

CROP PROTECTION PROGRAMME

Development of Private Sector Service Providers for the Horticultural Industry in Kenya

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FINAL TECHNICAL REPORT

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International Centre of Insect Physiology and Ecology (ICIPE)

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Executive Summary

Smallholder participation in the Kenya horticulture export industry is threatened by a lack of efficient extension services. To ensure continued participation of smallholder producers in the sub-sector, a pilot study to establish private service providers for advice, input supply and plant protection through hands-on training of service providers that can prepare and ensure that farmers can comply with new rules and regulations, was conducted between April 2003 and March 2005. Fifteen private service providers graduated from the training. These are either self employed or working with fresh produce export companies to prepare small-scale producers for EUREPGAP certification.

The private service providers and farmer were trained in integrated pest management, which is a strategy to reduce pesticide usage and improve produce quality, food safety, human and environmental health. The training created awareness and facilitated some outgrowers groups to comply with market requirements.

Awareness about the effects of the supply chain requirements e.g. EUREPGAP, and access to the export markets by small scale producers, for a wide range of stakeholders at national and international policy level was created. Some standard setters and donor agencies have recognised the fact that small-scale producers are at risk of being excluded from the export markets due to stringent food requirements. As a result some policy changes have already taken place:

- EUREPGAP is committed to assist Kenya develop “Kenya-GAP” benchmarked on the EUREPGAP standard, to make the standard end- users friendly
- Kenya will have a representative at the EUREPGAP committee
- DFID is committed to co-finance the field-testing of the “EUREPGAP Smallholder Quality Manual” in collaboration with GTZ. This will be a starting point for Kenya to create own quality manual by adopting contents according to local production situation in a view to prepare farmers for EUREPGAP certification.
- Some fresh produce export companies are working with outgrowers groups to meet the EUREPGAP standard
- The Ministry of Agriculture, Horticulture Department, has commissioned a review of the JICA/MOA EUREPGAP Kenya training programme

At producer level, farmers are informed about the EUREPGAP standard. The majority are in the process of implementing some of the requirements. To date, only one group is fully EUREPGAP certified, while three more are in the final stages of being certified.

Background

Increased intensity both in local market production and even more so in export-oriented systems, has led to a chemical spiral with rising production costs and decreasing productivity. This is associated with a high risk to human health, especially for farm labourers, many of them women and children, and environmental pollution. The horticultural export industry in Kenya and East Africa at large has faced increasing difficulties complying with the ever more demanding requirements of their European markets. An efficient extension service to create awareness among smallholder farmers about health and environmental risks, market demands and how to comply with these is not in place anywhere in the region. In consequence, many smallholder farmers are exposed to the risks of excessive pesticide use, and in the case of export producers, are being squeezed out of the industry. Furthermore, many of the established horticultural exporters in Kenya are overburdened by providing the basic necessary services to keep their outgrowers in production. Some of the exporters are already trying to set-up private service providers but admittedly; they lack the know-how of setting up viable business models for private service providers as was done in this pilot project.

Pest management in horticultural crops, an integrated approach to vegetable pest management with the aim of reducing reliance on pesticides in Kenya' (R7403; ZA0300) was aimed mainly at farmers producing vegetables for the local market. During the early phases (R6146 and R6616), key pest constraints affecting peri-urban vegetables were identified through extensive on-farm surveys. A diversity of natural enemies was observed, particularly on organic farms, but abundance was shown to vary according to pesticide regime. A parallel survey of pesticide use by farmers also revealed that application methods were often imprecise and occasionally unsafe. Research activities were thus focussed on identification of selective pesticides and improving the efficiency of pesticide application.

Within the CPP, a cluster of projects based in Kenya have been aimed at reducing reliance on pesticides and finding alternative pest management strategies in vegetable crops that are environmentally friendly and affordable. The ICIPE horticulture programme has also developed IPM options for French beans, tomatoes, brassicas and okra production for Kenya (Seif, *et al.*, 2001, Varela *et al* 2003a & b, Varela *et al*, 2004). All these needed to be appropriately disseminated to end users, particularly smallholder producers.

ICIPE has been developing biologically intensive IPM approaches for management of important pests of horticultural crops such as the diamondback moth (DBM) in crucifers (Lohr and Kfir, 2003), red spider mites on tomatoes (Knapp, Wagener & Navajas, 2003; Knapp & Kashenge, 2003; Knapp & Mugada, 2003; Sarr *et al.*, 2002; Saunyama & Knapp, 2003).

