

# **Marketing Agriculture in Kalanthuba Chiefdom**

*A Working Paper of the Kalanthuba Development Project*

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# Contents

Prefatory Note/Acknowledgments	3
Introduction	4
Marketing Practices	5
Distance and Transportation to Market	6
Petty Traders	7
Collective Marketing	7
Crops Sold in Market	7
Processed Goods	8
Limits to Production	8
Land	8
Labor	9
Seeds, Tools and Fertilizer	10
Pests (wildlife and cattle)	11
Environmental Limitations	12
Collective Agriculture	13
Current Collective Farming	14
Collective Farming in the Past	15
Attitudes towards Collective Farming	15
Formerly Grown Crops	15
Conclusion: Future Possibilities	16

## **Prefatory Note with Acknowledgments**

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Thanks be to God!

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## Introduction

The baseline development study of Kalanthuba conducted in 2017 (Oakerson, et al, 2018, p. 60) reports that the chiefdom's farmers, while primarily growing food for consumption, also grow both food crops and tree crops for sale in the market. Measured by the number of village mentions, groundnut, peppers, and a range of garden vegetables lead the list of food crops grown for cash; the leading tree crops reported are orange, kola nut, banana, oil palm, and mango. Thirty-three villages supplied estimates of tree-crop acreage and reported a total acreage of 292 acres, averaging just below 9 acres per village. Four villages reported 20 acres or more. While noting some increase in cash cropping, villagers cited the limiting factors of distance from market and lack of road access.

This study explores the marketing practices used by villages in Kalanthuba Chiefdom and the constraints to marketing that shape those practices. The study is based on interviews conducted in 11 villages located in four of five<sup>1</sup> sections: Kasokira (7 villages), Kamakihila (2 villages) Kamakatheh (2 villages), and Folladugu (1 village). See Table 1. Although the study includes marketing practices and constraints for agricultural produce in general, tree crops are prime candidates for sale in the market. Among the villages studied, five reported above average tree crop acreage in 2017, three reported below average acreage, and three did not report or could not estimate tree crop acreage (Oakerson, et al, 2018, Appendix Table B12).

Also of interest in the study is the effect of the newly created Bumbuna Conservation Area (BCA) on production of crops for market. The BCA constrains agricultural production by limiting the available land for farming. Eight of the study villages have lands in the BCA, including the three villages that did not report tree-crop acreage in 2017.

The study villages vary considerably in size and level of development. Some are relatively well developed, with zinc roofs, schools and health centers, while others lack these amenities and services. Market access also varies. Some have road access, while others can only be reached by footpath. Some are located near the Bumbuna Reservoir, which can be used for transport to market in Bumbuna Town.

In addition to marketing practices, the study also explored the potential for increased agricultural production for market as well as the potential for group production of both tree-crops and food-crops. For each village, the study reports the size of the tree stand for each species.

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<sup>1</sup> Villages in Kakalain, the fifth section, accessible only by footpath, were too remote to be visited given time constraints.

**Table 1. Study Villages Ranked by Tree Crop Acreage, 2017**

<b>Village</b>	<b>Section / BCA?</b>	<b>Tree Crop Acreage Reported in 2017</b>
Kawangulu	Folladugu	25 acres
Kamera	Kamakahili	15.5 acres
Kafungia	Kamakatheh / BCA	10 acres
Kasokira	Kasokira	10 acres
Kathombo	Kasokira	10 acres
Kawonor 1	Kasokira / BCA	7 acres
Kadandan	Kamakatheh	5 acres
Kasangbanba	Kamakahila	5 acres
Kadala	Kasokira / BCA	NA [some loss to reservoir]
Kassasi	Kasokira / BCA	NA
Kegbema	Kasokira / BCA	NA

