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# AVOCADO VALUE CHAIN: LESSONS LEARNED UNDER KENYA BDS

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# **AVOCADO VALUE CHAIN: LESSONS LEARNED UNDER KENYA BDS**

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## QUESTIONS

### **Your history with KBDS – when & how did your involvement begin?**

IBL started working with Kenya BDS in November 2003 and since then it has successfully implemented the following interventions:

Name of intervention	Period
1. Capacity building of agro chemical stockists	01/12/2003 – 31/08/2004
2. Commercialization of grafting and pruning services – Phase 1	11/04/ 2005 - 10 / 03/ 2006
– Phase 11	11/06/ 2006 – 31/07/2007
3. Commercialization of pest and disease control services	11/04/2005 - 10/03/2006 3/07/2006 - 30/07/2007 /09/2007 - /03/2008
4. Facilitation of Market linkages for avocado farmers	22/10/ 2007 – 22/07/ 2008

## **1.0 Capacity building of agro chemical stockists**

The contract for the capacity building program was signed on 28/11/03 and the period of performance under this contract was 1<sup>st</sup> December 2003 to 31<sup>st</sup> August 2004. The objective of the contract was the implementation of a market facilitation intervention with the objective of increasing commercial access to business services that have been identified by the Kenya BDS program.

The specific objectives of program were to:

To identify and train at least 30 agrochemical stockists, one in every tree-fruit production concentration areas in Central and Eastern provinces, in order to build their capacity to become a business service providers to small scale farmers

To provide information on safe and proper use of agro-chemicals by developing information materials on safe use and application of agrochemicals for increased productivity of tree fruits to be distributed to farmers through affiliated agro-vet stores

To increase availability of agro-chemicals to farmers through access to credit facilities by promoting the development of credit line arrangements with lead agro-chemical distributors for affiliated agro-vets to access and stock all required agro-chemicals for use in tree fruits

To liaise with agrochemical distributors/ manufacturers with a view of looking into the possibilities of packaging agro-chemicals in smaller and more affordable units

To enhance farmers access to un-adulterated agrochemicals by working with leading distributors on an accreditation process and regular auditing for affiliated agro-vet stores to ensure that only genuine agro-chemicals are sold in their stores.

To stimulate the demand for agro-chemicals and advisory services on their safe and proper application by mounting intensive/ extensive awareness campaigns on the safe and proper application of agro-chemicals for increasing the yield and quality of tree-fruit orchards

To design and develop a market responsive monitoring and evaluation (M&E) system that will provide effective feedback to industry players (stockists/ distributors and manufactures) as well as to Kenya BDS

### **Summary of achievements – capacity building of agro chemical stockists**

30 agro chemical stockists were identified and recruited for the capacity building program. Based on identified capacity gaps, training materials were developed and training delivered to selected agro stockists.

Two residential training workshops of 6 days each were held at KARI, Thika on 26<sup>th</sup> –31<sup>st</sup> January and 16<sup>th</sup> – 21<sup>st</sup> February 2004. A senior officer from the ministry of agriculture officially opened the workshops on behalf of the Deputy Director, horticultural division marking the official launch of the capacity building program.

Materials on safe and proper use of agrochemical awareness were developed and distributed to trained stockists. AAK and its members contributed generously by sharing materials they had already developed for their use with the trained stockists.

IBL was able to leverage funds made available by KBDS by mobilizing resources from various stakeholders to finance promotional campaigns.

The trained agrochemical stockists participated in the field day events and were given an opportunity to market their product and services to farmers.

A total of 18 farmers field days were held in Central and Eastern region.

Farmers were trained on safe use and application of agrochemicals during the sessions. A daily Nation Supplement was placed on 13/5/04 and a radio programme on Radio Waumini was also aired on 23/6/04. As a result the trained stockists reported an increase in number of clients seeking advisory services from them.

A strong working relationship and networks were established with all key stakeholders in the tree fruit sub sector namely; Ministry of Agriculture, KEPHIS, AAK, HCDA, KARI, agrochemical manufacturers/distributors, individual stockists as well as small scale farmers.

