



COMACO

Community Markets for Conservation



DATA RESULTS: 2021 UPDATES AND DATA TRENDS

COMACO takes an active role in studying its results to refine methods and innovate better solutions for improving rural livelihoods and conservation outcomes.

This document provides a cross-section of the data we collect and analyze each year that include a presentation of results for 2021, trends from past years, and a geospatial mapping of our interventions.

2021 Snapshot

Farmer level

- 229,939 farmers have signed a conservation pledge and joined 13,013 farmer producer groups from 103 local cooperatives.
- 52% female, 36% youth
- 1,110 certified seed growers.
- 210,744kg of legume seeds produced to support cooperative seed banks (103,472kg of soybeans and 64,725kg groundnuts) for local farmer needs.
- Seed cost to farmers reduced by approximately 50% as compared to commercial market price.
- 76% farmers complying to conservation guidelines (minimum tillage, crop rotation, no burning, fire breaks, compost management), covering 168,800 ha.
- 53% practice agroforestry to replace the need for chemical fertilizer.
- 82,810,246 Gliricidia sepium trees planted on-farm for soil improvement and improved crop yield.
- 86% farmers growing more than three major food crops.
- ZMW 64,045,857.89 paid out to 52,315 farmers for over 8 million tons of commodities purchased by COMACO.
- 76% of the households are food secure, meaning they have access to sufficient food till next harvest.
- 45% Increase in annual household income from (2019 =ZMW 5,070) to (2020 = ZMW 7,367) respectively.
- 855 lead farmers currently using smartphones for compliance monitoring and activity reporting.
- 4,004 certified organic groundnut growers.
- 131, 000 kg of certified organic groundnuts produced in 2021 for export markets.

Conservation

- 1,801 reformed wildlife poachers transitioned to farming and other alternative livelihoods.
- 80,623 snares and 1,996 firearms surrendered, once used to kill wildlife
- 55 reformed poachers contracted by cooperatives to blast chili, not bullets, to guard crops from elephants in the valley areas of Chama and Lundazi .
- 1.58 million hectares set aside as community protected forests and for community management to earn income from carbon markets.
- Annual rate of deforestation from these forests has reduced from 3% to 2.1%.
- To date, 3,002,924 tons of reduced CO2 emissions has been achieved from improved soil management and forest protection (monitoring period 2017 to 2019) from 57 chiefdoms under COMACO.
- 97,463 fuel efficient cook stoves installed – contributing to the annual saving of 32 trees per household or a total of 3,118,816 trees from all the stoves installed.
- 35,957 beehives installed in community forests areas.
- 55 chiefdom-level conservation tasks forces enforcing local conservations plans.

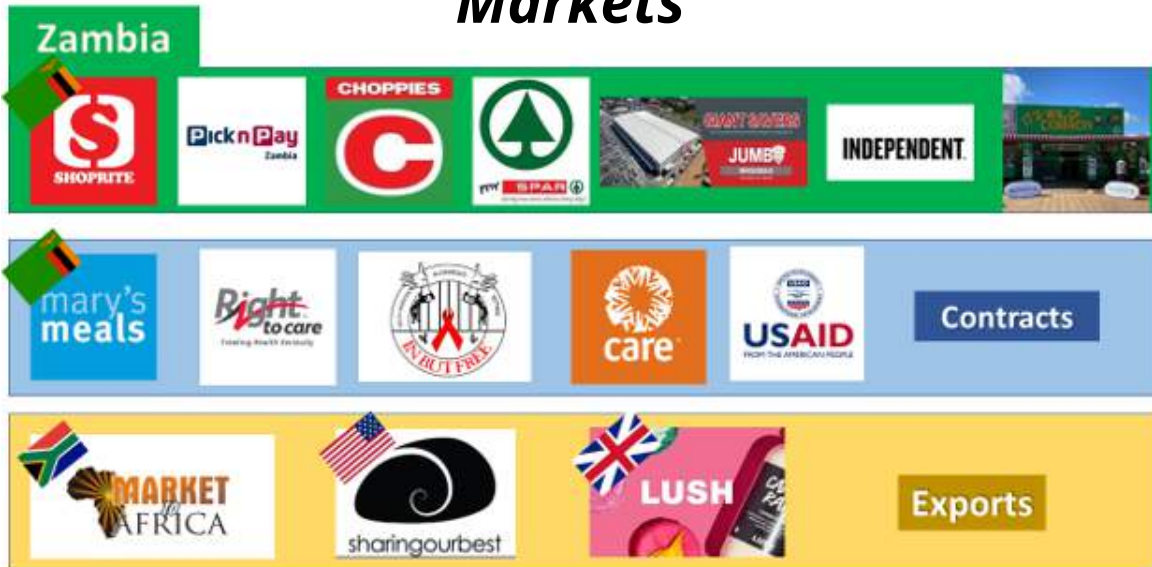
Community-level

- 103 cooperatives providing farmer extension services at varying stages of proficiency in 84 chiefdoms across three provinces (Eastern, Central & Muchinga).
- Cooperative federation formed in Eastern Province representing 55 chiefdom level cooperatives.
- 45% cooperatives with active bank accounts managing local enterprises, average annual gross revenue ZMW 30,000.
- USD39,700 paid out to 23 chiefdoms cooperatives as conservation dividends for meeting conservation standards.



