162	0	0.0%	8,954
		F	0	161,162	0	0.0%	3,687
		All	0	161,162	0	0.0%	12,641
	Macomia	M	0	161,162	148	1.6%	9,018
		F	0	161,162	0	0.0%	1,626
		All	0	161,162	148	1.4%	10,644
Nampula	Meconta	M	0	161,162	46	2.1%	2,207
		F	0	161,162	0	0.0%	1,103
		All	0	161,162	46	1.4%	3,310
	Mogovolas	M	0	161,162	309	1.8%	16,976
		F	0	161,162	0	0.0%	4,938
		All	0	161,162	309	1.4%	21,914
	Angoche	M	0	161,162	281	1.5%	18,275
		F	0	161,162	0	0.0%	1,687
		All	0	161,162	281	1.4%	19,961
	Moma	M	0	161,162	552	5.7%	9,760
		F	0	161,162	184	5.3%	3,499
		All	0	161,162	737	5.6%	13,259
Zambezia	Gile	M	0	161,162	0	0.0%	12,027
		F	0	161,162	0	0.0%	3,165
		All	0	161,162	0	0.0%	15,192
	Pebane	M	0	161,162	784	3.7%	21,178
		F	0	161,162	0	0.0%	7,059
		All	0	161,162	784	2.8%	28,237
Project		M	0	161,162	2491	1.9%	128,645
		F	0	161,162	184	0.6%	32,517
		All	0	161,162	2675	1.7%	161,162

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Province	District	Gender Household Head	Number of farmers who have applied improved farm management practices (i.e. governance, administration or financial management)	% of farmers who have applied improved farm management practices (i.e. governance, administration or financial management)	Weighted N
Cabo Delgado	Mueda	M	2,697	39.1%	6,905
		F	216	25.0%	863
		All	2,913	37.5%	7,769
	Nangade	M	4,299	46.0%	9,339
		F	296	22.2%	1,334
		All	4,595	43.1%	10,673
	Palma	M	151	39.3%	385
		F	27	25.0%	110
		All	179	36.1%	494
	Muidumbe	M	2,452	33.9%	7,235
		F	368	23.1%	1,594
		All	2,820	31.9%	8,829
	Mocimboa da Praia	M	167	6.8%	2,461
		F	0	0.0%	542
		All	167	5.6%	3,003
	Metuge	M	509	13.0%	3,926
		F	0	0.0%	1,309
		All	509	9.7%	5,235
	Chiure	M	702	7.8%	8,954
		F	0	0.0%	3,687
		All	702	5.6%	12,641
	Macomia	M	1,331	14.8%	9,018
		F	0	0.0%	1,626
		All	1,331	12.5%	10,644
Nampula	Meconta	M	873	39.6%	2,207
		F	230	20.8%	1,103
		All	1,103	33.3%	3,310
	Mogovolas	M	7,716	45.5%	16,976
		F	1,852	37.5%	4,938
		All	9,568	43.7%	21,914
	Angoche	M	7,029	38.5%	18,275
		F	281	16.7%	1,687
		All	7,310	36.6%	19,961
	Moma	M	3,683	37.7%	9,760
		F	737	21.1%	3,499
		All	4,420	33.3%	13,259
Zambezia	Gile	M	1,477	12.3%	12,027
		F	422	13.3%	3,165
		All	1,899	12.5%	15,192
	Pebane	M	3,922	18.5%	21,178
		F	392	5.6%	7,059
		All	4,314	15.3%	28,237
Project		M	37,009	28.8%	128,645
		F	4,821	14.8%	32,517
		All	41.830	26.0%	161.162

Note: 161,162 is the total number of HH across the 14 districts

Note: Avg. effective area is 286 square meters per cultivated tree

Note: MZN/USD exchange rate = 30

Annex 2. Producer Level Indicators Calculation

	Indicator	Value	Calculation	Survey question
1.	Effective area under improved techniques or technologies (ha)	595,585	Sum(Max(% of trees in which a practice was applied))	(C4_01 - C4_11), B4A
2.	Effective Area (ha)	656,433	Sum(Trees Cultivated / 35)	B4A
3.	% Tech / Effective Area	92.5%	Effective area under improved techniques / Effective area	(C4_01 - C4_11), B4A
4.	Number of farmers and others who have applied new techniques and technologies	157,732	Sum(Any(applied new practice=yes))	(C2_01 - C2_11)
5.	% Farmers Applying New Tech	97.9%	Number of farmers applying new practices / Total farmers	(C2_01 - C2_11)
6.	Effective area under improved techniques or technologies (w/o burn avoidance)	576,886	Sum(Max(% of trees in which a practice was applied))	(C4_01 - C4_10), B4A
7.	% Tech / Effective Area	88.8%	Effective area under improved techniques / Effective area	(C4_01 - C4_10), B4A
8.	Number of farmers and others who have applied new techniques and technologies (w/o burn avoidance)	157,240	Sum(Any(applied new practice=yes))	(C2_01 - C2_10)
9.	% Farmers Applying New Tech	97.6%	Number of farmers applying new practices / Total farmers	(C2_01 - C2_10)
10.	Number of individuals receiving short-term agricultural sector productivity or food security training	5,255	Sum (Did you receive any training in cashew nut cultivation practices = yes)	D4
11.	% receiving training	3.3%	Number of farmers receiving training / Total farmers	D4