## **Marketing Practices**

All villages report that Bumbuna Town provides the primary, though not the only, access to a marketplace. The frequency of sales varies, influenced by distance to market. Two villages report that they sell in Bumbuna almost every day, and four villages report selling there every week. More distant from Bumbuna in Kamakahila section, Kamera reports selling every other week. Kawungulu, located in the interior of Folladugu, the northern section adjacent to Bumbuna Reservoir, reports only rare access to Bumbuna for marketing. Kasangbanba, located further west of Kamera in Kamakahila section, is the only study village to market elsewhere, going to Kayassi every Thursday, just outside Kalanthuba Chiefdom along the main road to Makeni. Villagers explain that Kayassi has a fixed market set-up; they report selling in Bumbuna only occasionally, even though it is closer. Two villages report selling crops only when there is a surplus harvest. Some report that in times of poor harvest, villagers buy crops from other villages to make up for their loss.

The amount of time that is devoted to marketing crops is reported to be extremely significant in every village. Women make up the majority of those individuals who transport crops to market.

### **Distance and Transportation to Market**

The distance to market varies dramatically from village to village. All report traveling by foot to reach the market with a few occurrences of using motorbikes. All villages report selling crops in Bumbuna., and only a single village sells elsewhere Table 2 shows distances to Bumbuna and the principal method of transportation (an asterisk (\*) indicates a market other than Bumbuna).

<b>Village</b>	<b>Distance to market</b>	<b>Method of Transportation</b>
Kadala	4 miles	Easy road access but travel on foot (4 hours)
Kadandan	NA	Travel on foot (1.5 hours)
Kafungia	3 miles	Travel on foot (1.5 hours)
Kamera	8 miles	Travel on foot (4.5 hours) Lose road access in the rainy season
Kasangbanba	NA	Travel on foot (3 hours) *Travel on foot (5 hours) to Kayassi
Kasokira	4-5 miles	Travel on foot (~3 hours)
Kathombo	2.5 miles	Travel on foot
Kawonor 1	NA	Travel on foot. If they have money, then travel by motorbike is possible.
Kawungulu	4 miles + reservoir + distance from dam (about 4 miles) to Bumbuna	Travel on foot to boat, ride down reservoir to the dam (30,000 Le per round trip) and then walk or ride on motorbike to Bumbuna.
Kegbema	7 miles	Travel on foot Road access is extremely limited.
Kassasi	NA	Travel on foot Long road that is steep and rough.

**Table 2: Study Villages' Distance to Market and Mode of Transport**

## **Petty Traders**

Petty traders are buyers who visit villages specifically for purchasing crops, reducing the need for villagers to transport crops to market. Villages that sell to petty traders vary in the degree of interaction with them, and some see very little interaction. Kadala is the only village that reports interacting with petty traders on a daily basis. Five villages report experiencing occasional visits from petty traders, who travel by motorbike and sometimes by foot. Kafungia has no visits from petty traders despite having road access. It is not known whether traders reach Kasangbanba and Kawonor 1, and Kasokira reports selling to traders only on the side of the local road. Kawungulu, a remote village accessible only by footpath, reports selling kola nut to traders who periodically visit the village by motorbike. Traders most likely reach Folladugu section (where Kawungulu is located) by boat via the Bumbuna Reservoir. Kamera reports selling oranges in the dry season and peppers in the rainy season to traders who visit seasonally. Kadandan reports occasional trader activity in the village as well as selling the fruit of entire trees to petty traders every year.

## **Collective Marketing**

Collective marketing of crops implies some sort of organization for transporting crops to market, selling crops, and allocating proceeds. Four villages report no collective marketing; individuals sell crops without any collective organization. Three villages say that they sell crops on an individual basis as well as by “family” (referring to the extended family or descent group, which is the landowning unit in customary tenure), and four villages mention *only* selling by family. Family marketing is organized by the family head (usually the eldest male in the family group) and the proceeds are generally shared among the individual households that are a part of the family.