COMACO Business

Markets



Updates

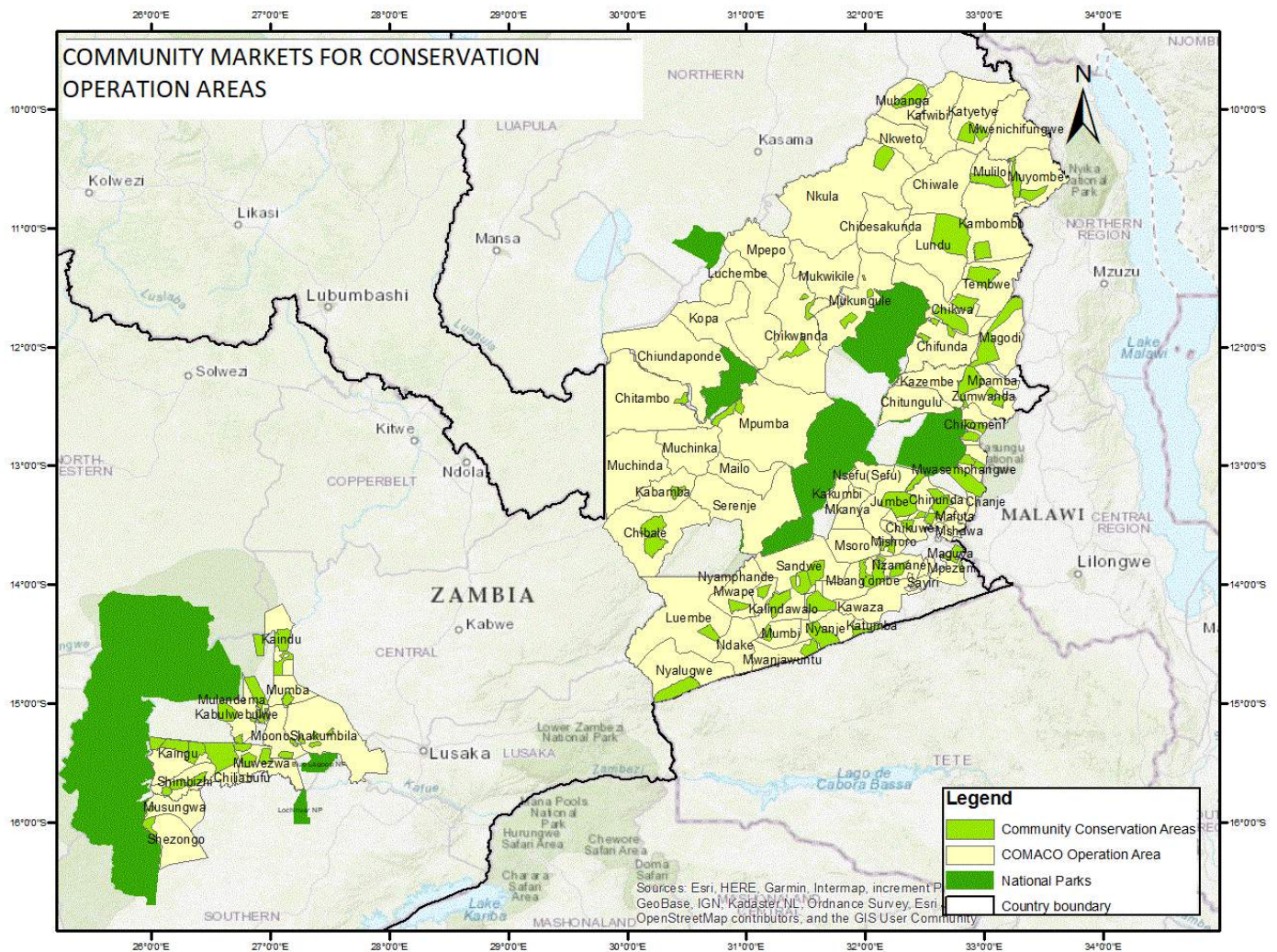
- Total Sales revenue of 101 million in 2021 with an annual average sales growth of 25%
- Expanded markets - Export sales up by 29.3% compared to 2020
- Production up by 30.5% compared to 2020
- Customer satisfaction of 90.1%
- Number of consumer complaints down by 45.4% compared to 2021
- IT systems improved to enhance COMACO performance and cost efficiencies
- Continued investments in new products and food safety standards



COMACO Operational Areas

COMACO operates across a rural landscape of 14,642,089 hectares, covering 84 chiefdoms and three provinces as shown below. For our conservation efforts to succeed, scale is important for protecting entire landscapes, inclusive of forests and wildlife. Scale is also important to diversify market options for a more robust and reliable supply chain of commodities to grow COMACO's commercial success. Scale, however, brings its own challenges of high transaction costs of bringing raw materials to market.