	Indicator	Value	Calculation	Survey question
12.	Baseline in cashew tree productivity (yield per tree); Disaggregated by Gender and District	3.2	Quantity nuts produced (kg) / Trees cultivated	E1, E2, B4A
13.	Baseline in small holder cashew sales (total USD); Disaggregated by Gender and District	15,479,725	Sum((Total quantity nuts sold * 10) + wine sales + juice sales + fruit sales)	(E900_01-E900_10), (E10_01-E10_10), E17, E20, E22
14.	Baseline in small holder cashew sales (USD per farmer); Disaggregated by Gender and District	117.28	Average[(Total quantity nuts sold * 10) + wine sales + juice sales + fruit sales]	(E900_01-E900_10), (E10_01-E10_10), E17, E20, E22
15.	Number of new trees planted; Disaggregated by Gender, District	1,198,336	Sum(Number of trees planted in the last 12 months)	B13
16.	Number of new trees planted (per farmer); Disaggregated by Gender, District	7.6	Average(Number of trees planted in the last 12 months)	B13
17.	Number of farmers who have received training in post-harvest handling; Disaggregated by Gender and District	2,675	Sum(Any(trained in sorting, storage, or drying=yes))	D5A_05, D5A_12, D5A_13
18.	% of farmers who have received training in post-harvest handling; Disaggregated by Gender and District	1.7%	Number of farmers receiving PHH training / Total farmers	D5A_05, D5A_12, D5A_13
19.	Number of farmers who have applied improved farm management practices (i.e. governance, administration or financial management)	41,830	Sum(Any(keep business records, invoices, receipts, household records=yes))	F1, F2, F3
20.	% of farmers who have applied improved farm management practices (i.e. governance, administration or financial management)	26.0%	Number of farmers applying improved farm mgmt / Total farmers	F1, F2, F3

	Indicator	Notes
1.	Effective area under improved techniques or technologies	The maximum area (%age of trees) that was recorded for any of the practices a farmer indicated that they had applied (Module C) a given practice, multiplied by the effective area. The midpoint of the range given by a respective farmer to the question "What %age of trees did you apply this practice?" was used (e.g. 0%-25% = 12.5%).
2.	Effective Area	A representative hectare was calculated using the median number of trees cultivated (35) from the sample.
3.	% Tech / Effective Area	Indicator 2. / Indicator 3.
4.	Number of farmers and others who have applied new techniques and technologies	A farmer was counted as applying a new technique if they responded yes to having applied any of the practices listed in module C.
5.	% Farmers Applying New Tech	Indicator 4. / Total farmers in the sample
6.	Effective area under improved techniques or technologies (w/o burn avoidance)	Same as calculation for Indicator 1., excluding burn avoidance practice.
7.	% Tech / Effective Area	Indicator 6. / Indicator 7.
8.	Number of farmers and others who have applied new techniques and technologies (w/o burn avoidance)	Same as calculation for Indicator 4., excluding burn avoidance practice.
9.	% Farmers Applying New Tech	Indicator 7. / Total farmers in the sample
10.	Number of individuals receiving short-term agricultural sector productivity or food security training	The total number of farmers responding yes to having received training.
11.	% receiving training	Indicator 10. / Total farmers in sample
12.	Baseline in cashew tree productivity (yield per tree); Disaggregated by Gender and District	For each farmer, the reported quantity of nuts produced is converted to kg and divided by the number of trees cultivated. The yield per cultivated tree is an average per farmer. Yields over 60kg per tree were considered outliers and excluded from the calculation.
13.	Baseline in small holder cashew sales (total); Disaggregated by Gender and District	The sum across all farmers of: total quantity of nut sales converted to kg multiplied by a representative price of 10 per kg (the median and mode reported price in the sample). Included in total sales are the sum of all reported sales of wine, juice, and fruit. Farmers that had greater than 600 MZN in sales per cultivated tree (60 kg) were considered outliers and excluded from the analysis. An exchange rate of 30MZN/USD was used.

	Indicator	Notes
14.	Baseline in small holder cashew sales (per farmer); Disaggregated by Gender and District	Indicator 15. / Number of farmers reporting sales
15.	Number of new trees planted; Disaggregated by Gender, District	Sum of all responses to "How many trees did you plant in the last 12 months?".
16.	Number of new trees planted (per farmer); Disaggregated by Gender, District	Indicator 15 / Farmers planting trees
17.	Number of farmers who have received training in post-harvest handling; Disaggregated by Gender and District	Total of all farmers indicating that have received training in sorting, storage, or drying.
18.	% of farmers who have received training in post-harvest handling; Disaggregated by Gender and District	Indicator 17. / Total farmers in sample
19.	Number of farmers who have applied improved farm management practices (i.e. governance, administration or financial management)	Total of all farmers responding that they keep production records, receipts, invoices, or records of household goods.
20.	% of farmers who have applied improved farm management practices (i.e. governance, administration or financial management)	Indicator 19 / Total farmers in sample