Almost all the stockists were able to apply some of the lessons learnt during the training workshops.

All the stockists had improved in record keeping, display of their products, marketing skills and their customer service.

60% of the stockists improved their records keeping, 73% started offering free advisory services to farmers and 67% of them reported increases in sales.

Strong relationships and networks were developed with agricultural extension officers who in turn refer farmers to stockists for purchase of farm inputs. The officers also offer support in marketing of services/products offered.

Some stockists have been able to mobilize additional funds both from internal as well as external sources to invest in their businesses.

There has been a general improvement in services offered by all the stockists due to acquired skills.

There is an increase in purchase of protective clothing e.g overalls and masks due to training on safe use and application of agrochemicals both through the stockists as well as through the farmers field days.

20 stockists received one to one onsite training during which their marketing plans were comprehensively reviewed and they got further mentoring and coaching on how to address challenges/ problems facing them

A total of 54,194 farmers received free counseling and advisory services from the month of January and July 2004. The number of customers receiving advice drastically increased in the month of June and July 2004 by approximately 75%. Out of this number approximately 24,916 farmers are involved in fruit tree subsector.

15 of the trained stockists have been able to access credit facilities either from manufacturers, distributors or financial institutions. Those that have managed to access credit from manufacturing companies in terms of stock are 9.

The companies that have provided credit include; Coopers Kenya Ltd, Twiga Chemicals, Murphy Chemicals and Norbrook chemicals. Stockists have accessed credit from the financial institutions which include SMEP, Ukulima SACCO, Faulu, Murata SACCO and Co-operative Bank of Kenya.

More agro stockists were able to acquire the statutory business licenses. Three of them acquired KEPHIS licence; one acquired Kenya seeds certificate whereas three of them were able to fulfill expected requirements for accreditation and acquired PCPB licenses.

The stockists choose representatives who represented them in a meeting with AAK secretariat and discussed the following problems facing them in that meeting.

Role of stockists should be defined at policy level.

The role of distributors versus those of stockists should be clearly defined.

Promotional materials given out by the manufacturers should target the stockists.

Issue of too many licenses such as PCPB, KEPHIS, AAK, Kenya Veterinary Board and local authorities all targeted to one stockist.

The trained stockists were each issued with 2 certificates at the end of the review workshop. One from IBL acknowledging their participation in the capacity building program. The other one was from AAK in collaboration with PCPB acknowledging the stockists for taking training on safe use and application of agro chemicals.

## **1. Capacity building of agro chemical stockists**

Most farmers lack information and skills on safe use and application of agrochemicals.

To curb the problems of sale of fake and adulterated chemicals, the laid down rules and regulations on agrochemicals should be enforced.

It is important to build the capacity of agrochemical stockists through training. This can be done through seminars and workshops to equip them with skills and ability to offer business advisory services to farmers.

Manufacturers, distributors and stockists should then work together to educate and train farmers who are the end users of the products.

There's need to harmonize and moderate the operations in the agrochemical industry to prevent adulteration of agrochemicals and unfair competition posed by some of the key players in the industry.

For the stockists to be protected by the law they should have all the required licenses and be accredited. However, those issuing such licenses such as AAK, PCPB, KEPHIS and county council should review them so as to reduce the costs involved in acquiring multiple licenses.

PCPB should play a more active role in curbing the problem of fake/ adulterated chemicals. There's need for them to employ more inspectors on the ground to visit the stockists in their shops. They should also visit the other general shops to find out if they also stock agro chemicals. Penalties given to those who break the law should be severe.

### **Where do you see further cooperation directed/targeted?**

Farmer field days should then be intensified in order to promote safe use and application of agrochemicals among small-scale farmers.

Different stakeholders should be encouraged to participate in the event and disseminate information to farmers on how to use the different products and services on offer.

Those operating agro chemical shops and their employees should be well trained on safe use and application of agrochemicals.