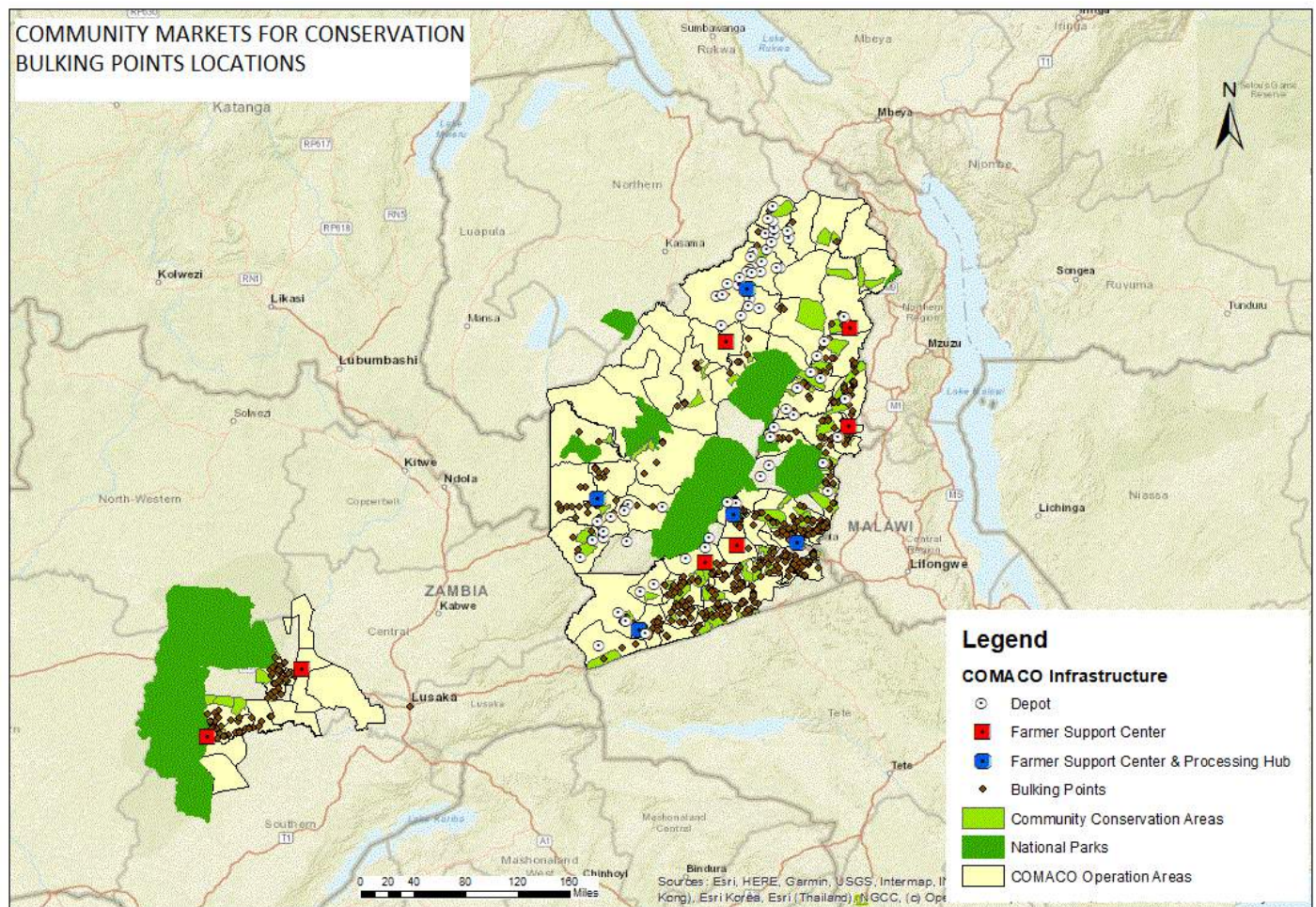
ITC innovations and a shift to digital banking are helping COMACO to mitigate these costs. Within its operational areas and by working closely with its community partners and the Forestry Department, COMACO has helped to establish 1.58 million hectares of community conservation areas. 96 of these areas being monitored for carbon credits, which creates an important added incentive for communities to steward the long-term protection of their natural forests and habitat for wildlife.



Getting Crops to Market

Working through a network of 1,110 farmer-managed bulking points under supervision of 84 cooperatives, COMACO has developed an increasingly cost-efficient way of buying, aggregating, collecting, and transporting farm commodities safely to warehouses at one of our five processing centres. This has taken a number of years and substantial investments for COMACO to achieve but it has given communities the confidence that reliable markets are improving and replacing the need to rely on destructive practices like charcoal making or wildlife poaching.

This system of bulking points and cooperative depots (see figure below) linked to small-scale farmers provides the foundation for a large-scale food production system that supports a food chain of healthy, nutritious products to local consumers under the brand It's Wild!. With few exceptions, COMACO buys all of its raw farm commodities from farmer cooperative members who have signed a conservation pledge to adopt practices compliant with conservation goals of healthy soils, more trees and more wildlife.