Annex 3. Processor Level Indicators

Indicators	Unit	EGT	Condor	Gani	Indo-Africa	OLAM	All firms
1. Value of cashew sold into regional(SADC) and international markets	USD	8,540,000	10,980,000	11,437,500	2,000,000	17,568,000	50,525,500
% Traceable	%	0	0	0	0	27	9
% Bulk (vs retail)	%	100	100	100	100	100	100
% Conventional (vs specialty)	%	0	0	0	0	0	0
2. Volume (MT) of processed cashew kernel sold into regional (SADC)markets	MT	140	0	563	32	288	1,023
% Traceable	%	0	0	0	0	0	0
3. Volume (MT) of processed cashew kernel sold into international markets (Non-SADC)	MT	1,260	1,800	1,313	272	2,592	7,237
% Traceable	%	0	0	0	0	30	11(avg.)
4. Number of new sales relationships with regional/international consumer goods companies as a result of USDA assistance	#	0	0	0	0	0	0
% Traceable	%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
% Bulk (vs retail)	%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
% Conventional (vs specialty)	%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5. Total cost of wages per year (Value of wages from jobs resulting from USDA assistance	USD	600,000	1,700,000	1,850,000	750,000	4,800,000	9,700,000
male		120,000	578,000	740,000	300,000	1,152,000	2,890,000
female		480,000	1,122,000	1,110,000	450,000	3,648,000	6,810,000
6. Number of firms that have taken food safety (GFSI)audits	#	1	0	0	0	0	1 (20% firms)
7. Number of firms passing food safety audits	#	1	0	0	0	0	1 (20% firms)
8. Number of processing firms that have applied new technologies and/or management practices as a result of USDA assistance	#	0	0	0	0	0	0
9. Number of processor representatives trained in post-harvest processing	#	0	0	0	0	0	0
10. Number of processors pursuing exports under international certifications	#	1	1	0	0	0	2 (40% firms)
Organic		1 ^a	0	0	0	0	1 (20% firms)
Fair Trade		0	1	0	0	0	1 (20% firms)

Indicators	Unit	EGT	Condor	Gani	Indo-Africa	OLAM	All firms
11. Number of processors participating in international marketing and branding	#	0	0	0	0	0	0
12. Number of industry stakeholders trained in certifications	#	0	0	0	0	0	0
13. Number of firms for which traceability audits are conducted.	#	0	0	0	0	0	0
14. Number of shared value investments undertaken	#	0	0	0	0	0	0
15. Percentage of introductions made between retailers and processors that resulted in a sale.	%	0	0	0	0	0	0
16. Number of shared value models identified and tested	#	0	0	0	0	0	0
17. Number of (loans, grants, etc) disbursed to (direct beneficiaries) as a result of USDA	#	0	0	0	0	0	0
18. Total number of current buyers (main buyers)	#	5	4	2	3	5	3.8 (avg./firm)
19. Total number of employees	#	600	1,700	1,850	750	4,800	9,700
% female	%	80%	66%	60%	60%	76%	70%

Notes:

Value of exports computed on basis of USD 6.1/kg (based on average mix of quality of kernels and broken)

Wages estimated based on minimum wage for cashew workers of 2,500 MTS per month, equal to USD 1,000 per year.

^aIn process, but have not yet received organic certification

Annex 4. Producer Questionnaire



Nos gostaríamos de entrevistar um membro do agregado familiar. O/A Sr(a) tem direito a não participar nesta entrevista. A sua participação é inteiramente voluntária. No entanto, vale a pena indicar que, caso da Sr(a), participar na entrevista, toda a informação recolhida será completamente confidencial - em nenhuma circunstância o seu nome será associado a nenhuma resposta.

Na campanha passada, o seu agregado familiar vendeu pelo menos 1 saco de 50 kg de castanha de cajú?

1-Sim

0-Não→ PARE E PROCURE UM OUTRO AGREGADO FAMILIAR

Seria possível conversar com o membro do agregado responsável pela produção da castanha de cajú?

1-Sim

0-Não→ PARE E PROCURE UM OUTRO AGREGADO FAMILIAR

PESQUISA AO PRODUTORES DE CASTANHA DE CAJÚ

Identificação

ID.1	Data da entrevista	Dia ____ / Mês ____ Ano ____
ID.2	Província	1=Cabo Delgado, 2=Nampula, 3=Zambezia
ID.3	Distrito	
ID.4	Posto Administrativo	
ID.5	Comunidade	
ID.6	ID Produtor	(Número) _____
ID.7	Código do inquiridor	(Código) _____
ID.8	Código do digitador 1	(Código) _____
ID.9	Código do digitador 2	(Código) _____

A. DADOS DEMOGRÁFICOS DO AGREGADO

	Pergunta	Códigos de Respostas (marque as respostas apropriadas)	Salte
A1	Qual é o sexo do produtor?	1=masculino 2=feminino	
A2	Qual é a sua idade? (em anos completos)	Anos _____	
A.3	Qual é o seu actual estado civil?	1 = casado ou Coabitação 2 = separado/divorciado 3 = viúvo(a) 4 = solteiro(a), nunca casado	
A.4	Qual é o seu nível de alfabetização?	1 = não sabe ler ou escrever 2 =só sabe ler 3 =sabe ler e escrever	
A.5	Quantos membros vivem no seu agregado? ^a	_____	

^a **Agregado:** todas as pessoas que vivem na mesma quintal ou normalmente passam as refeições juntas.