Furthermore, ICIPE has vast experience in organizing and conducting training of trainers (ToTs) courses for the horticultural export industry. Under the GTZ/ICIPE horticulture project, 15 extension staff under the Ministry of Agriculture, in Central and Eastern provinces, were given a hands-on training in French bean production IPM to assist smallholders improve the quality and quantity of their produce. In 2002, the horticulture programme organized and conducted on-farm IPM and personal hygiene course for Indu-Farm Ltd outgrowers to prepare the growers to meet the current EU market quality demands. The ICIPE/USAID project on "preparing smallholder export vegetable growers for compliance with EU regulations on pesticide MRLs and hygiene standards" trained 22 extension staff from various institutions (MoA extension department (6), Sunripe (2), East African Growers (3), HCDA (3), Winrock International (2), KIOF (1), Reach the Children (1), Mboga Tuu Ltd (1), Vegpro (K) Ltd (1) and Kerio Green (1). The course graduates trained farmer groups and outgrowers for export companies in Meru, Kitale, Mwea, Nyeri, Machakos, Naivasha, Keiyo district, Nakuru, Maragua, Loitokitok, Masinga, Kibwezi, Mtito Andei, Matuu and Kiserian with technical support from the ICIPE horticulture programme.

The pilot phase gave priority to the promotion of the validated technologies and associated knowledge generated so that they will be available to target groups. One important target group is the tens of thousands of farmers and workers involved in the horticultural industry in

Kenya, and specifically the smallholders, who are involved as out-growers for export companies.

The promotion of validated technologies was complemented with training in business management and extension skills to prepare the training in business venture.

The Kenya fresh produce export is basically private sector driven, and therefore, knowledge on marketing and quality control is in the domain of the export companies. It was therefore inevitable to consult reputable Kenya horticultural exporters for information on how best to organise and formulate the training curriculum to address issues pertaining to the sub-sector.

This project was a pilot in the direction of privatisation of government services in Africa and was therefore a learning platform. In Kenya, the proposal was in line with the NALEP Implementation Framework (MOARD, 2001) which supports the National Agricultural Extension Policy (NAEP). The NAEP is in conformity with the recommendations of the Poverty Reduction Strategy Paper (PRSP) that supports the principle objectives and components of the Kenya Rural Development Strategy Framework. Lessons from this pilot will lead to a much broader privatisation move in areas where private sources of payment for service, like in horticulture, are available.

Selected references

Anon, (2001). National Agriculture and Livestock Extension Programme (NALEP) Implementation Framework, *Ministry of Agriculture and Rural Development, Republic of Kenya, December 2001.*

Knapp M., B. Wagener, M. Navajas 2003: Molecular discrimination between the spider mite *Tetranychus evansi* Baker & Prichard, an important pest of tomatoes in southern Africa, and the closely related species *T. urticae* Koch (Acarina: Tetranychidae). *African Entomology*, 11, 300-04

Knapp, M., S.S. Kashenge 2003: Effects of different neem formulations on the two-spotted spider mite (*Tetranychus urticae* Koch) on tomatoes (*Lycopersicon esculentum* Mill.). *Insect Science and its Application* 23, 1-7

Knapp, M., D.A. Mugada, S.G. Agong 2003: Screening tomato (*Lycopersicon esculentum* Mill.) accessions for resistance to the two-spotted spidermite *Tetranychus urticae* Koch: population growth studies. *Insect Science and its Application* 23, 15-19

Löhr, B.; Kfir, R. (2003) The diamondback moth, *Plutella xylostella* L. in Africa: a review with emphasis on biological control. In *Proc. International Symposium Improving Biocontrol of Plutella xylostella*. 21-24th October 2002, Montpellier, France.

Sarr, I. M. Knapp, C. K. P. O. Ogol, J. Baumgärtner 2002: Observations on predators of *Tetranychus evansi* Baker and Pritchard populations and on spider mite damage in Kenyan field tomatoes (*Lycopersicon esculentum* Mill.). In *Proceedings Integrated Pest Management Conference*, 8-12th September 2002, Kampala, Uganda.

Saunyama, I.G.M., M. Knapp 2003: The effects of pruning and trellising of tomatoes (*Lycopersicon esculentum* Mill.) on red spider mite (*Tetranychus evansi* Baker & Pritchard) incidence and crop yield in Zimbabwe. *African Crop Science Journal* 11, 269-277.

