



## **C3P ON FARM VOUCHER BRIEF NO. 1**

### **PILOT USE OF ON FARM VOUCHERS TO DISSEMINATE CASSAVA PLANTING MATERIAL IN WESTERN KENYA**

By Bernard Onyango Odera<sup>1</sup> and Stephen Walsh<sup>2</sup>.

#### **Introduction**

Cassava is an important crop in western Kenya as the region produces 60% of the total cassava production in Kenya. The crop is cultivated in small scale by many poorhouse holds for food and income generation. In the recent years the crop production has been threatened by a virulent form of the Cassava Mosaic Disease (CMD) resulting in over 80% yield losses estimated at 150,000 mt and valued at 10 million US \$. The CMD has caused yield declines from 10 mt to less than 3 mt per ha and reduced area under cassava production from 25,000 to less than 17,000 ha in western Kenya. This has rendered the poor small-scale farmers food insecure.

The spread of the disease is mainly through cassava cuttings as seed and through the whitefly vector. Farmers conventionally sourced cassava cuttings freely from their neighbors, this resulted into increased spread of the disease where cuttings were made from infected plants and in such cases yield losses were as high as 100% forcing farmers to abandon the crop production.

In the past decade, efforts to mitigate CMD impacts in Western Kenya have been coordinated by Kenya Agriculture Research Institute (KARI) based at Kakamega. KARI coordinated multiplication and distribution of CMD free planting materials to farmers. A three tier multiplication system (primary, secondary and tertiary) has been used which resulted in farmers planting over 22,000 ha in western Kenya with CMD free materials by 2004.

Crop Crisis Control project (C3P) through one CRS partner, Rural Energy and Food Security Organization (REFSO), implemented the use of On-Farm Vouchers to disseminate clean cassava planting materials. Busia district had many farmers bulk CMD resistant cassava under the previous 3-tier multiplication program who qualified as seed sellers. In other areas of western Kenya, C3P is concentrating on rapid multiplication of resistant varieties on targeted sites in preparation for use of OFV in the coming seasons.

#### **Why On-Farm Vouchers (OFV)?**

The goal in piloting the use of On-Farm Vouchers was to understand how this new approach of using a demand subsidy to promote an efficient allocation of planting material could work. On-Farm Vouchers had never been systematically attempted by seed aid practitioners with vegetatively propagated planting material. CRS as an organization has nearly a decade of

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<sup>1</sup> Country Program Manager for C3P Kenya.

<sup>2</sup> Monitoring and Evaluation Manager for C3P.

voucher based experience with seed across nearly twenty countries, the Seed Voucher & and Fair approach, but no experience with on-farm vouchers.

Cassava, as a vegetatively propagated crop, does not lend itself to classic seed fairs as cassava seed has a small fraction of the shelf life of more conventional seed fair traded planting material (maize, beans, groundnuts, sesame). Also, farmer assessment and understanding of cassava seed performance is most effective via on farm evaluation. These factors underline why cassava planting material is not tradable in conventional Seed Vouchers & Fairs.

Conventional dissemination of cassava planting material by seed aid practitioners (national research organizations, FAO, local and international NGO's), has been focused on promoting the supply of material, clean cuttings production, and transportation and distribution of cassava seed (referred to as cassava cuttings) in bulk. This conventional approach tends to result in relatively high loss rates due to the short shelf life of cassava planting material.

Conventional dissemination of cassava planting material by seed aid practitioners does not enable for ready tracking or follow up on the planting material that has been disseminated. In the case of Western Kenya, despite an extremely effective three tier multiplication system (primary, secondary and tertiary) which produced enough CMD free cassava planting material for over 22,000 ha by 2004, the conventional approach used to disseminate this material resulted in very little capacity to track where specifically the material was planted and adopted. The lack of capacity to track prevents practitioners from rigorously evaluating the efficiency and effectiveness of their cassava multiplication interventions as their evaluation is based strictly on production of planting material and not on resulting adoption rates in farmer fields.

Given the challenges with the conventional dissemination approach of cassava planting material used seed aid practitioners and the fact that cassava planting material is not tradable through conventional Seed Vouchers & Fairs, an On-Farm Voucher Approach was designed and piloted through C3P's partners in Western Kenya,

The process was intended to promote a more cost efficient and loss reducing mode of distribution of clean planting material and to support more effective post dissemination monitoring and evaluation as voucher based dissemination enables for clear understanding of the destination of planting material.

### **Overview of the On-Farm Vouchers Process in Western Kenya**

A series of sensitization meetings on use of OFV were held with cassava stakeholders comprising farmers, Ministry of Agriculture (MoA) field staff, local provincial administration, and REFSO staff. The meetings were intended to explain why this new approach was being piloted, to gain support and ideas from stakeholders, and develop consensus moving forward so that all stakeholders were fully on board and aware of their responsibilities in making the pilot a success.