Farmers should be educated and trained on the opportunities available and the potential that is there in horticultural farming with special emphasis on fruit farming. They should be trained to view fruit farming as a business. They should also be trained on the importance of addressing quality in fruit production. This will boost the growth of the small-scale farmers as well as that of the agrochemical industry.

Besides training, farmers should be assisted in marketing their products. If there is an established marketing channel, it will also facilitate farmers to get credit from banks/ micro financial institutions to buy farm inputs and agro chemicals at the right time. This will boost quality production of fruits and attract better prices both in the local and international market.

## 2. COMMERCIALISATION OF GRAFTING AND PRUNING SERVICES AMONG AVOCADO AND MANGO FARMERS IN THIKA, MARAGUA AND MAKUENI DISTRICT

### Objectives of the program

The objective was to develop a market for commercial provision of grafting and pruning services to avocado and mango farmers in Thika, Maragua and Makueni districts for the purpose of improving the incomes of farmers from their orchards.

### Specific objectives

Identify and develop commercial providers of grafting and pruning services

Formulate and implement a sustainable strategy for accessibility of healthy scion materials among service providers.

Awareness creation among farmers on the need for grafting and pruning services

Develop and implement a market driven pilot program for rehabilitation of old trees to create a demonstration effect among farmers of the importance of grafting services

Continuous monitoring of program activities

The following is an overview of achievements made through the program:-

Performance indicators	Expected results	Achieved results	% Achieved
Total number of MSEs accessing commercial business services	10,000	8,314	83%
Total number of business service providers participating in the program			
Old	27	26	96%

New	35	34	97%
Number of commercial nurseries	20	20	100%
Number of farms certified for supply of scion materials	20	20	100%
Total number of MSEs aware of program assisted businesses	20,000	17,340	87%
Number of women SPs (30%)	13	9	69%
Sales generated by 62 service providers from service provision	Ksh 7.7m	5,775,000	75%
Number of women MSEs reached with services (30%)	3,300	3,123	95%
Commercialization of program; rate of operational (field level) cost recovery	100%	100%	100%
Number of trees rehabilitated			
Avocado	25,000	36,920	148%
Mango	15,000	28,550	190%

### Lessons Learnt

The grafting and pruning program have proved that commercialization of agricultural services can be achieved thus creating employment opportunities for young people in the rural areas.

With adequate information and support entrepreneurs can be made and they do not have to be born. Further, it has demonstrated that entrepreneurship holds the key to economic growth and individuals are capable of generating wealth regardless of their social environments and formal education status.

Young people can achieve sustainable livelihoods even in the rural areas and that jobs and income are not only found in the urban centres. Thus, identifying opportunities in the agriculture sector can be used as a strategy to curb rural urban migration. This is well demonstrated by the growing demand for grafting and pruning services in the community and that has led some of the SP's to engage and train assistants so that they can also offer services to farmers.

Farmers will invest in farming as a business but only if there is a guaranteed market for their produce and a guaranteed minimum price. Consequently, marketing challenges must be addressed and formal market linkages created in order for farmers to appreciate why they should incur costs to improve the quality of their produce.

The development and growth of SP's as business people is a proof that commercialisation of grafting and pruning services was a success. The SP's not only have the income from the services but have also used their income to come up with other enterprises to supplement their incomes.

However, to enhance their business growth and development, the SP's may need further training to upgrade their skills on business growth and development to remain competitive in the market.

For SP businesses to grow they realised they had to hire assistants which they have to continuously invest in capacity building of the staff in order to meet growing demand from informed farmers. The SP's must then work out ways to retain good workers as demand for services increases.

Networking is very important in creating awareness about new services and products offered by the different stakeholders. The SP's had to work in collaboration with the MOA and other stakeholders to promote their services. This was done through the SP associations and therefore it became important to strengthen the associations to be recognized as an important entity in the agricultural sector.

The services offered by SP's must also remain competitive over time failing which they will be pushed out of the market.

The marketing problems faced by farmers affect the demand of SP's services and hence their business. For sustainability, strategies should be employed to empower farmers with market information to be able to tackle challenges in marketing at all times.