B. CULTIVO DA CASTANHA DE CAJÚ

	Pergunta	Códigos de Respostas (marque as respostas apropriadas)	Salte
B.1	Há quanto tempo você cultiva castanha de caju (# de anos)?	_____ (999=não sabe)	
B.2	Qual é a área total de terra em que você cultiva castanha de caju? (em hectares)	_____ (999=não sabe)	
B.3a	Quanto cajúeiros vivos você possui?	_____ (999=não sabe)	Se o entrevistado responder com um número → B.4a
B.3b	Se o respondente não consegue dar o número certo, regista o intervalo	1 = 0-50 2 = 51-100 3 = 101-200 4 = 201-500 5=mais de 500	
B.4a	Quanto cajúeiros você explora agora?	_____ (999=não sabe)	Se o entrevistado responder com um número → B.5
B.4b	Se o respondente não consegue dar o número certo, regista o intervalo	1 = 0-50 2 = 51-100 3 = 101-200 4 = 201-500 5 = mais de 500	
B.5	Será que as árvores estão dispersas ou em plantações concentradas?	1 = dispersas 2 =plantação concentrada 9 = outro (especificar) _____	
B.6	Como conseguiu as suas árvores?	1 = herança 2 = compra 3 = oferta dum familiar 4 = Aluguei 5 = outro (especificar) _____ _____ (999=não sabe)	
B.7	Há quanto tempo você é dono de pelo menos algumas árvores de castanha de caju (# de anos)?	_____ (999=não sabe)	
B.8a	Quantas destas árvores deram frutos na última colheita?	_____ (999=não sabe)	Se o entrevistado responder com um número → B.9a
B.8b	Se o respondente não consegue dar o número certo, regista o intervalo	1 = 0-50 2 = 51-100 3 = 101-200 4 = 201-500 5=mais de 500	
	Qual é o número TOTAL das suas árvores que:	# de árvores	
B.9a	São muito novas para produzir castanha? (menos de 9 anos de idade)	_____ (999=não sabe)	Se o entrevistado responder com um número → B.10a
B.9b	Se o respondente não consegue dar o número certo, regista o intervalo	1 = 0-50 2 = 51-100 3 = 101-200 4 = 201-500 5=mais de 500	

	Pergunta	Códigos de Respostas (marque as respostas apropriadas)	Salte
B.10a	Estão na sua idade pico de produção de castanha? (9-25 anos de idade)	_____ (999=não sabe)	
B.10b	Se o respondente não consegue dar o número certo, regista o intervalo	1 = 0-50 2 = 51-100 3 = 101-200 4 = 201-500 5=mais de 500	
B.11a	Estão em idade de declínio da produção de castanha? (25 anos ou mais velhas)	_____ (999=não sabe)	<u>Se o entrevistado responder com um número → B.12</u>
B.11b	Se o respondente não consegue dar o número certo, regista o intervalo	1 = 0-50 2 = 51-100 3 = 101-200 4 = 201-500 5=mais de 500	
B.12a	São muito velhas para produzir castanha?	_____ (999=não sabe)	<u>Se o entrevistado responder com um número → B.13</u>
B.12b	Se o respondente não consegue dar o número certo, regista o intervalo	1 = 0-50 2 = 51-100 3 = 101-200 4 = 201-500 5=mais de 500	
B.13	Nos últimos 12 meses, quantos novos cajúeiros você plantou?	_____ (999=não sabe)	<u>Mais do que 0 → B.15</u>
B.14	Porque é que você não plantou nos últimos 12 meses?	0 = não tenho acesso a mudas/germilings 1 = não dá dinheiro 2 = não tem mercado 3 = requiere muita mao-de-obra 9 = outro (especificar) _____	<u>Passe para B17</u>
B.15	Que tipo de material de plantação foi utilizado?	1=sementes 2=enxertos 3=cortes locais	
B.16	Qual foi a fonte deste material de plantio?	1 = viveiro próprio de cajúeiros 2 = produtores vizinhos 3 = comerciantes 4 = organizações não governamentais (ONG) 9 = outro (especificar) _____	
B.17	Existe um viveiro de cajúeiros na sua comunidade?	0 = não 1 = sim 2 = não sabe	
B.18	Será que você perdeu alguma parte da sua produção na colheita mais recente?	0 = não 1 = sim 2 = não sabe	<u>0 ou 2 → B.20</u>
B.19	Quais foram as causas da perda?	1 = deterioração (apodrecimento) 2 = roubo 9 = outro (especificar) _____	