## **Crops Sold in Market**

In general, farmers in every village consume a portion of the harvested crops and sell the surplus. The amount that is sold depends on the amount consumed, which varies among the different villages. Eight villages report the sale of all types of crops, while the others (Kassasi, Kasokira, and Kamera) report not selling rice and beans except in unusual circumstances. Villages that grow coffee or cacao offer the entire crop for sale. Groundnuts and fruits and nuts from tree crops are reported to be slightly more profitable than seasonal garden vegetables.

Longer lasting crops are easier to sell and produce more income than crops that spoil quickly. One village, Kawungulu, reports growing and selling sugar cane.

## **Processed Goods**

Processed goods are made by every village in order to create a desirable product that can be sold in the market. Every village reports producing palm oil, nut oil, and palm wine. The common procedure for making palm oil includes fermenting, drying, soaking, boiling, and skimming. Nut oil is produced by drying the palm oil inner kernel and then boiling it to extract the oil. Palm wine is made by fermenting the liquid tapped from the tree. These three processed goods are then sold in the market with a portion reserved for local consumption.

Three of the four study villages growing coffee (Kamera, Kasangbanba, Kegbema) produce parchment coffee by pounding, soaking, fermenting, drying, and finally bagging the coffee beans. Kassasi, in describing their method of processing, do not soak the beans nor ferment them. Rather, they only dry the cherries and pound them. The type of coffee grown in Kassasi was confirmed by an agro-forestry conservation officer to be arabica, though the limited processing being done in the village may produce an inferior arabica product. Nearly all of the coffee grown is sold outside the village—only Kamera consumes some of their coffee, about 1 percent of what they grow.

A few villages grow cacao, but the information on its processing is limited, though Kassasi reports processing cacao by drying and peeling the cacao beans.

Through the use of a tarp, mat, or drying floor, every village dries some crops to preserve them, preventing rapid spoilage. The crops most often dried include par-boiled rice, pepper, groundnut, okra, beans, cacao, benisis, millet, kola and bitter kola. The villages that have drying floors tend to claim greater success in the proper drying of crops.

## **Limits to Production**

Most of the villages expressed an interest in expanding crop production, especially the production of tree crops, but they face a variety of factors limiting the amount they can grow. The limiting factors include the size and fertility of village land holdings, the amount of labor available in a village, access to seeds and seedlings for planting, access to tools and in some cases fertilizer, the destruction of crops by wildlife or cattle, and the environmental challenges posed by drought, wildfire and even landslides.



## **Land**

The lack of available or fertile land is often cited as an obstacle to increased production, especially as an obstacle to collective farming. This is true of most of the study villages that lost land to the Bumbuna Reservoir or Bumbuna Conservation Area (BCA), which are heavily represented in the study, but also is found in some villages distant from the reservoir and BCA. Only two villages (Kawornor and Kasangbanba) report no limitations related to land supply or fertility.

Five study villages (Kadala, Kassasi, Kathombo, Kawungulu and Kegbema) report substantial land loss due to the Bumbuna Conservation Area (BCA) or to the Bumbuna Reservoir. Most also report a decline in the average fallow period since losing land, and they view land shortage as a serious constraint to production. In the most extreme case, the people of Kadala no longer have enough land for their regular subsistence farming needs, and they must borrow land from nearby Kegbema and Kamathor every year. Each head of family must respectfully “beg” land from family heads in the neighboring villages. Gaining access to these lands may reportedly require five or six requests before an agreement is reached.

Two villages with land in the BCA report no problems with land shortages (Kasokira and Kafungia). At the same time, Kasokira did mention limited land supply as an obstacle to collective farming, though they do have a village oil palm plantation. The soil in Kafungia is reported to be unusually rocky, which makes it labor intensive to work and creates difficulty in growing certain vegetables (e.g. tomatoes and plantains). Kadandan and Kamera, which are much farther from the reservoir and BCA, report poor soil fertility as a concerning limitation to production. Two of the villages with soil fertility concerns expressed interest in obtaining access to fertilizer.