Promotion and marketing of SP's should be done widely to ensure that many farmers are informed on the importance of grafting and pruning and the need to produce high quality crops/fruits considering both the local and international markets if fruit farming is to succeed as business.

Farmers need to be educated on market requirements to ensure they sell their produce in profitable markets to get incomes that can motivate them to do farming as a business. This will solve the problems of farmers engaging services from unqualified service providers who may affect both the quality and quantity of their produce.

To ensure sustainability of SP's offering quality services and adhering to ethics and strict code of conduct, close and strict supervision of the project should be maintained until the SPs capacity is fully developed.

The diversification of services offered by SP's was a major aspect that helped solve their cash flow problems and ensured they kept their business running most days in the year.

Further training of SP's in other areas in the tree fruit sector made them a one stop shop for services needed by fruit farmers. The SPs both from Maragua and Makueni were trained on:

Nursery management

Marketing issues regarding mangoes and avocados

Communication skills to be able to handle clients

Agrochemical services to fight diseases and pests

Integrated methods of disease and pest control

The training enhanced SPs efficiency and effectiveness in delivery of services to farmers.

The provision of other services supplemented their income and they are able to make money through out the fruits development cycle.

SP's must continuously adapt new technologies to meet the changing needs of farmers and the target market. They must also acquire current information pertaining to the target market to be able to guide farmers on all production aspects. This will enhance their business growth even in future.

### **Where do you see further cooperation directed/targeted?**

Agricultural extension services in the tree fruit sub sector can be availed to farmers commercially by building the capacity of local service providers who must be trained in both technical and business skills. Different stakeholders in any sub sector should be involved during capacity development so that the SPs are marketed and their work appreciated by many.

Demonstrations are important if farmers are to appreciate any new technology regarding crop production. The forums are educative and more informative and should be encouraged.

Field days and exchange visits had good impact and farmers took up ideas very fast after they learnt from their fellow farmers. There is need for more of these

Development and production of promotional materials is very important in disseminating information to farmers. It's important for stakeholders to come up with information simplified to suit the farmer's needs.

### 3. COMMERCIALISATION OF AGROCHEMICAL SERVICES AMONG AVOCADO FARMERS UNDER KBDS PROGRAMS

#### Objectives

1 Coordination of financing arrangements for spraying services

Agreement with Equity Bank on all details of the agrochemical loan to farmers:

Field sensitization meetings:

Development of documents related to loan application and repayment:

Coordination of loan application process by farmers:

Arrangement and acquisition of IBL loan for upfront financing of spraying:

2 Capacity developments of Service Providers

3 Direct management of provision of agrochemical spray services.

Identification, hiring and furnishing of agrochemical stores:

Procurement of required equipment, agrochemicals and other necessary supplies:

Continuous oversight of spraying activity:

Regular field scouting to review agrochemical spraying needs:

4 Monitoring and evaluation

The results achieved from implementation of the above activities are as follows: -

Performance indicators	Target	Results achieved	% achieved
Number of farmers accessing commercial agrochemical spray services	6000	740	12%
Total number of service providers providing commercial spraying services.	63	24	38%

Total number of MSE's aware of program assisted business services	7,000	4,469	63%
Total number of avocado trees sprayed	40,000	6,699	16%
Number of spray cycles done per tree per year	4	1-4,550 2-1,881 3-268	
Number of field days and barazas held to educate farmers	10	10	100%
Resource materials / guide packs for SPs and supervisors	63	63	100%
Number of stores inspected and certified by PCPB	10	0	
Accreditation of Ideal Matunda Limited	15 Jan 2008		

## CHALLENGES FACED

The low demand for spraying services is a major threat to the sustainability of the agro chemical spraying services. The low demand for services can be attributed to failure by the avocado program to generate the returns expected by farmers. The farmers joined the program with high hopes of making money, but their hopes have been dashed by challenges experienced over the years e.g. incidence of pests and diseases, poor coordination of picking and collection activities, and delays in payment for delivered fruits. The result is that whereas group cohesion was expected to have been achieved by now, in reality many groups have disintegrated, some have opted out of the program and many of the remaining groups are still very weak. This makes it very costly to do business with the groups and sustainability cannot be achieved without further investment in development of the groups in terms of farmer education and aggressive marketing of the spraying program.