Seif, A., Varela, A.M. Michalik, S. and Löhr, B. (2001). A guide to IPM in French beans production with emphasis on Kenya. *ICIPE Science Press (publication) Nairobi-Kenya*

Varela, A. M., Seif, A and Lohr, B. (2003) a. A guide to IPM in tomato production in Eastern and Southern Africa. *ICIPE Science Press (publication) Nairobi-Kenya*

Varela, A. M., Seif, A and Lohr, B. (2003) b. A guide to IPM in brassicas production in Eastern and Southern Africa. *ICIPE Science Press (publication) Nairobi-Kenya*

Varela, A. M., and Seif, A (2004). A guide to IPM and hygiene standards in okra production in Kenya. *ICIPE Science Press (publication) Nairobi-Kenya*

Project Purpose

To develop and promote small private businesses as service providers for advice, input supply and plant protection services for horticultural production so as to facilitate dissemination of new technology, know-how and information closer to users, and, to demonstrate the viability of private service providers as an alternative to inefficient government service.

This will contribute towards poverty reduction by ensuring continued participation of the many smallholder horticultural producers and workers involved in the export industry in Kenya.

Research Activities

OUTPUT 1: Business models for private service providers for horticultural producers developed.

Activities

- 1.1 Discuss with key export companies' current relationships with outgrowers
- 1.2 Identify possible viable business models for service providers
- 1.3 Assess advantages and disadvantages of different suggested models
- 1.4 Formulate selection criteria for trainees (future service providers)
- 1.5 Select candidates for training as private service provider
- 1.6 Identify key export companies to cooperate with the Project
- 1.7 Select pilot areas and farmer groups

The business models had to address areas where the current situation is unsatisfactory. They therefore had to be designed in a way that will lead to an improvement. Essentially, they had to cover aspects of input supply (principally seed, fertiliser and pesticides), plant protection services and advice. In plant protection, the models were intended to bring about a reduction in the amounts and frequency of pesticides applied through use of crop scouting and intervention thresholds, and, a change to pesticides that ensure compliance with MRL regulation and the EUREPGAP protocols. The service providers would also have to take care of the establishment and management of traceability systems in cooperation with fresh produce export companies and outgrower farmer groups so as to facilitate EUREPGAP certification.

The process of business model development relied on information generated about current practices and possible improvements. These involved discussions with fresh produce export companies, FPEAK, HCDA, Ministry of Agriculture (horticulture department) and outgrowers farmer groups, to identify areas for intervention of the service providers and guide the business model development process.

The Kenya fresh produce export is basically private sector driven, and therefore, knowledge on marketing and quality control is in the domain of the export companies. It was therefore inevitable to consult reputable institutions such as Kenya Horticultural Exporters and FPEAK for information on how best to formulate the business models.

To initiate and establish dialogue with exporters, appointments through telephoning followed by visits to potential exporters were done. A one-day meeting for all willing exporters to brainstorm on the exporters' current relationships with outgrowers groups, and, to solicit for their collaboration and input in the project implementation was organised.

The input of InduFarm (K) Ltd, FPEAK, East African Growers (EAGA) Ltd, Kenya Horticulture Exporters (KHE) Ltd, Greenlands Agroproducers Ltd, and Myner Exporters Ltd in this respect was invaluable. The exporters also provided the project coordination with names, locations and contacts for their outgrower farmer groups. This information was used as a basis for selection of pilot areas and farmer groups and for planning the baseline study.

The process of selecting candidates for training involved putting in an advertisement in one of the local newspapers and short-listing. The collaborating export companies were requested to nominate one staff member (with the qualifications as agreed on).

OUTPUT 2: Training programme developed

Activities

- 2.1 Identify important know-how to be imparted on trainees
- 2.2 Develop curriculum according to the main export crops grown in the outgrower groups
- 2.3 Plan hands-on practical training
- 2.4 Conduct training course
- 2.5 Evaluate performance and skills of trainees

- 2.6 Organize and conduct refresher course for the trainees
- 2.7 Re-evaluate performance and skill of trainees

The knowledge gap (technical know-how) at the producer level, to be improved by the private service providers upon graduation from the planned training, was identified from the results of a baseline study conducted in October 2003 (Nyambo, Maundu, Gatama and Macharia, 2003), and complemented the discussions held with the fresh produce export companies and the long-term experience of ICIPE and CPP in the horticultural industry in Kenya.