## **Labor**

Labor supply is a serious constraint on production for five villages (Kadala, Kafungia, Kamera, Kasanbanba, Kaworno).<sup>2</sup> This is generally because of falling village population, as people move away in search of better economic opportunity. In some cases, mandatory school attendance for children is reported to undermine the village labor supply as well (Kamera, Kasangbanba). It is worth noting, as a villager in Kaworno pointed out to us, that labor supply varies by family and by household. Nonetheless, overall population trends remain telling. Kaworno is also the only village to report a growing fallow period, from 7 years in the past to 10

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<sup>2</sup> No data for Kasokira and Kathombo.

currently. They attribute this growth to falling population levels. While Kaworno still has enough labor for its current level of production, villagers did mention that the labor supply is “more constrained” than it was in the past.

Kadala was the only village to report that its population has grown in recent years; people moved back from Freetown after the construction of Bumbuna Dam, in hopes of finding employment with the Bumbuna Watershed Management Authority (BWMA) and because “there’s no place like home.” Despite this increasing population, which the villagers view as beneficial for their community and especially as a contribution to the labor force, there is still insufficient labor in Kadala. Though given an oil palm plantation, with the trees supplied by the BWMA, Kadala did not have enough labor to care for such a large-scale plantation, and the oil palm eventually succumbed to rodents and neglect.

Kadandan, while reporting sufficient labor for their current farming activities, did note that they have been losing population as well. Only in Kassasi (which reported a steady population size), Kawungulo, and Kegbema does labor seem to be a non-issue for agricultural production and potential expansion.

Widespread labor constraints are a serious problem for expanding production within the chiefdom and may undermine the potential for collective farming. If villagers have barely enough labor to care for their household or family crops, they may be reluctant to devote time and energy to a community field or plantation. Kafungia, in particular, noted that they were hypothetically interested in collective farming, and if they were given seeds for that purpose they “would try” to make it work. The labor shortage they face, however, makes them less than optimistic about such a project’s odds of success. They noted the desirability for this purpose of a cash crop that would require minimal labor and other inputs.

### **Seeds, Tools and Fertilizer**

One of the most widely reported challenges that the villages face is access to sufficient seeds (or in the case of some tree crops, seedlings and cuttings) to expand production or even to maintain production at the current level. Every village cites general seed shortages or lack of access to specific types of seeds as a limitation.

Lack of access to seeds, especially seeds for tree crops, is often noted as a barrier to collective farming (Kadala, Kasangbanba, Kassasi, Kaworno), since obtaining these seeds would be either expensive or impossible under the current circumstances. Lack of access to seed also makes replacing large-scale collective plantations that have been destroyed prohibitively expensive. For example, Kadandan had a village farm that grew groundnuts and rice, but the farm

failed during the Ebola outbreak and the villagers have not had the seeds to replant it. Kawungulu likewise had a collective farm that grew pineapple, orange, palm oil, and kola nut, but it was destroyed by fire and never replanted due to lack of seed. Kafungia too had a plantation that was destroyed by wildfire, in this case a plantation of more than one hundred oil palms. It has not been replaced in the 30 years since the fire, again because of the lack of seed. Kamera was supplied with seed for a collective farm by the Agriculture Business Unit (ABU) from the ministry of agriculture, but the ABU reportedly took the entire harvest without compensating villagers, so there was no seed to replant or money to buy more seed for a similar project.

In addition to the challenges posed to collective agriculture by seed shortages, many crops that the villages no longer grow have been unintentionally lost, not deliberately discontinued, because of a lack of seeds. These include millet in Kadala; four different varieties of rice, millet, *malontho* (a groundnut-like crop) and a reddish type of true groundnut in Kadandan (which lost access to these seeds during the eleven-year civil war); “Three Month’s Okra” in Kafungia; four varieties of rice (due to the war) and the smallest-seeded millet (poor germination) in Kasangbanba; and millet in Kathombo. (See the section on discontinued and/or experimental crops).