One key outcome of the stakeholders meetings was an expressed resolve to discourage free distribution of cassava cuttings and to require OFV beneficiaries to cost-share. As one stakeholder notes 'We have learned that when it is given for free – it is not well adopted.' The

OFV beneficiaries were hence expected to meet their transportation costs in visiting farmer certified fields and in transporting the planting material back to their own fields.

The stakeholders also estimated that the value of an individual vouchers should be about KSH 50 (.75 USD) and that each household should receive vouchers equivalent to KSH 100–800 (1.50 – 12.00 USD) depending on the amount of land to be cultivated with cassava. These figures were based on a cassava cutting price estimate in Western Kenya of KSH 400 per bag of 2000 mini-stem cuttings.

The process of certification of seed sellers was done by a team from the International Institute of Tropical Agriculture (IITA), KARI, Ministry of Agriculture, REFSO and farmers. Certification served the purpose of providing voucher recipients with a list of farmers and varieties in the project area that were deemed resistant to both CMD and CBSD. The provision of this information enabled for voucher recipients to exercise choice as they had the right to procure cassava cuttings with vouchers at any of the fields that were certified.

Criteria for field certification included fields with clean, pure stand any of the three preferred varieties (Mygera, SS4 and MH95/0183) on a minimum of 1 acre plot. The varieties selected had high tolerance to CMD and resistance to cassava brown streak disease (CBSD).

The local area administration officers did the identification of needy households for voucher distribution after several sensitizations in public meetings. REFSO and Ministry of Agriculture staff participated in these meetings. Key criteria for selection included land ownership and ability to plant and maintain the crop. Recipients were targeted as future cassava planting material sources and not primarily on the basis of their need for cassava. As a result, the poorest of the poor were not expressly targeted by this pilot.

C3P's local implementing partner in Western Kenya, REFSO, managed the voucher distribution to the identified beneficiaries. REFSO also led sensitization efforts with both certified local seed sellers and with voucher recipients. Sensitization efforts for seed sellers were oriented toward explaining the rule with respect to the trade and redemption of vouchers and characteristics of the cassava varieties on offer via the certified local seed sellers.

### **Benefits of On-Farm Vouchers (OFV)**

Certified cassava seed sellers appreciated the use of vouchers to trade cassava seed as they received money and also developed contacts with farmers. Traders indicated that often times when cuttings are given out freely they can eventually be used as firewood or left to dry. Due to poor dissemination practice cuttings were not targeting farmers that will fully utilize the cuttings. Traders also noted an increased awareness on CMD resistant varieties from the series of OFV sensitization meetings.

Farmers planting with cuttings through this OFV pilot reported having an increase in germination rates. This is because the vouchers were traded over a 6 week period and beneficiaries only traded for cassava cuttings when they had rains and their lands were prepared. The result was reported increase of germination rates. This is exactly the opposite of the conventional cassava cutting distribution approach where bulk distribution is done without

consultation of farmers and there is often a huge waste of planting materials. REFSO, the implementing partner, also indicated a reduction in transportation costs as farmers sourced the cuttings from the nearby seed sellers and any transport costs incurred were embedded in voucher holders 'cost-share'.

### **Challenges to On-Farm Vouchers (OFV)**

There was lack of experience in dealing with vouchers on vegetative propagated material and this was clear in the pilot use of the on-farm voucher approach to disseminate cassava planting material.

Spatial availability, proximity to the source of planting material, is important because of the bulky nature of cassava planting material and its short shelf life (will dry out if not planted within a short time).

Unit of measure was problematic. Farmers preferred quantifying the cuttings in bags of mini-stems but the size of the bag and the number of mini-stems per bag were points of contention. The unit of measure for trade should be readily measurable and acceptable as a unit of measure for both voucher holders and certified sellers.

An effective market can only be achieved when farmers visit different fields and make choices on prices and quality of the different cassava varieties. The pilot did not have the level of choice, due to limited fields certified, which would have promoted greater price differentiation. Moving forward, C3P target areas in western Kenya need to focus on bulking of CMD resistant varieties so that future OFV experiences can be marked by greater choice.

### **Key Lessons Learned**

- Despite the pilot challenges, On-Farm Vouchers are a preferred dissemination option Both by voucher holders, certified cassava planting material sellers, and local authorities.
- The certification process, the steps taken to validate farmer fields and publicize the information to voucher holders, is critical to starting point to promoting a more market based dissemination process market by choice and price differentiation.
- Success of the OFV approach is dependent upon understanding and strong support of local authorities and representatives of the Ministry of Agriculture.
- Units of measurement for trade must be accepted universally by sellers and buyers.
- M&E accompanying OFV must be oriented to tracking the dissemination and redemption of vouchers and to understanding the reasons why farmers selected certain fields and varieties for purchase.
- OFV approach (due to clear identification of both origin and destination of planting material) promotes the ability of seed aid practitioners to evaluate for the cost effectiveness of cassava multiplication & dissemination and adoption rates.

**Editorial**

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Copy of an On-Farm Voucher Designed for the Pilot



A Voucher beneficiary inspecting a seed sellers field.



Mr. Omollo right after cutting all his cassava expects the crop to coppice and sell in the next season.