The baseline study results indicated that the majority of the outgrowers' farmers groups and export companies were growing French beans for the export market. For this reason, French beans were selected as the entry point upon which the training curriculum was based. However, this did not mean that other vegetable crops grown in association with French beans for the domestic and export market were not included in the curriculum. In retrospect, the curriculum focused on French bean production systems. Based on the identified training needs, a training programme was developed (Table 2).

The course covered extension communication skills and working with farmer groups, integrated pest management (IPM), safe and effective use of pesticides, good agricultural practices (GAP) for fresh produce, pre and post harvest hygiene, business management, quality management systems (QMS), documentation for traceability and internal control systems.

The training was jointly planned with the fresh produce export companies as indicated above in collaboration with ICIPE, WinRock International, NRI Greenwich University. EUREPGAP FoodPLUS GmbH was invited to facilitate training on implementation of the Standard; The House of Quality (South Africa) was invited to train on QMS internal auditing. The input of EUREPGAP and House of Quality was done in close collaboration with AfriCert Limited, a local certification body, with funding from the Business Services Marketing Development Project (BSMDP) – a project funded by DFID.

An internal evaluation of the performance and skills of the trainees was conducted by the trainers in April 2004. The reason for the assessment was to find out (by studying the trainees dealing with farmers) what progress has been made in (i) the technical competence of the advice given (ii) raising compliant production standards and general agronomy (iii) the relationships established with contact farmers. The assessment of the progress made together with discussions with the trainees formed the contents of the refresher course planned for May 2004 and August 2004.

The performance of the trainees was constantly being assessed, notably during the technical support visits. In addition, demand driven technical support as opposed to the scheduled visits, was introduced from August 2004 to February 2005 to give the participants a chance to get attention for burning issues. Furthermore, technical support in the form of internal auditing for the QMS at group and individual farmer levels could be accessed from the coordination office.

OUTPUT 3: Private service providers established

Activities

- 3.1 Prepare the outgrowers' groups for service providers
- 3.2 Collect baseline data for identified outgrowers' groups
- 3.3 Develop a business plan for the service providers
- 3.4 Sign contract and release the working capital to qualified trainees
- 3.5 Set up backstopping programme for service providers

- 3.6 Conduct bi-monthly assessment of the performance of service providers
- 3.7 Assess impact of service providers on outgrowers' group performance

The exporters also provided the project coordination with names and contacts for their outgrower farmer groups for the baseline study. A baseline study of outgrowers groups was conducted in October 2003 (Nyambo, *et al.*, 2003). The study covered 17 groups in Central and Eastern provinces (Table 1). These groups were later used in the pilot phase for trainees' attachment. The baseline study served several purposes (1) to collect baseline information on knowledge, attitude and practices on the production and marketing of fresh vegetables for export (2) sensitisation of the growers about the planned training of private extension service providers and (3) soliciting for their collaboration in the training programme in terms of supporting or taking on students on attachment. For these reasons, only those groups who consented to support the training programme were short listed as training partners and pilot sites.

The results from the baseline study and the discussions with other stakeholders were integrated in the formulation of the business models, the selection criteria for private service provider candidates and also the pilot areas and farmer groups.

Development of the business plan for the trainees was a process that combined tools to assess (1) the overall competence of the trainee in terms of business management (2) how to present a convincing case in order to get funds from other financiers after the demise of the project (3) identify issues for further training and (4) to justify getting a loan from the project. The outgrowers' farmer groups are essentially business units, which have to be well managed if the members are to compensate the service provider. Integrated in the project model is the fact that, the produce buyer or export company, has to be an integral part of the business plan for the private service provider to sustain the services. The trainees were thus advised to prepare business plans as private service extension providers for outgrower farmer groups, which were submitted to the project coordinator in March 2004, after five months of training. These were analysed by a consultant. Several criteria were used in deciding on who should get how much (1) the clear understanding of the business in which the trainee intended to invest (2) whether it makes business sense to do so at the time (3) expected returns from the business in the short term and (4) whether it is convincing to the consultant that it could be done. The results were combined with information collected from each participant during technical support visits. Funds (soft loan) were then released based on the recommendation of the consultant in May 2004. Since this was a training facility, it was essential to formulate a 'loan contract' for each individual with a timeframe to service it.

The results of the analysis were used for further training of the participants in the refresher courses and during technical backstopping.

To improve awareness about GAP in the context of new food standards e.g. the EU MRLs and the EUREPGAP protocols and the role and significance of the private service providers for the export horticulture industry, an awareness campaign, that used peer reviewed radio and TV programmes, was carried out in July-November 2004 with funding from the Business Services Market Development Project (BSMDP) (Anon, 2005).