In terms of other inputs needed to expand (or in some cases, maintain) production, two villages (Kadala, Kawungulu) mention a desire for fertilizer, and Kamera mentions a lack of access to hand tools and metal to make those tools.

### **Pests (wildlife and cattle)**

All study villages report having experienced crop loss due to various pests, which disrupt production at various stages, from stealing seeds, to uprooting plants, to gnawing through young oil palm at ground level. The most commonly cited pests were birds, which destroy rice, orange, mango and millet among other things; rodents, which target millet, young oil palm, groundnut and cassava; and monkeys, which eat groundnut, cassava and a variety of fruits. Many of the villages also mentioned problems with grasshoppers, termites or maggots (Kawungulu, Kaworno, Kathombo, Kasokira, Kasangbanba, Kafungia, Kadala) though these do not seem to be as destructive as the birds, monkeys and rodents.

Some villages report seeing chimpanzees frequently and losing crops to the chimps, especially oil palm, orange and mango (Kadala, Kasangbanba, Kasokira, Kasassi, Kadandan). Kegbema villagers, for example, report that chimpanzees will destroy “the entire farm” if no one is keeping an eye on things, especially when crops are ripening. Other villages see chimps seldom if at all, and report minimal damage (Kafungia, Kamera, Kathombo, Kaworno). Kegbema notes

problems with chimps for rice, cassava and groundnut year-round, while Kasokira indicates that problems with pests in general are concentrated in the months of April, May, and June.

Three villages (Kafungia, Kamera, Kawungulu) report crop damage caused by Fullah cattle, but those villages where cattle are present consistently rank cattle as one of their greatest sources of crop loss. Other pests can be fenced out (using traditional fencing) or scared away, but the cattle are large, strong, and not easy to contain. The villages often also blame the presence of wildfire on the Fullah burning the grassland to encourage fresh growth for their cattle to graze (see next section).

### **Environmental Limitations**

Climate and geography obviously play a substantial role in facilitating or inhibiting crop production, with wildfire and drought having significant and recurring effects on harvests. Wildfire in particular is a frequently mentioned source of crop loss, sometimes destroying whole plantations (see the discussion of seed shortages above) and, in the case of Kawungulu, forcing an entire village to relocate. Only Kaworno, Kegbema and Kadala do not mention wildfire as a serious threat to production. The other villages generally report that wildfires occur at least once a year, damaging oil palm and groundnut plantations among other crops. In the villages where the Fullah are present, wildfire is uniformly blamed on their habit of burning grass to refresh grazing areas for their cattle.

Next after wildfire is drought, which can severely reduce harvests. Kasangbanba lost most of its crops to drought in the current year. Kegbema villagers report that January through March are the worst months for drought, affecting not only crops but also the village's access to drinking water because their stream tends to dry up. Kassasi also faces water shortages during the dry season, though they have the advantage of a hand-pump well, which they sometimes share with nearby Kegbema. The people in Kafungia mentioned severe water shortages both for drinking water and for irrigation purposes. They believe that they could grow more crops with easier access to water, and note that crops die if there is no rain and no way to bring water. Their water source seems to be a local stream that is going dry in the current drought. Kaworno also reports drought problems, and even Kadala, where the villagers report that they have no problems with either wildfire or drought, is facing some water scarcity. Their spring, protected by a spring box provided by the BWMA, dried up in the current year, for the first time they can remember.

Finally, one village, Kadandan, has had at least two dramatic experiences with landslides. About fifty years ago, a heavy landslide buried the village, and though no one was killed, the village chief decided to relocate the village settlement about a mile away. More recently, in

2016/2017, there was another landslide (or possibly multiple, smaller landslides) in that area, burying some village land and destroying crops. That same year, there were several landslides in the Freetown area, suggesting that the hilly parts of Sierra Leone, especially when deforested, may be prone to landslides in heavy rain. While this may not be a consistent source of crop loss, it does pose a real threat to people's lives and livelihoods and should be kept in mind when locating settlements and fields and when developing slopes.