B.20	Quais são as principais pragas/ doenças que afectam os seus cajúeiros? Indique todas que forem apropriadas	0 = nenhuma 1 = Antracnose (lesões de cor laranja a castanho ou vermelhas) 2 = Bolor 3 = Mancha foliar 4 = Insecto do Coco 5 = Besouro do cajú 9 = outro (especificar) _____	
B.21	Será que você utilize algum produto químico (pesticidas, fungicidas, adubos) na cultura de cajúeiros?	0= não 1=sim 2=não sabe	
B.22	Beneficiou de serviços de pulverização nos cajúeiros?	0= não 1=sim 2=não sabe	
B.23	Será que você pretende plantar cajúeiros no próximo ano?	0= não 1=sim 2=não sabe	<u>1→ B.25</u>
B.24	Porque você <u>não</u> pretende plantar árvores no próximo ano?	1=falta de dinheiro 2=demanda fraca/ preços baixos 3=produzo tudo o que quero/ consigo 9 = outro(especificar) _____	
B.25	Será que você utiliza mão-de-obra contratada na sua cultura de cajúeiros ?	0= não 1=sim 2=não sabe	<u>0→ B.28</u>
B.26	Quantos trabalhadores você contratou durante a última colheita?	_____ (999=não sabe)	
B.27	Como você pagou ao(s) trabalhador(es) ?	1 = dinheiro 2 = troca de produtos de castanha de cajú 3 = troca de outros produtos 9 = outro (especificar)	
B. 28	Como se faz a colheita de cajú?	1=tira a fruta da árvore 2=deixa a fruta cair no chão e recolhe 3=outro (especificar) _____	
B.29	Qual é a superfície que se usa para secar a castanha?	1= Chão duro 2=lona 3=sacos 4=estrutura de caniço/bambu/pau 5=outro (especificar) _____	
B.30	Por quanto tempo você seca a produção de castanha de cajú?	1 = 1-3 dias 2 = 4-5 dias 9 = mais de 5 dias	

B.31	Como você armazena a sua produção de castanha de caju?	1 = sacos 2= amontoar ao ar livre 3= caixas 9 = outro (especificar) _____	
B.32	No local onde você armazena castanha tem circulação de ar (ventilação)?	0= não 1=sim 2=não sabe	
B.33	Quais são os três problemas mais críticos que você enfrenta na produção de castanha? (Entrevistador, se o produtor disser “preços baixos” peça para falar de outros problemas para além de preços baixos. Ordene os em níveis de prioridade, 1 = problema mais sério)	1. _____ 2. _____ 3. _____	
B.34	Você precisa de material ou equipamento para a produção e/ou processamento de castanha?	0= não 1=sim 2=não sabe	0,2 → C.1
B.35	Que tipo de material e/ou equipamento voce precisa? Registe apenas os 3 mais importantes	1. _____ 2. _____ 3. _____	

C. PRÁTICAS DE CULTIVO DE CASTANHA DE CAJÚ

	Prática (entrevistador – faça as perguntas especificamente para cada prática)	Você está familiarizado com esta prática?	Você aplica esta prática em algum dos seus cajueiros?	Há quantos anos é que você tem aplicado esta prática?	Qual é a percentagem de todos os seus cajueiros, aproximadamente, é que você aplica esta prática?	Você aplica esta prática em qualquer outra cultura sua?
		0=não; 1=sim	0=não; 1=sim, 999= não sabe	999= não sabe	1 = 25% ou menos 2 = 26 – 50% 3 = 51 – 75% 4 = 76 – 99% 5 = 100%	0=não; 1=sim;
		0→próxima prática	0,999→próxima prática			
C.1	Cobertura morta (<i>mulching</i>)					
C.2	Consociação com leguminosas					
C.3	Consociação com outras culturas					
C.4	Poda (copa)					
C.5	Matéria orgânica/ fertilizante orgânico					
C.6	Aubos/Fertilizante inorgânico					
C.7	Plantio de material enxertado					
C.8	Sacha na produção de cajueiros					
C.9	Pulverização de árvores (pela Incajú e outros)					
C.10	Pó amarelo (<i>enxofre</i>) para controlar fungos					
C.11	Evitar queimadas					

D. FORMAÇÃO NO CULTIVO DA CASTANHA DE CAJÚ

	Pergunta	Código de Resposta (marque as respostas apropriadas)	Salte
D.1	Será que você tem acesso ao serviço de extensão ?	0= não 1=sim 2=não sabe	0 ou 2 → D.4
D.2	Será que o extensionista tem conhecimento do cultivo de castanha de cajú ?	0= não 1=sim 2=não sabe	
D.3	Será que você está satisfeito com a qualidade dos serviços de extensão que você recebe?	1= muito insatisfeito 2 = insatisfeito 3= satisfeito 4= muito satisfeito	
D.4	Será que você recebeu alguma formação em práticas de cultivo de castanha de cajú?	0 = não 1 = sim 2= não sabe	0 ou 2 → E.1

D.5 Você teve formação em relação a que tipos de práticas

(Entrevistador, não faça perguntas sobre práticas específicas, registre somente as práticas mencionadas pelo entrevistado). Após uma prática ter sido descrita, pergunte novamente ao entrevistado 'existem outras práticas em que tenha sido formado?'