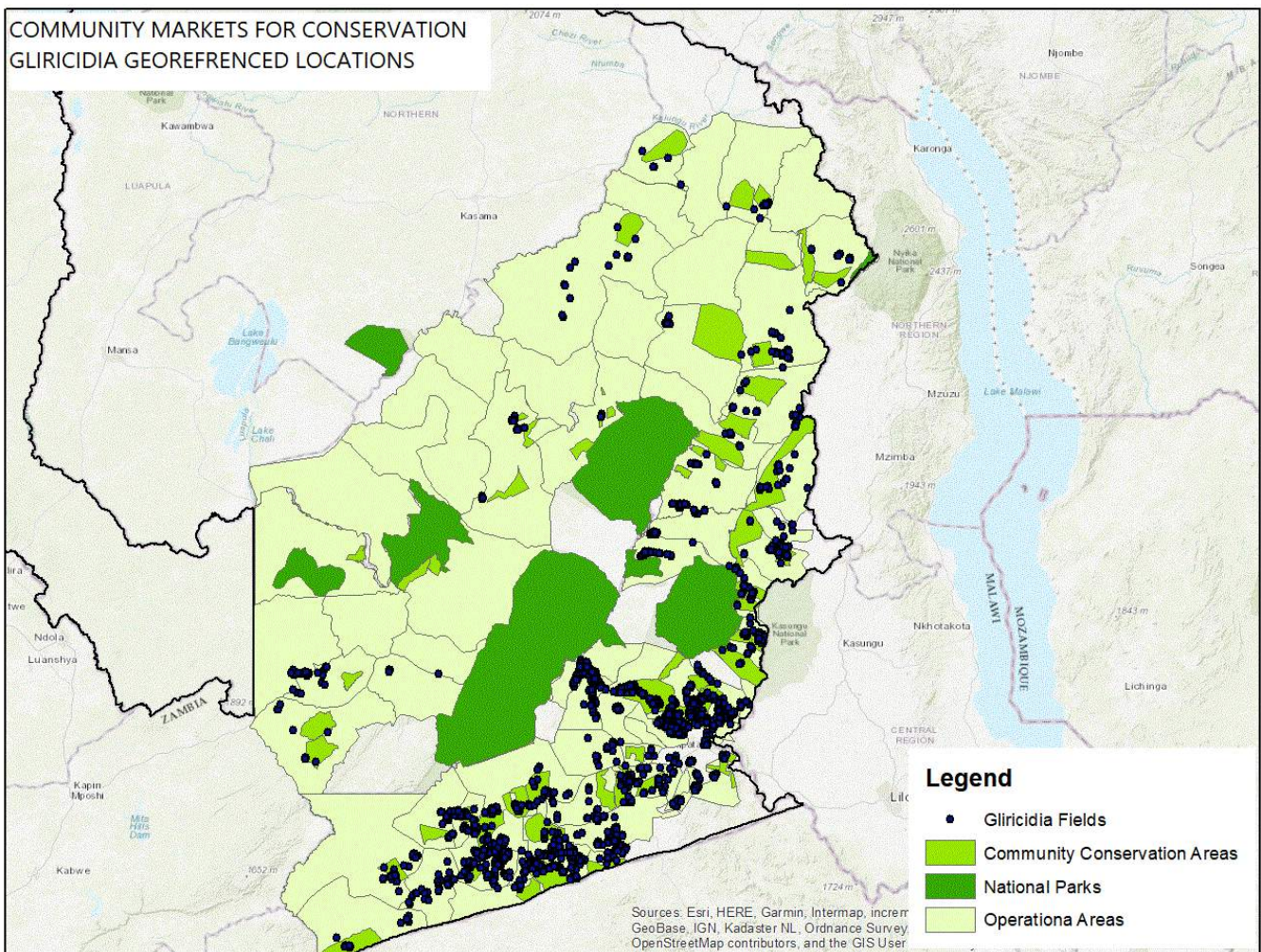


Agroforestry adoption

COMACO is carrying out one of the largest agroforestry programs in Africa and is giving small-scale farmers an enormous financial relief from having to rely on chemical fertilizer. Gliricidia trees make it for free. We have currently achieved a survivorship of 82,810,246 trees.

From this number we have georeferenced over 27,000 farm plots shown in the map below representing a total of 11.37 million surviving trees. Another 60 million trees are scheduled for planting in 2021. Grown in rows with five rows of crops planted in-between, this system of

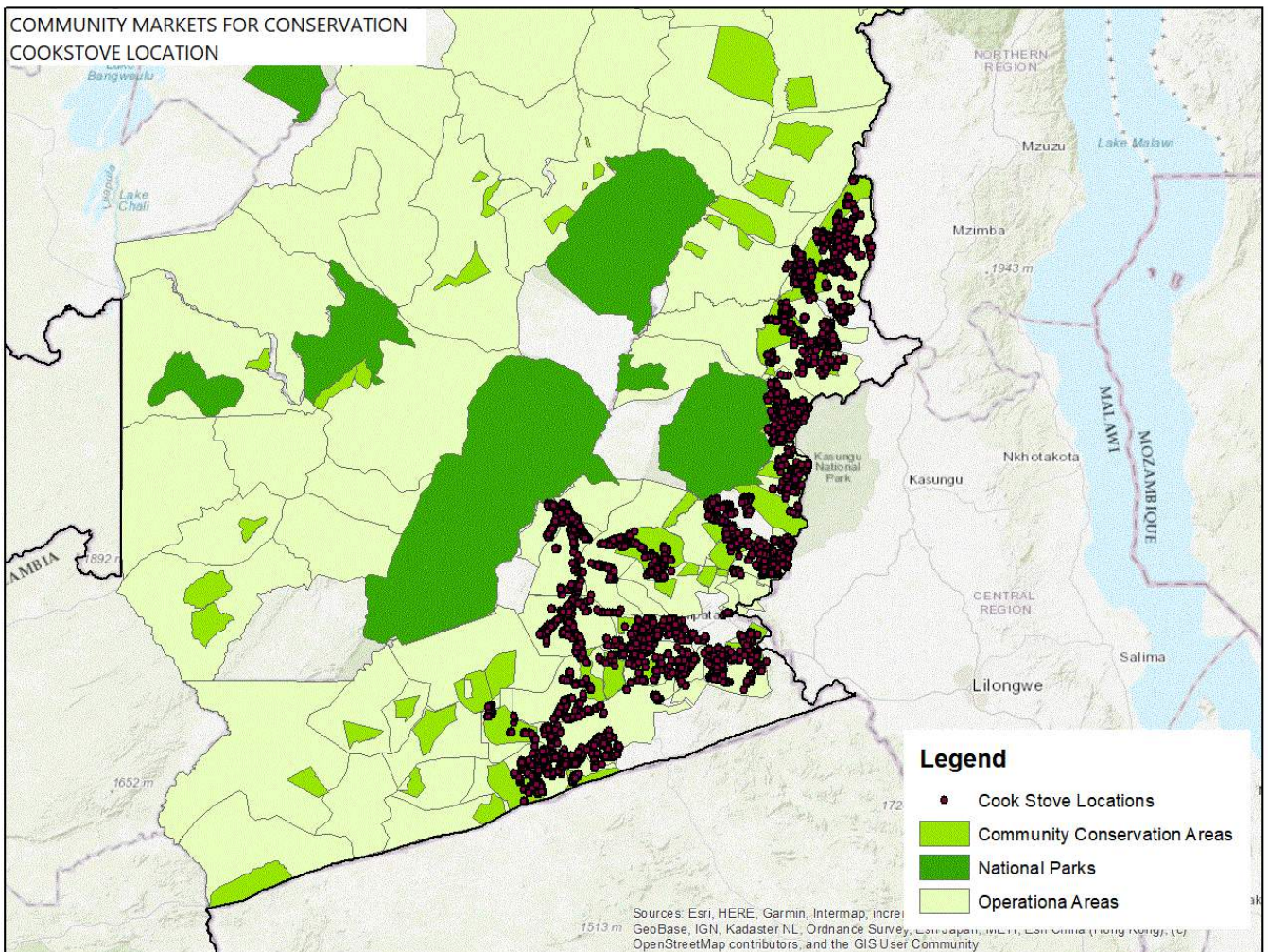
farming called alley-cropping, is helping thousands of families to escape poverty and hunger. Crops are essentially organic as chemical inputs are not needed and a growing number of our farmers are being certified as organic to qualify for higher paying market opportunities. It is also an important basis for carbon capture in the soil. COMACO assists cooperatives to monitor this carbon capture for markets they are benefitting from to help finance farmer support services and diversify local commercial enterprises