The impact of the service providers on the outgrowers' groups' performance would be measured in terms of preparedness and/or compliance to the EU MRLs and EUREPGAP protocols. This was constantly being reviewed, through planned internal and third party auditing of the outgrowers' groups in close collaboration with AfriCert Limited, a local EUREPGAP accredited certification body.

OUTPUT 4: Recommendations for policy amendment formulated

Activities

4.1 Discuss the results of the impact assessment with outgrowers groups, exporters, and other groups interested in private service providers

4.2 Write policy recommendations based on the experience of the Project

The results of the evaluation of the private service providers and their impact on the farmers and outgrowers' groups were shared with the outgrowers' groups (those supporting students on attachment), respective export companies and other interested stakeholders [BSMDP, Africert, Pride Africa (Drumnet), MoA, HCDA, FPEAK, PCPB- Kenya]. In addition, the information was publicly discussed in a live TV show ("in the Hot Seat Programme") at KBC in August 2004 and in live radio programmes (KBC Kiswahili Services) between August and November 2004. At the international level, presentations were made to the UK Food Standard on 12th December," the AAB Centennial conference on Advances in applied biology: providing new opportunities for consumers and producers in the 21st century", 15-17th December 2004, St Catherine's college, Oxford UK and at the workshop on "Effective communication between agricultural research, extension and farmers" 18th to 22nd October 2004, Bolzano, Italy. Other venues included radio and journal interviews with the Wren Media in August 2004 and Africa Farming Magazine on 12th December 2004.

Outputs

All the anticipated results were achieved.

OUTPUT 1: Business models for private service providers for horticultural producers developed.

Business models

Five possible alternatives were identified and discussed

Agrovets-based

Agrovets are input suppliers and target production. They are likely to over emphasize volume sold at the expense of information services. This will defeat the project purpose i.e. to promote IPM, GAP and reduction in production costs, notably excessive use of pesticides.

Farmer group representatives

This may promote group ownership but likely to be unsustainable where services are only limited to group members

Independent individuals

Only those with real interest and capability should be trained

Individuals already under contract with reliable exporters

There is a need to give such individuals the required know-how for them to become efficient service providers. This was seen as the springboard for the whole idea. It was therefore suggested that other reputable exporters be contacted

A combination of all above

This will provide the learning ground. The idea to promote private service providers to the industry is new and there is a lot to be learned.

Selection criteria for trainees

After a long hot discussion with the fresh produce export sub-sector stakeholders, it was recommended that, candidates for training as private service providers for the horticulture industry in Kenya should have the following qualifications:

- Able to work with minimum supervision
- Be a team player
- Good communicator
- Able to write in proper technical English language
- Have a BSC in horticulture or agricultural economics

- Must have rural orientation
- Must be fluent in Kiswahili and one local language (from the key horticultural producing areas)
- Must have experience with small-scale horticultural producers and/or exporters
- Have an interest in self-employment
- Upper limit 30 years

Selection of candidates for training as private service providers

To get candidates for the proposed training, the course was advertised in the local dailies. There were 254 respondents out of which 15 were short-listed. Each of the collaborating export companies [Kenya Horticultural Exporters (KHE), East African Growers Association (EAGA), Myner Exporters Ltd and Greenlands Agroproducers Ltd] nominated one member of their field staff to participate in the course, this giving a total of 19 trainees.

Key export companies collaborating with the project

Only four reputable export companies were willing to collaborate with the project. These are the Kenya Horticultural Exporters Ltd, East African Growers Association (EAGA) Ltd, Myner Exporters Ltd and Greenlands Agroproducers Ltd (Table 1).

The pilot project areas, collaborating export companies and outgrowers' farmer groups

Table 1 Outgrowers' farmer groups, location and produce buyers in the pilot phase