	Pergunta		Quem deu a formação?	Será que você praticou o que foi aprendido durante a formação?	Porque você NÃO praticou o que foi ensinado na formação?	Até que ponto a formação foi útil?
	Códigos das respostas	Marque '1' para todas as práticas mencionadas pelo entrevistado e '0' para todas aquelas que não foram mencionadas 0= não 1= sim	1=empresa 2= SDAE e ou SPA 3= ONG 4= não sabe 5= Incajú 9 = outro (especifique)	0= não 1= sim	1= não pode comprar os materiais/ insumos 2= não acha que vai aumentar os rendimentos 3= não recebeu formação suficiente 4= esqueceu como fazer a prática 5= muito trabalho 9= Outro (especifique)	0= não foi útil 1= foi útil de alguma forma 2= muito útil
	Salte	0→Próxima prática		1 → D.5.E		
	Prática	D.5.A	D.5.B	D.5.C	D.5.D	D.5.E
1	Poda de cajúeiros (<i>umbrella canopy</i>)					
2	Espaçamento apropriado entre cajúeiros					
3	Sacha na produção de cajúeiros					
4	Método apropriado de pulverização de cajúeiros					

5	Método apropriado de secagem de castanha					
6	Consociação entre o cajúeiro e outras culturas					
7	Plantio e cuidado de mudas de cajúeiro					
8	Enxerto de ramos de alta qualidade em mudas de cajúeiros					
9	Práticas agrícolas orgânicas ou de Comércio Justo					
10	Tempo apropriado para a colheita da castanha					
11	Seleção das melhores castanhas					
12	Armazenamento apropriado da castanha					
13	Produção e utilização de fertilizante orgânico					
14	Produção e utilização de pesticidas orgânico					
15	Evitar queimadas					
16	Cobertura morta/mulching					
17	Outro (especificar): _____					

E. PRODUÇÃO E VENDA DA CASTANHA DE CAJÚ

	Pergunta	Códigos de Respostas (circle appropriate answers)	Skip
E.1	Qual é a quantidade de castanha de cajú bruta (CCB) que as suas árvores produziram na última colheita?	_____ (999=não sabe)	
E.2	Qual é a Unidade de medição?	1 = kg 2 = saco 50 kg 3 =saco 100 kg 4 =lata (20 litros) 9 = Outro (especificar)_____	
E.3	Nos últimas cinco campanhas, como variou a sua produção?	0=diminuiu 1=manteve-se 2=aumentou	0 → E.5 1 → E.6 2 → E.4
E.4	Quais são os motivos do aumento? (permitidas respostas múltiplas)	1= aumento do número de árvores produtoras 2=melhor gestão das árvores 3=uso de melhores/ mais insumos 4=disponibilidade de mais mão-de-obra 5= mais rentável produzir 6=obteve crédito para investimento 9= outro (especificar)_____	Depois de registar a resposta, avance para E.6

	Pergunta	Códigos de Respostas (circle appropriate answers)	Skip
E.5	Quais são os motivos da diminuição <i>(permitidas respostas múltiplas)</i>	1=doença das árvores 2= pragas 3=árvores muito velhas 4=falta de mão-de-obra para cuidar das árvores 5=não é rentável produzir 6=alteração dos padrões meteorológicos 7 = erosão 9 = outro (especificar)_____	
E.6	Qual é a quantidade de castanha de caju bruta (CCB) que você vendeu na última colheita?	_____ (999= não sabe)	0 ou 999→ F.1
E.7	Qual é a Unidade de medição	1 = kg 2 = saco 50 kg 3 =saco 100 kg 4 =lata (20 litros) 9 = outro (especificar)_____	
E.8	Quantas vezes você vendeu a castanha de caju durante a última campanha?	_____ (999= não sabe)	

E9. Marketing (Preencha a primeira coluna com a quantidade vendida e o resto das colunas com as opções colocadas juntamente com os títulos).

	Quantidade vendida		Preço		
# venda	Quantidade vendida	Unidades de medida	Preço unitário (Mt)	Unidades de medida	Tipo de comprador
	Número	1=kg 2= saco 50 kg 3=saco 100 kg 4=lata 20 litros 5=balde de 10 litros 6=outro (especificar) _____	Número	1=kg 2= saco 50 kg 3=saco 100 kg 4=lata 20 litros 5=balde de 10 litros 6=outro (especificar) _____	1=fabrica 2=grupo/associação/cooperativa 3=vendedor ambulante 9 = outro (especificar)
	E.9	E.10	E.11	E.12	E.13
1					
2					
3					
4					
5					

	Pergunta	Códigos de Repostas (marque as respostas apropriadas)	Salte
E.14	Você está satisfeito com o preço que recebe para castanha com casca (RCN)?	0= não 1=sim	
E.15	Você produz vinho de cajú?	0= não 1=sim 2=não sabe	<u>0 ou 999 → E.17</u>
E.16	Quantos litros de vinho de cajú você produziu na última época?	Litros _____	
E.17	Quanto dinheiro (MT) você fez da venda de vinho de cajú, na última época ?	MZN _____	
E.18	Você produz sumo a partir do cajú?	0= não 1=sim 2=não sabe	<u>0 ou 999 → E.20</u>
E.19	Quantos litros de sumo você produziu na última época?	lt _____	
E.20	Quanto dinheiro (MT) você fez da venda de sumo de cajú na última época ?	MZN _____	
E.21	Você vendeu cajú?	0= não 1=sim 2=não sabe	<u>0 ou 999 → E.22</u>
E.22	Quanto dinheiro (MT) você fez da venda de cajú na última época ?	MZN _____	
E.23	Será que você já enfrentou uma situação em que compradores de castanha prometeram comprar a castanha mas não apareceram ?	0 = não 1=sim 2=não sabe	
E.24	Qual é o factor mais importante que você considera ao escolher os compradores da sua castanha ?	1 = oferta do melhor preço 2 = confiança (pode-se confiar para fazer compras) 3 = oferece insumos e outros serviços 4 = oferece crédito (paga antes da entrega) 5 = tenho apenas um comprador 9= outro (especificar) _____	
E.25	Será que algum comprador já lhe adiantou insumos em troca da garantia de fornecimento de castanha de cajú bruta (CCB)	0 = não 1=sim	