## **Collective Agriculture**

Collective or communal agriculture refers to farms or plantations where a group owns the crops (whether tree crops or vegetables) and share in the labor, production costs, and benefits associated with the plantation. As is typical in Sierra Leone, the group may not actually own the land on which their plantation is located, unless everyone in that group belongs to the same landowning family. Instead, the group will generally obtain land for their crops by asking permission from a local head of family, who will then grant them access to a particular plot of land. Many collective farming groups deal in cash crops, especially tree crops, and may use the proceeds from their farm to fund social goods like schools and health clinics, or simply share the crops or the cash proceeds from the crops among their members. We found collective farming at the village and family levels, but very little in the way of collective farming that involved less than the whole village and more than one family. There was only one reported instance of men's or women's groups growing and selling crops jointly in this way, in Kadandan, but those groups no longer exist.

### **Current Collective Farming**

Only three study villages report communal farming at present, and in two of those villages, Kassasi and Kegbema, the collective farming was taking place only at the family level. In Kassasi, the collective farms grow vegetables, with rice largely being grown by individual households. Tree crops in Kassasi are also owned and managed at the family level. The head of family is in charge of organizing work on family plantations and selling produce and tree crops from the family holding. The family head also distributes the proceeds from the farm—whether cash or crops—among the households. The system in Kegbema is similar. Again, the family farm is organized by the head of family, who is also in charge of marketing crops from the family farm and distributing the proceeds. Individual households within the descent group will also have individual farms and gardens—the two systems coexist.

Selling by family appears to take place even where family farms are absent. In Kafungia, which did not mention family farms explicitly, crops are sold by the family, not the individual, and the family head plays a role in this process. In Kathombo, too, some marketing of crops appears to be orchestrated by the family rather than the individual farmer. This is especially true of tree crops, which seem to be owned and managed on a family level. Tree crop holdings were reported to us by number-of-each-type per family, often with the head of family answering for all the tree crops held by everyone in his lineage. This family-level ownership of tree crops can also be seen in Kadandan, where no current collective farming exists. There, the head of family will auction off the fruits of an entire tree to a petty trader with the rest of the family serving as witnesses. They then split the proceeds. In some cases there was some ambiguity as to whether tree crops reported by family were owned by the family or by individual households, but the central tendency seems to be towards family owning, tending, and marketing of tree crops.

The only village to describe current, village-wide collective farming is Kasokira, which has a three-acre oil palm plantation that is managed by the heads of family—even though they also report insufficient land for collective farming. All families participate in this plantation, and the proceeds are divided among the families.

### **Collective Farming in the Past**

Although we found only three villages currently engaged in collective agriculture, six others (Kadala, Kadandan, Kafungia, Kamera, Kathombo and Kawungulu) have had such projects in the past, which for one reason or another were discontinued. Kadala, as mentioned above under labor constraints, was given a collective oil palm plantation, provided by the BWMA, but their lack of labor and the presence of pests led that plantation to fail.

Kadandan has the most diverse history of collective farming. It formerly had a women's group that grew groundnut and pepper and a men's group that grew rice. Both groups sold their crops and split the proceeds among group members. Kadandan also had a village-wide communal farm growing rice, groundnut and pepper; the farm was divided into two groups that competed against each other to see who could sell the most produce. The two groups encompassed everyone in the village, and the proceeds from crops sales were used to pay school fees. This venture died out after the Ebola outbreak, and the NGO that provided the seeds originally (Catholic Relief Services) has not returned to re-start the process.

About 30 years ago, Kafungia had a village plantation of more than 100 oil palm which was used for community consumption, not outside sale. The palm oil was divided equally among the heads of families. However, the plantation was destroyed by wildfire. Like Kafungia,

Kawungulu had a village plantation where they grew pineapple, orange, palm oil, and kola nut. It was for local consumption only, divided equally among the families. This plantation was also destroyed by wildfire in 2012, and has not been restarted after the village moved its settlement to a new location. In both cases, the lack of seeds prevented the villages from replanting their collective farms (see discussion of seed shortage above).