Perceived high cost of the spraying services. There was a significant increase in spraying services from Ksh 25/ per tree in 2006 to Ksh 40/ per tree in 2007 due to increase in global prices of agrochemicals. In 2006, farmers paid a subsidized rate of Ksh 15/ whereas the balance of Ksh 10/ was funded by Kenya BDS whereas there was no subsidy in 2007.

Farmers have complained of fruit pricing saying it has not changed since the programme started back in the year 2003. The cost of farm inputs has gone high but the income has not improved. This means there is no reward for investment in quality improvement which discourages further investment in the avocado orchards.

Due outbreak of cercospora during the 2006 season, most farmers were not prepared to spray their orchards the 2007 season. This has been attributed to the heavy losses most farmers encountered for varying reasons including:

Non collection of fruits;

Collected and unpaid for fruits;

Over deduction on loans;

and failure to respond effectively to the disease outbreak

### **Lessons learnt**

Group mobilization should have taken place earlier so that the contracts (service, marketing and supply), are signed by at least early in August. This would have facilitated timely commencement of spraying services and enhanced earnings by IML on spray services

Despite the challenges faced, farmers are positive and are willing to do what it takes to improve quality of their avocado in order to access the export market. During a meeting with Mr. Marshall Farmers reported that through the KBDS program they have been empowered. Organization of farmers into groups through the program weakened the brokers and forced them to buy fruits at better prices than they did before the program. They reported a lot of fruits used to go to waste before and they do appreciate the benefits though there is need to do more.

The farmers in EAG export program area appreciate the changes in the program that have seen them participate in developing the service and market linkage contracts. Farmers were also given a chance to discuss the supply Contract with EAG. Though the pace has been slow in putting issues together they anticipate better results for this season.

Groups require intensive training on issues of group management and record keeping to reduce conflict resulting from payment reconciliation

For spraying services to be delivered effectively, farmers need access to finances at the right time to ensure that services are given promptly. It has been noted agro chemical loan is important as it is difficult for all group members to mobilize cash at the same time

#### **4. AVOCADO MARKET LINKAGE INTERVENTION PROGRAM**

##### **OBJECTIVES**

1: Group consolidation, strengthening and management:

Review group management policies and procedures:

Rapid assessment and re-organization of existing groups:

Program expansion to reach optimal staff workloads.

Further strengthening of groups.

Setting of production performance targets:

Coordination of accessibility of necessary farm inputs to farmers:

Ongoing coordination for enforcement of developed/agreed structures, systems and targets:

2: Facilitate Negotiations and signing of contractual agreements.

Supply contracts between farmers and the exporter.

Service contracts between IML and Farmer groups.

Service contract between IML and the exporter, EAGA developed.

3: Develop the capacity of IML to undertake Market linkage Function

Coordination of effective farmer-exporter communication of fruit collection and payments.

Coordination of fruit picking and grading.

Coordination of fruit payment.

4: Provide regular monitoring of field programs and reporting to Kenya BDS

The following is a summary of the performance indicators for quarter of January 2008 to March 2008,

Program Indicators	Targets	Current Status
Total number of MSEs accessing commercial business services	1,800	1240 ( 69% )
Number of groups	60	57 ( 95% )
Total number of commercial service providers participating in the program:	4	4 (100%)
Group management service providers	63	24 (38%)
Agrochemical spray service providers		
Fruit pickers/graders		
Total number of MSEs aware of program assisted business service	5,000	3,366 (67%)
Number of women participating in program (30%)	600	340 (57%)
Commercialization of program: rate of operational (field level) cost recovery	30%	
Number of trees under program:	20,000	14,599 (73%)
Number of boxes of grade 1 fruit sold under program	200,000	5,785 (2.8%)
Value of fruits sold under program (Kshs)	10 million	336,056 (3%)
Value of sales by IML through linkages (Kshs)	1.5million	45,413 (3%)
Process deliverables		
Revised supply contract in place between farmers and EAGA – for all groups	Dec. 2007	39
Service agreement/contract in place between farmers and IML – all groups	Dec. 2007	39
Service agreement/contract in place between IML and EAGA	Oct. 2007	1