An energy solution for saving trees - *Fuel-efficient cookstoves*

In partnership with CQuest, COMACO has distributed 97,463 fuel-efficient cookstoves that are monitored annually to assess their use. Rather than extracting logs from local forests to cook with, farmers use small twigs with cookstoves, which are ideal for using off-cuts from agroforestry trees introduced by COMACO. From surveys, we estimate as many as 37 trees of varying size are spared from being cut down as a result of these stoves, which are approximately 60% more fuel

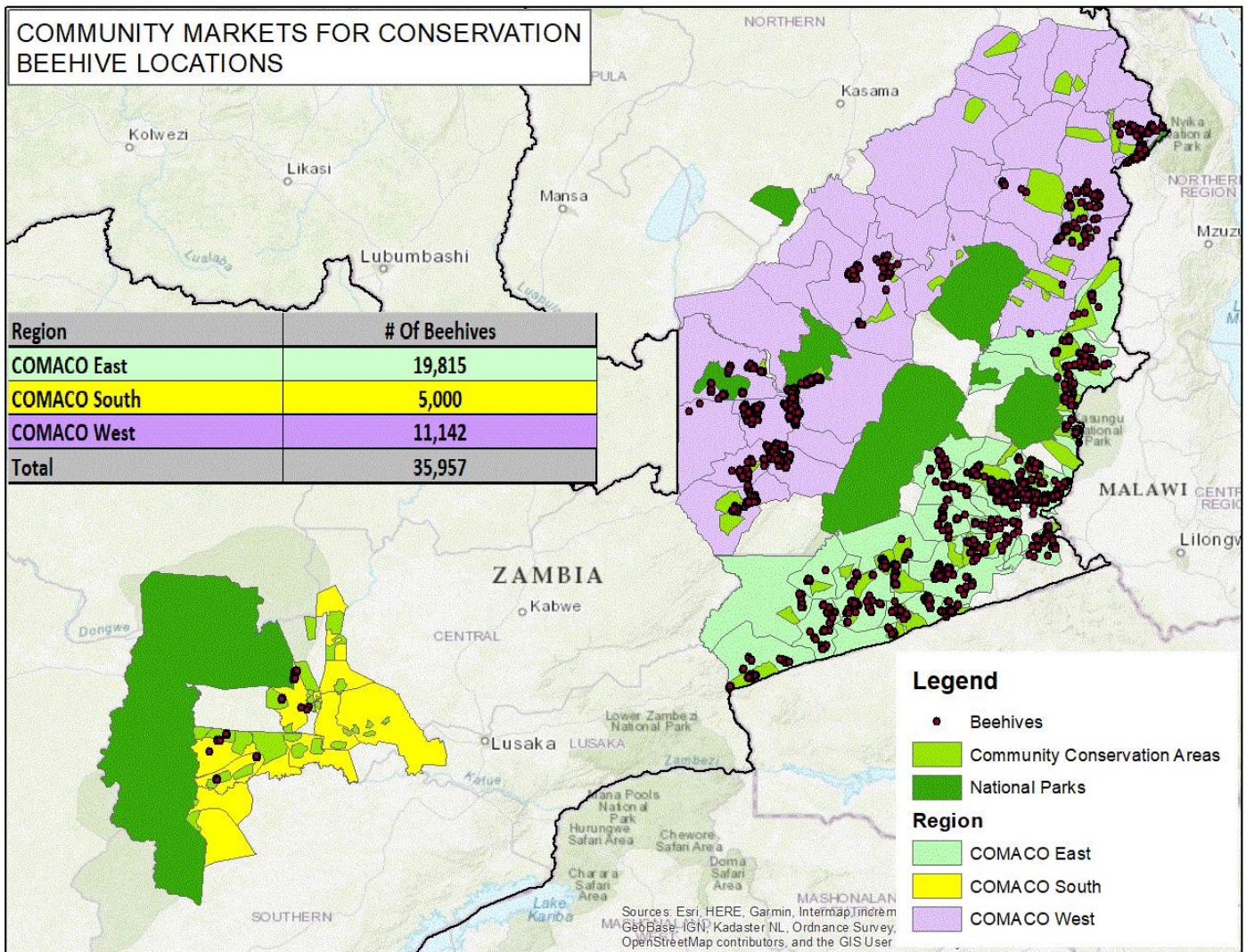
efficient than open fires that use larger pieces of firewood. They also give off significantly less smoke and reduce the risk of respiratory diseases caused by inhalation of smoke by mothers when cooking. Distribution of stoves is currently limited to Eastern Province, as illustrated in the map below. However, COMACO is actively planning to expand the use of these stoves in all of its operational areas in the coming year.