Three years ago in Kathombo, a mixed group of men and women grew corn and upland rice on a group farm. They harvested two full bags of rice, selling half and lending the rest as seed rice to group members. The cash profits from selling the rice were also used for loans, in the form of a loan club for the group, managed by the group leader. Kathombo was unable to continue this project, however, due to severe land limitation.

Finally, as mentioned above in the discussion of seed supply as a limiting factor, Kamera reports a disappointing and unjust experience with collective farming. They were given the seeds to plant rice, groundnut and other vegetables by the ABU, with the understanding that the villagers, having contributed all the labor, would keep all the proceeds. However, ABU returned at harvest, and according to the villagers, took everything without compensating them. It was, they said, a bad agreement. The people of Kamera also pointed out to us that we came in much the same way as the people from ABU; we sat down with all the village leaders in the court barray, talking about development and assistance, and asking lots of questions about agriculture.

### **Attitude towards Collective Farming**

On the whole, the vast majority of the villages studied express interest in investing in collective farming projects. This was true not only for those who have had collective farming in the past but also for villages that currently have collective farming and want to invest further (e.g., Kassasi, where villagers are especially interested in oranges, bananas, and cucumber). This interest in collective farming also holds true in Kaworno, where there has never been collective farming, but the women in particular would be interested in starting something.

### **Formerly Grown Crops**

Three villages (Kegbema, Kawungulu, Kassasi) still grow everything that they have traditionally grown. Six villages (Kadala, Kadandan, Kafungia, Kamera, Kasokira, Kathombo) report that they formerly farmed millet. However, they stopped because it was being destroyed by birds and monkeys daily and by the heavy rains at harvest. There was also a seed shortage. The village of Kadala stopped growing benisis because it was being destroyed by chimps every 2-3

days. Kadandan and Kasangbanba reported losing four different varieties of rice because no replanting or seed saving during the eleven-year civil war. Kadandan also said they lost medicinal onion, *malonho* (groundnut-like crop) and reddish fruit (groundnut) to the civil war.

Two villages (Kadandan, Kasangbanba) are no longer planting cottonwood because of the lack of appropriate equipment, but they do still have the necessary knowledge to spin the cottonwood fiber and weave it into cloth. Kawonor I said they have cottonwood, but they don't plant it any more because they have lost the traditional knowledge of that process.

A new crop introduced to the chiefdom is sweet-sap. However, Kafungia and Kasangbanba reported that it died off as it was not a successful crop because of rocky soil and termites. Due to problems with rodents, Kamera reported being unable to grow a sweet large bean, similar to a groundnut.

Kamera and Kasangbanba are no longer growing sorghum grain (the smallest variety) because of unsuccessful germination of seeds from the current crop and destruction of birds. Kafungia does not grow "3 months" okra because of a lack of seeds, and the tomatoes died because of the combination of rocky soil and bright sun.

### **Conclusion: Future Possibilities**

The chiefdom produces an impressive number of marketable crops, especially tree crops. The challenge that producers face, however, is the difficulty posed by transporting crops to market, often walking hours at a time without any guarantee that the main market in Bumbuna will have sufficient demand to sell most of their crops before returning home. The scale of the market at Bumbuna is quite limited, and the villagers face high transaction costs, both to transport crops to market and because they sell piecemeal, by individual or family. The chiefdom can potentially support the livelihoods of smallholders by reducing the transaction costs and facilitating access to a wider market.