### Challenges and Lessons learnt

Financial arrangements for agrochemical loans from Equity bank are yet to fully benefit the farmers as they struggle in their efforts to improve quality. This can be attributed to the following:-

Time is required for the group to apply the loans and complete the necessary documentation for loans to be approved and disbursed.

Due to the low literacy levels among groups, the process takes too long.

Further delays are caused by failure to have the supply between the farmers and the exporter signed early enough and yet they form the collateral for the agro chemical loans.

The result is that spraying services never commence early enough to coincide with flower onset to protect the avocado crop. This leads to flower drop and also pest and disease infestation during the early stages of fruit development. It is imperative to support farmers to mobilize financial resources for purchase of required inputs for avocado production early enough if a good quality crop is to be realized.

Farmers need financial education for them to appreciate the benefits of the avocado loan products so that they can take advantage of the opportunity that they have.

Most of the farmers have not benefited from the overdraft facility due to fear of bank loans and those who opted to pay cash were running away from Bank loans.

Unfortunately accumulating cash to pay for services promptly was a big problem and many farmers did not adhere to the recommended spraying regime.

The consequences have been costly as heavy flower drop was experienced in October 2007 after the onset of the short rains and the crop was attacked by incidence of pests and diseases since it was not protected. The result is that the projected export fruit quantities for the quarter were not realized due to poor quality of the crop. The effect of spraying was well demonstrated during harvesting as those who had sprayed at least three times had fewer problems during grading and they had less rejects.

Fruits are quite sensitive to weather / climate change. Though the fruits were very clean during the month of December the rains experienced in early January had an adverse effect on fruits development. Fruits that were expected to mature by mid February were mature and ready for sale by January. Disease infection was also noted especially on the mature fruits. The rains were experienced at the start of the quarter and in the month of February and March trees were experiencing water stress thus affecting the rate at which the fruits were maturing. During the month of March longer intervals between picking dates were required to allow the fruits to mature.

Farmers take time to make decisions required during the crop production.

The failure to make prompt decisions coupled with the logistics involved in service delivery always delay immediate action that ought to be taken to counter disease or pest attacks. This is big problem especially when decisions must be made at group level where different personalities are involved.

More farmer education is required for them to appreciate the need for timely decisions and actions during the avocado production season in order to maximize expected output.

Although farmers understand the benefits of selling through the groups there are incidences where some farmers within the group sell fruits to brokers to sort out immediate needs.

It is therefore important to come up with a strategy to address the immediate demand for cash as this is one of the key loop holes that is exploited by brokers who pay cash for the fruits.

Although the exporter had promised to be paying for fruits delivered after two weeks this has not been adhered to and lengthy delays are experienced at times leading to dissatisfaction among farmers in groups.

Although farmers are eager to know the fruit prices it has been noted they are slow in computing the margins between the outputs and the inputs. They are also quick to raise issues of high cost of agrochemicals but analysis of the cost of production is taken with a lot of suspicion. This is one of the major hindrances in trying to achieve the quality standards.

Theft of avocado fruit has been noted to be on the increase and farmers with clean fruits are the target. It was reported that pickers in Gatanga area were colluding with some family members to pick fruits from orchards belonging to farmers in the groups to sell to brokers.

Thus there is need to ensure that fruits harvesting is well supervised to avoid the problem.

Exporters must offer a competitive price to farmers within the program failing which will farmers will sell to more competitive buyers.

For sustainability to be achieved, the market linkage firms will have to scale up operations and market other crops as well in order to increase their revenue base

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