F. PRÁTICAS DE GESTÃO AGRÍCOLA

	Pergunta	Códigos de Resposta (marquee as respostas apropriadas)	Salte
F.1	Será que você arquiva registros de produção?	0= não 1=sim 2=não sabe	
F.2	Será que você arquiva registros de receitas e despesas?	0= não 1=sim 2=não sabe	
F.3	Será que você guarda registros dos bens do seu agregado familiar?	0= não 1=sim 2=não sabe	
F.4	Já ouviu falar de “produção orgânica”?	0= não 1=sim 2=não sabe	0 ou 2 → G.1
F.5	Será que você sabe dos requisitos para se alcançar os padrões de “produção orgânica”?	0= não 1=sim 2=não sabe	0 ou 2 → G.1
F.6	Será que você segue os padrões de “produção orgânica”?	0= não 1=sim 2=não sabe	

G. ASSOCIAÇÕES DE PRODUTORES

	Pergunta	Códigos de Respostas (marquee as respostas apropriadas)	Salte
G.1	Será que existe algum grupo de produtores na sua área?	0= não 1=sim 2=não sabe	0 ou 2 → H.1
G.2	Você é membro de algum grupo de produtores de castanha de caju?	0= não 1= sim	0 → G.6
G.3	A que grupo você pertence?	1=grupo 2=associação 3=cooperativa Outro (especificar) _____	
G.4	Quais são os motivos pelos quais você se juntou ao grupo?	1= obter melhores preços 2= acesso a crédito 3= acesso a insumos 4= acesso a armazenamento 9=outro (especificar) _____	

G.5	Você acha que o seu grupo tem capacidades suficientes para procurar compradores?	0= não 1=sim 2=não sabe	<u>responda a pergunta e passe para a secção a seguir→ H.1</u>
G.6	Porque você não é membro da associação?	1 = não tenho tempo 2 = não acho que seja eficiente 3 = é muito caro ser membro 9= outro (especificar) _____	

H. ACESSO A CRÉDITO PARA CAJÚ

	Pergunta	Códigos de Respostas (marque as respostas apropriadas)	Salte
H.1	Existe alguma organização (formal e/ou informal) que providencia crédito aos AFs na comunidade?	0= Não 1=sim 2=não sabe	0,2 → H.3
H.2	Que tipo de organizações?	1. Agiotas 2. Grupos rotativos de poupança 3. Grupos de poupança e crédito 4. ONGs 5. Bancos 9. Outro (especificar) _____	
H.3	Existe crédito disponível para o cultivo de castanha?	0= não 1=sim 2=não sabe	0,2 → I.1
H.4	Você tem acesso a crédito para o cultivo de cajú ?	0= não 1=sim 2=não sabe	<u>0 ou 2→ I.1</u>
H.5	Você recebeu crédito no ano passado para o cultivo de cajúeiros ?	0= não 1=sim 2=não sabe	<u>0 ou 2→ I.1</u>
H.6	Qual foi a fonte do crédito?	1 = banco 2 = AKF Grupos de Poupança Comunitários 3 = outras ONG grupos de poupança 4 = familiares/ amigos 5 = comerciantes/ negociantes 9 = outro (especificar) _____	
H.7	Qual é o valor total de crédito que você recebeu para o cultivo de cajú ?	MZN _____	

I. PRINCIPAIS PROBLEMAS SOCIAIS NA COMUNIDADE

	Pergunta	A	B	C
I1	Na sua opinião, quais são os 3 principais problemas, em ordem de prioridade, que a sua aldeia /áreas enfrentam (Não leia as opções abaixo)	_ _ _ _	_ _ _ _	_ _ _ _

Código para Pergunta I1

- | | |
|--|--|
| 00. Nenhum | 10. Pobre liderança da aldeia/corrupção |
| 01. Problemas com a educação | 11. Roubo/crime |
| 02. Problemas com serviços de saúde | 12. Alterações climáticas |
| 03. Problemas com electricidade | 13. Dominação económica por imigrantes |
| 04. Problemas com água | 14. Problemas de vias de acesso |
| 05. A falta de acesso ao capital/insumos | 15. Destruição de culturas por animais selvagens |
| 06. Desemprego / subemprego | 16. Problemas com lixo |
| 07. Sistema de Transporte debilitado | 17. Falta de compradores |
| 08. Irresponsabilidade dos homens | 98. Outro: _____ |
| 09. Gravidez precoce | |