One possibility is to create a cooperative at the chiefdom level to market crops. Such a cooperative may or may not be economically feasible, depending on whether there is sufficient scale in the marketing of crops grown in the chiefdom to cover the operating costs of a cooperative and still pay farmers a price at which they are willing to supply crops. The necessary operating costs include a vehicle to transport crops, fuel, and minimal personnel. Moreover, the organization of a marketing cooperative involves a number of issues related to membership, decision-making, and marketing structure, all of which would need to be thoroughly vetted in consultation with village leaders and smallholders in order to develop a project proposal.



Working village by village, the cooperative might arrange to purchase crops from heads of family, who would organize within their own kin networks to collect crops for sale. This would reduce the need for the cooperative to deal separately with individual households. Or, some crops could be purchased from heads of family while others are purchased from households or individuals. To streamline the movement of goods from village to market, certain villages could be designated as “hubs” for collecting produce.<sup>3</sup> A cooperative vehicle would come to the hubs to pick up crops and deliver them to market.<sup>4</sup> Initially, villages (or perhaps families) could designate individuals to act as vendors for the village’s (or family’s) produce in the local market and rotate that responsibility from week to week, reducing both the cooperative’s personnel costs and the labor required of farmers for marketing, while designating a percentage of the return on sales to cover the cooperative’s costs.

As the cooperative grows, it could purchase crops from village producers and employ vendors in the market or re-sell to traders. When the cooperative earns a financial return net of its costs, it can either be paid as a dividend to members as a percent of each member’s sales—though this would require careful record-keeping—or invested in expansion. Some part of this dividend could be reserved to fund schools, health centers, community plantations, or other development-oriented social goods at village, section, or chiefdom levels.

With a project proposal in hand, donors can be approached for the needed start-up costs: the purchase of equipment and initial personnel outlays, e.g., a truck and driver. With start-up costs covered, the cooperative could proceed to formal organization with constitution and bylaws. The constitution would specify the composition of a board of directors, which could be composed of elected representatives of families and villages as well as chiefdom leaders, section representatives, and other local stakeholders, serving *ex officio*. The constitution would serve as an enforceable legal instrument governing the relationships between the cooperative and its members. For this reason, the full support of the chiefdom would be crucial for effective contract enforcement and sanctioning of rule-breakers.

The board of directors for the cooperative would benefit from working collaboratively with the BWMA, the Tonkolili District Local Council, and various NGOs. These kinds of collaborative relationships would be especially important in seeking donor money for start-up

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<sup>3</sup> Kamera in Kamakihila section, Kadandan and Kamasaypayna in Kamakatheh section, and Kateneh in Folladugu section all seem like potential candidates for this role because they are currently accessible by road or reservoir and have a number of other villages clustered near them.

<sup>4</sup> If a vehicle can be rented or otherwise made available on a part-time basis, the cooperative might start with just one hub and its satellite-villages then expand the scale of the operation by adding hubs.

costs (the most obvious and critical expense being the purchase or hire of a truck and the employment of a driver) and for future attempts to expand the operation.

If the initial small-scale cooperative experiment were successful enough to bring in more villages and begin shipping crops to Makeni and/or Freetown, the cooperative might eventually consider investing in small-scale processing equipment for the chiefdom. For example, this might take the form of a central coffee processing station where the pulp of coffee cherries could be removed and the resulting parchment coffee washed in clean water and dried on a drying floor. Likewise, the chiefdom has an abundance of mango, which does not, however, store and travel well, absent refrigeration. Having a way to process and preserve mango locally, such as a mango drying facility, could enable smallholders to realize a greater return on their mango crop.

Growth in agricultural marketing depends both on market expansion and increased production of marketable produce. The reduction of transport costs creates the potential for directly reaching larger, more distant markets—in Makeni and Freetown. Exploring for additional markets is investment activity that requires additional personnel expenditure, with the goal of increasing both price and quantity grown for market. Increased quantities grown, however, may depend on increasing yields on the farm—requiring investment and perhaps new farming/growing techniques. Increasing price may depend on improved processing. A chiefdom-wide agricultural cooperative could possibly provide the means for pursuing these objectives.