Beehive Distribution

Farmers become more sedentary with increased adoption of soil-improving farming practices and fuel-efficient cookstoves. This helps local forests to recover and support market opportunities from such forest products as honey and wild mushrooms. This in turn provides additional incentives to local farmers to care for their forests. To date, COMACO has assisted communities to own and benefit from 39,085 beehives. The locations for 78% of these hives are illustrated in

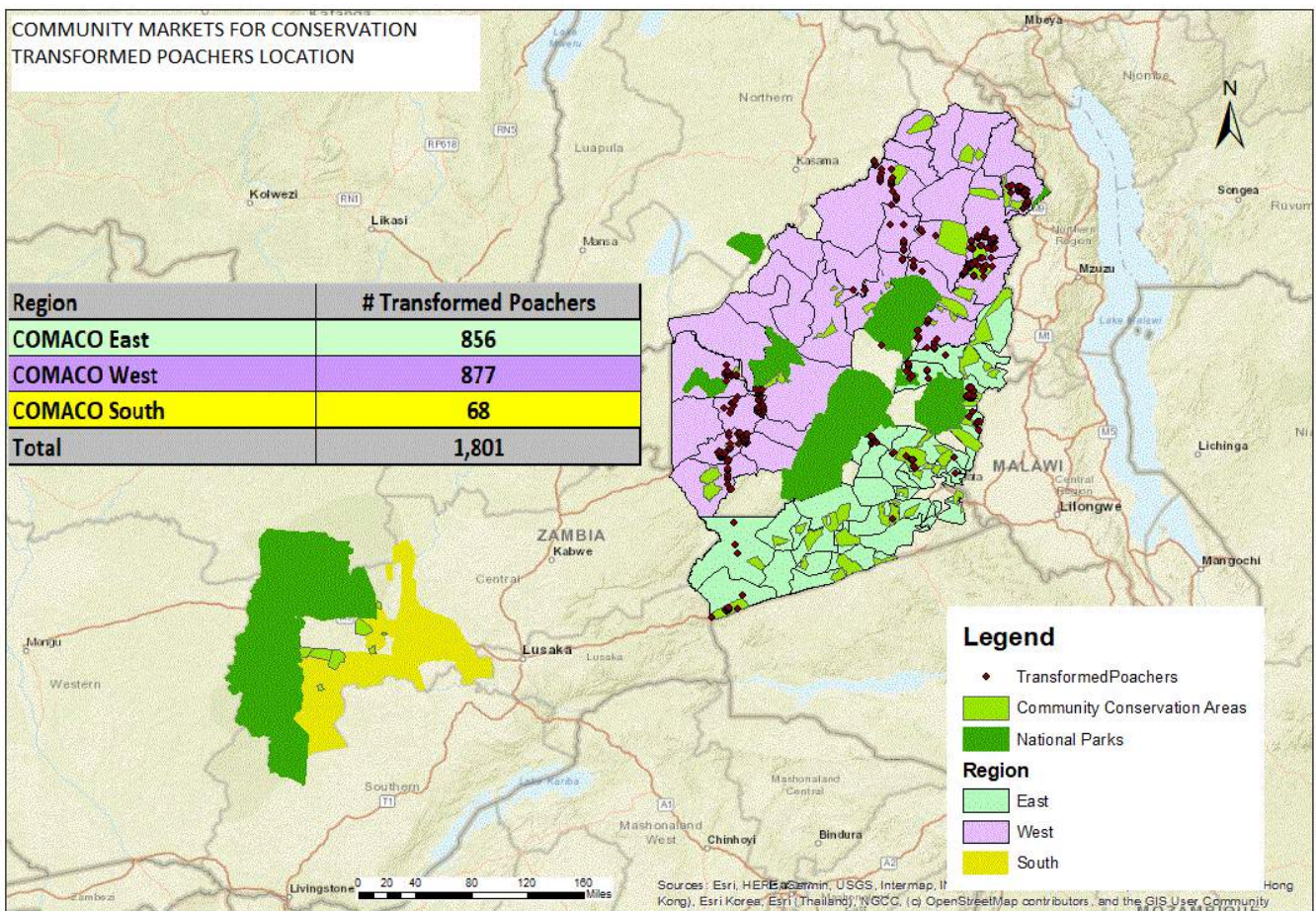
the map below. 44% of these hives are occupied with honey production potential of over 200 tons per annum. The quality of this honey is among the best in the world and COMACO is currently exporting its honey to the USA and UK. However, South Africa has imposed a trade embargo on Zambian honey, which has denied local farmers access to an important market opportunity. COMACO requires government help to resolve this problem.



Turning Poachers Into Farmers

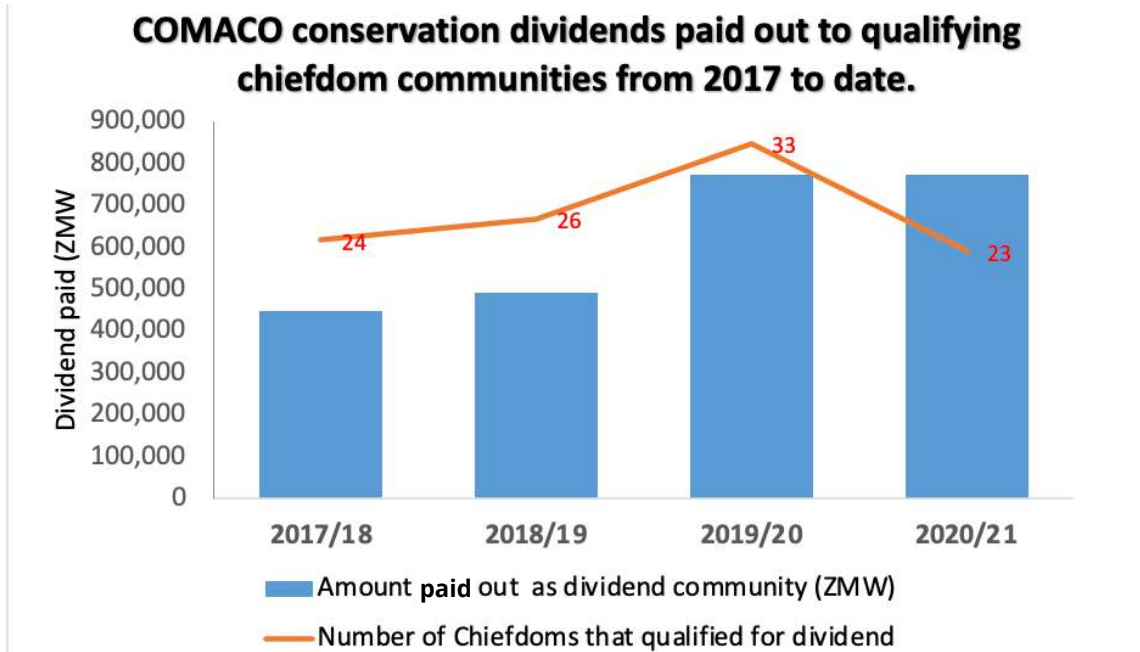
We have learned that most if not all who practice wildlife poaching started this livelihood because they were not good farmers. Lack of skills, farming inputs and market access were often contributing factors that made them poor and food insecure. Through its presence of year-round local trainers and active community leaders, increased availability of locally produced seeds, and reliable markets with access made easier, COMACO provides a good solution to this problem. In response to these opportunities, farmers must sign a conservation pledge to abandon such practices as poaching to access these opportunities.