Annex 5. Selected Communities by District and Province

Province	District	Admin Posts	Community
Cabo Delgado	Mueda	N'gapa	Lunango
Cabo Delgado	Mueda	N'gapa	Nonge
Cabo Delgado	Mueda	N'gapa	Nastengue
Cabo Delgado	Mueda	Mbuo	Nangada
Cabo Delgado	Nangade	M'tambo	Lijungo
Cabo Delgado	Nangade	M'tambo	Mualela
Cabo Delgado	Nangade	Nangade Sede	Lukuamba
Cabo Delgado	Nangade	Nangade Sede	Unidade
Cabo Delgado	Palma	Pundanhar	Chidololo
Cabo Delgado	Palma	Pundanhar	Pundanhar
Cabo Delgado	Palma	Pundanhar	Chicuedo
Cabo Delgado	Palma	Pundanhar	Nhica do Rovuma
Cabo Delgado	Muidumbe	Chitunda	Litapata
Cabo Delgado	Muidumbe	Chitunda	Chitunda
Cabo Delgado	Muidumbe	Muidumbe Sede	Mandela
Cabo Delgado	Muidumbe	Muidumbe Sede	Namacande
Cabo Delgado	Mocímboa de Praia	Diaa	Panjele
Cabo Delgado	Mocímboa de Praia	Diaa	Chitolo
Cabo Delgado	Mocímboa de Praia	Diaa	Ntotwe
Cabo Delgado	Mocímboa de Praia	Diaa	N'nango
Cabo Delgado	Metuge	Metuge Sede	Pulo
Cabo Delgado	Metuge	Metuge Sede	Messanja/ Ntessa
Cabo Delgado	Metuge	Metuge Sede	Taratara
Cabo Delgado	Metuge	Metuge Sede	Bandar
Cabo Delgado	Chiúre	Chiúre Sede	Mpeule
Cabo Delgado	Chiúre	Chiúre Sede	Nanihuta
Cabo Delgado	Chiúre	Chiúre Sede	Namania/Maningane
Cabo Delgado	Chiúre	Chiúre Sede	Milamba
Cabo Delgado	Macomia	Chai	Litandacua
Cabo Delgado	Macomia	Sede	Nova Vida
Cabo Delgado	Macomia	Sede	Xinavane
Cabo Delgado	Macomia	Macojo	Cogolo
Nampula	Meconta	Meconta Sede	Nivalentene
Nampula	Meconta	Meconta Sede	Namiruto
Nampula	Meconta	Meconta Sede	Nemarra
Nampula	Meconta	Meconta Sede	Minhar
Nampula	Mogovolas	Nametil Sede	Namuito

Nampula	Mogovolas	Nametil Sede	Murezene 'A,B,C'
Nampula	Mogovolas	Nametil Sede	Mucutanala 'B,A,C'
Nampula	Mogovolas	Nanhupo Rio	Maileliha
Nampula	Angoche	Boila Namitória	Nacopa
Nampula	Angoche	Boila Namitória	Muerauera
Nampula	Angoche	Boila Namitória	Muitiua
Nampula	Angoche	Boila Namitória	Muahivire
Nampula	Moma	Chalaua	Naiuire
Nampula	Moma	Chalaua	Murioze
Nampula	Moma	Chalaua	Kuline
Nampula	Moma	Chalaua	Mavuco
Zambézia	Gile	Gilé Sede	Muirela
Zambézia	Gile	Gilé Sede	Naholoco
Zambézia	Gile	Gilé Sede	Malema 2
Zambézia	Gile	Gilé Sede	Nanepa
Zambézia	Pebane	Pebane Sede	Muromone
Zambézia	Pebane	Mualama	Alto Maganha
Zambézia	Pebane	Mualama	Mugome
Zambézia	Pebane	Naburi	Txalalane

Annex 6. Processor Topical Outline

1. Sales
 - i. Who are your major buyers, what are their requirements?
 - ii. What are the most desirable grades?
 - iii. Do you primarily ship FCL or mixed grades?
 - iv. Do you sell RCN or CNSL or any by-product
 - v. Any specialty market focus (fair trade, organic or traceable)
2. Processing
 - i. Organization of warehouse (sections) identification of stocks origin?
 - ii. % manual vs. mechanized processing by activity
 - iii. Broken/whole ratio
 - iv. Kernels/RCN ratio
 - v. HACCP: Certified?, where in process, Food safety standards like HACCO, ACA seal or else
 - vi. Packaging strategies and options
 - vii. Wage costs (total or per ton) Individual average and cost/Mt
 - viii. Traceability documentation In processing, batch process, production losses etc. etc.
3. Procurement procedures
 - i. Broker or direct? Or cooperatives/ associations/ forums/CAN
 - ii. Documentation on procurement
 - iii. What limits buying? (Limited by working capital, physical processing capacity, limited availability of product, other)
 - iv. Do you have consistent relationships with sellers?
 - v. Payment terms (on delivery, pre-payment, etc)
 - vi. Payment premium on quality and volumes, or criteria to give premium to seller
 - vii. Exclusive sourcing? (yes/no)
 - viii. How do you track nuts?
 - ix. Level of traceability
 - x. What kind of screening process do you follow?
4. Challenges
 - i. Sourcing raw material
 - ii. Working capital
 - iii. Processing capacities
 - iv. Equipment needs
 - v. Meeting needs of buyers
 - vi. Financing investments
 - vii. Food safety standards