Local hunters come forward to surrender their firearms with the desire to take up farming as well as other market opportunities supported by COMACO. To date, a total of 1,801 poachers have done this. The map below shows the locations of 1,801 transformed poachers of whom 941 are geo-referenced. To strengthen their resolve to stay committed to legal and more sustainable ways of earning a living, COMACO undertakes a specialized training of these people and introduces them to a wide range of skills to enhance livelihood security. As this process continues, we believe it is possible to greatly reduce the threat of poaching and the high cost of wildlife law enforcement.

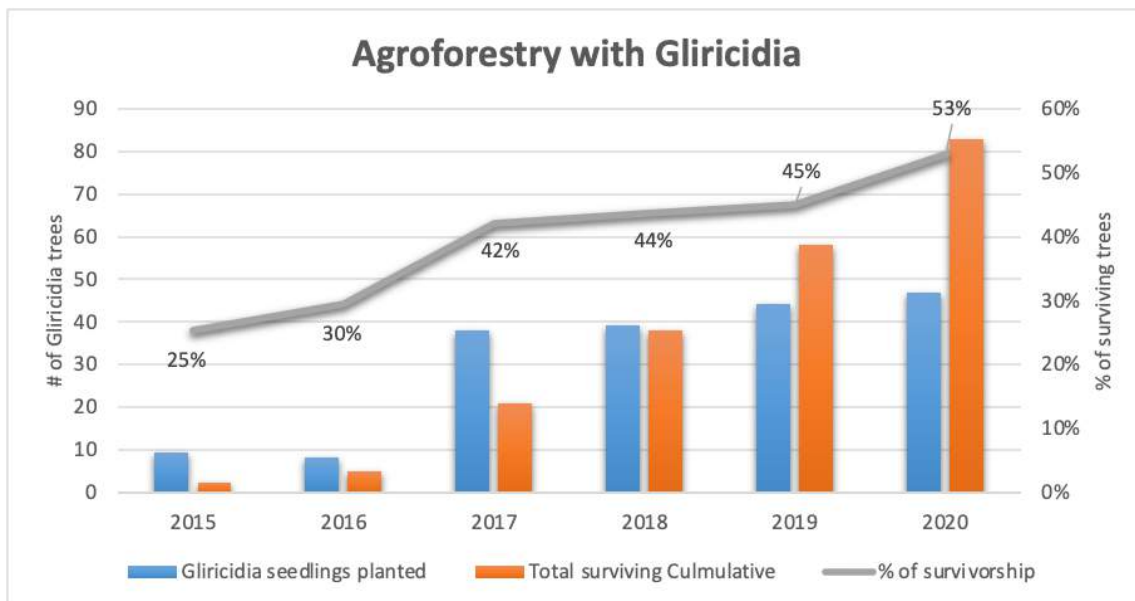


Trends

COMACO conservation dividends paid out to qualifying chiefdom communities that comply to conservation.

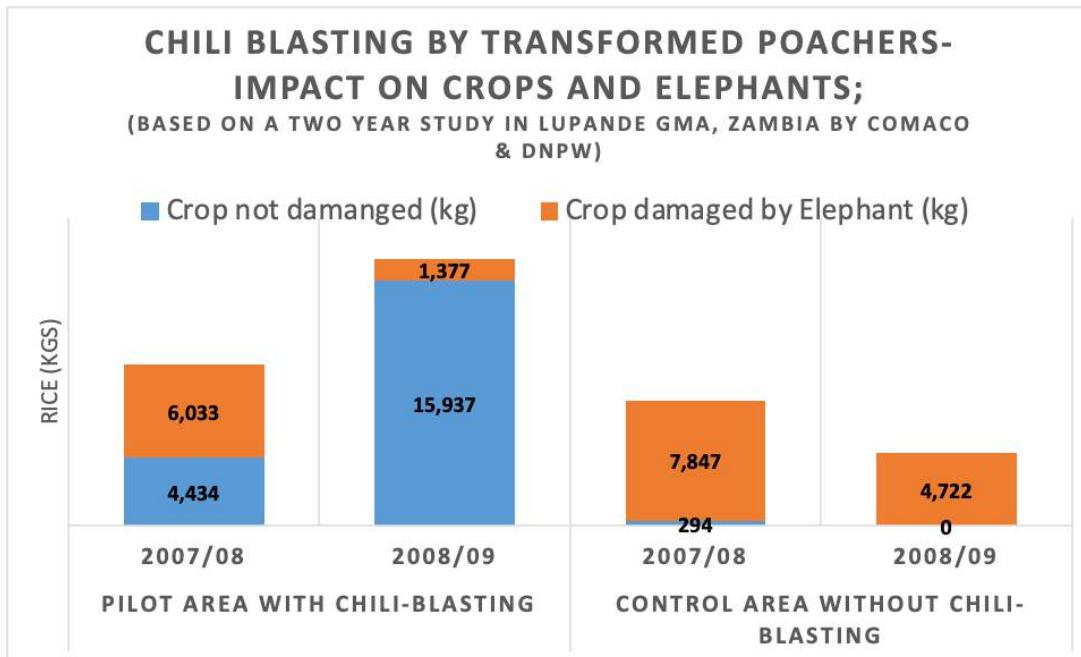


Gliricidia trees planted on-farm as part of COMACO's sustainable, eco-agriculture practices. An important outcome of this growing trend in agroforestry is the cost saving from avoided fertiliser expense by farmers and potentially the nation. 60 million trees are expected to be planted in the 2021/22 season



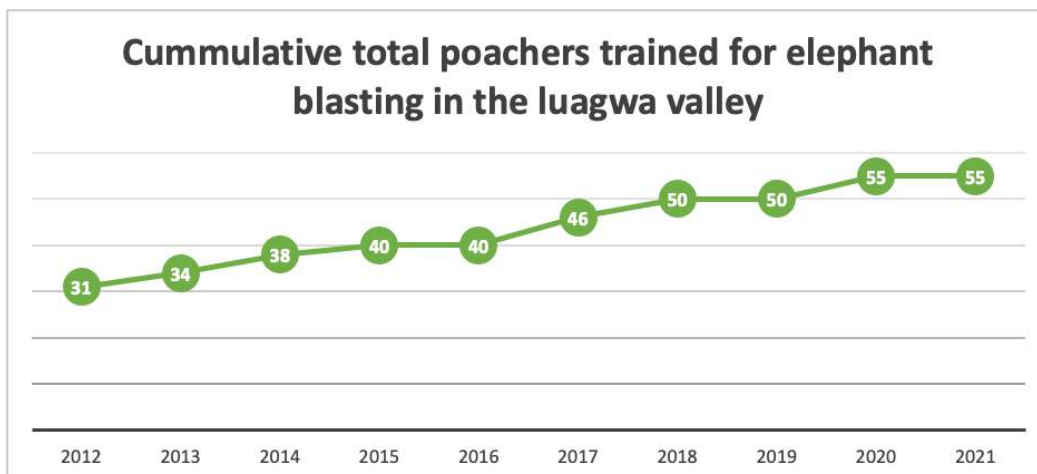
Trends

Potential crop value (rice) saved by transformed poachers who chili-blast elephants is in excess of \$100,000 per year. The same practice saves 5 - 10 elephants annually that would have been killed on control. These data provided the rationale for scaling chili-blasting by transformed poachers in partnership with the Department of National Parks and Wildlife

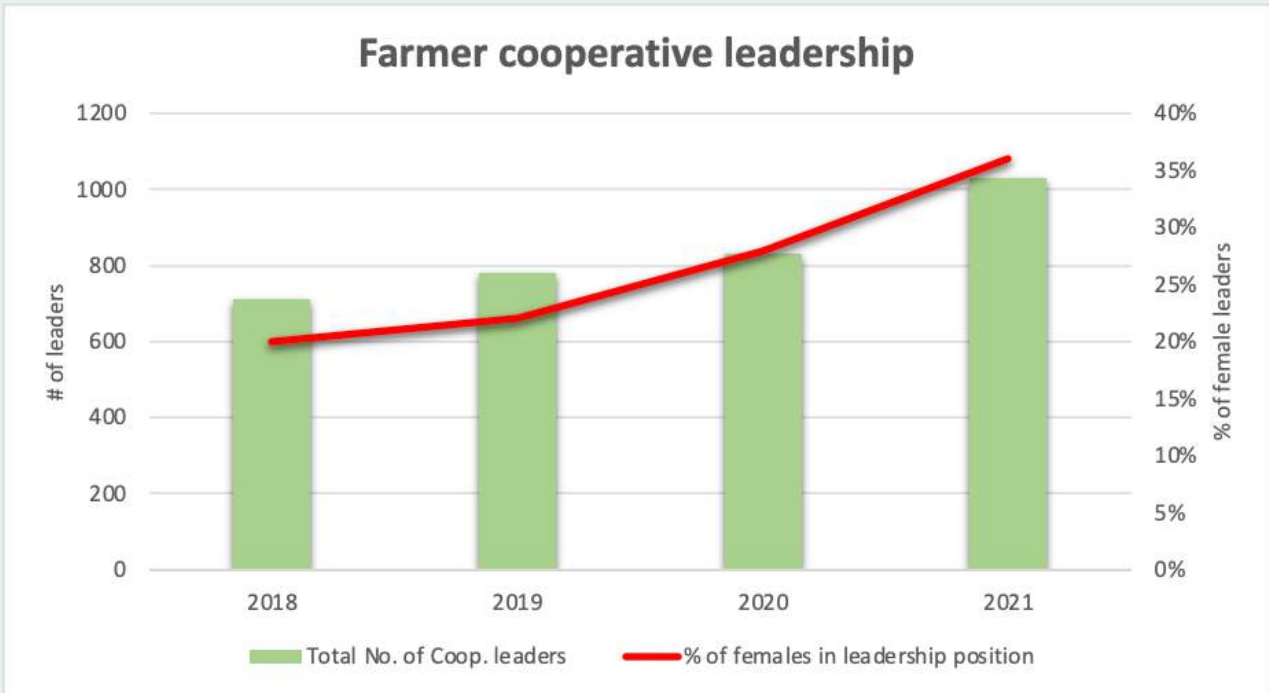


Kakumbi Assessment data	Pilot Area		Control Area	
	2007/08	2008/09	2007/08	2008/09
# of HH assessed	20	20	20	20
Total area planted (Ha)	9	11	7	3
Expected Harvest	10,467	17,314	8,141	4,722
Saved from damaged	42%	92%	4%	0
Saving cost (ZMW)	4,877	23,906		

From Poacher to Protector: - number of transformed poachers trained to control animal crop damage and reduce number of elephants shot on control in Luangwa valley



The program continues to promote women participation in leadership at community level and strives for equal representation.



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