Group	Membership (size)	Location	District	Province	Exporter
Karia	35	Kabare	Kerugoya	Central	Myner
Kiamchiri	33	Kabare	Kerugoya	Central	Myner
Kiamwathi	45	Kabare	Kerugoya	Central	Myner
Kiorugari	23	Nyangati	Kerugoya	Central	Myner
Kamburi	40	Kabare	Kerugoya	Central	Myner
Kimbimbi	10	Baricho	Mwea/Embu	Central/ Eastern	EAGA
Kanyatta	12	OIDonyo Sabuk	Thika	Central	KHE
Kyeko	80	OIDonyo Sabuk	Thika	Central	KHE
Makutano main	90	OIDonyo Sabuk	Thika	Central	KHE
Thayo	50	Mwa	Thika	Central	KHE
Ngatho	20	Thangatha	Thika	Central	KHE
Imbani	50	Iveti	Machakos	Eastern	Greenlands
Kauthuluni	13	Kauthuluni	Machakos	Eastern	Greenlands
Kisiiki	15	Kissiki	Machakos	Eastern	Greenlands
Kithendu	40	Mugalla	Machakos	Eastern	Greenlands
Kyonde green	40	Mugalla	Machakos	Eastern	Greenlands
New Ikoleni	25	Ikoleni	Machakos	Eastern	Greenlands

OUTPUT 2: Training programme developed

Important know-how to be imparted on trainees and training curriculum

Participatory methods of technology transfer

Extension skills communication skills and how to work with farmer groups

Plant protection

Integrated pest management concept and principles (good agricultural practices, crop scouting, recognition and early pest and disease identification, decision making, nutritional disorders, water management, keeping farm records for traceability and use of farm records, pest and disease control options),

Hygiene standards for fresh export horticultural produce

Safe and effective use of pesticides

MRLs and selection of appropriate pesticides, calibration of sprayers, calculation of dosage rates, sprayer maintenance, selection of appropriate nozzles, and

Quality control and management

Harvesting and grading, packaging and disposal of culls and crop residues

Business management

Mobilization and capacity building for small-scale farmer groups, developing management and entrepreneurship among small scale farmers, developing information database and systems, marketing linkages, promotion and product diversification

Marketing and quality control issues

Record keeping, auditing and certification

Training Programme

Table 2. Training programme for the private sector service providers, November 2003 to January 2005

Activity	Schedule
Introductory residential course	2 nd to 15 November 2003
Field attachment: orientation period	17 th November to 11 th December 2003
Field attachment: practical period	December 15 th to May 2004
Refresher course: information sharing	26 th to 31 st January 2004
Main refresher course	2 nd to 20 th May 2004
QMS internal audit	9 th to 13 th August 2004
Technical support	November 2003 to February 2005
Performance evaluation of trainees	April 2004; and continuous

OUTPUT 3: Private service providers established

A total of 19 outgrowers' farmer groups consented to collaborate in the training programme and host trainees on attachment. Each trainee was attached to one outgrower group (Table 3).

The general trends from the baseline study can be summarised as follows:

- All the outgrower groups informed the team that farming is a way of life. It is an enterprise. They all carry out cost/benefit analysis each season and so they maintain farm records for this purpose.
- There are no legally binding contracts for any of the outgrower groups or group members.
- Due to past experience, some farmers are skeptical about contracts and would not want to have legally binding contracts.
- Brokers still thrive "undercover". In most cases, farmers informed that the lorry driver and his assistant operate as brokers. These "undercover" brokers also contribute to high rejection rates at collection centers because they buy produce from non-contracted growers before they make the day's collection from the contracted farmers. Some of the brokers use abusive language when addressing the growers. This is an issue that needs to be addressed by respective companies.
- Most growers have bitter experience with brokers and also some of the large exporting companies
- The majority of the outgrower groups were formed with one major objective: to attract a reliable export company that is willing to establish a produce collection center close to the area of production. This will cut down transport costs (time and bus fares and/or having to carry the produce by a bicycle over a long distance to a collection center).
- Many of the outgrower groups need strengthening so that they can operate as groups with common goals.
- The groups have no access to credit facility. The majority of young farmers expressed the need for credit for them to get started and enter the export market.
- The outgrower groups are already paying for services (transport for the produce, rent for the collection, produce grader, allowances for the group management committee etc) through a cess system levied on the produce by the exporting company.

- The export companies provide outgrowers with transport, technical advice (when to plant, pesticides to use, fertilizer application and certified seeds on credit). According to the growers, the information is reliable.
- The majority of the groups complained that the farm gate prices for French bean is too low for them to make a profit.
- There is poor understanding of seasonal price fluctuations as relates to low and high season in the importing countries at the producer level, and this needs clarification
- There is a general lack of technical know-how among growers about IPM, EUREPGAP and need for certification
- Farmers are willing to pay for advisory services as long as the service provider gives value added information that can help the growers maintain the market link and make a profit from the enterprise. During the discussion, the advisory services were referred to as “consultancy services”. However, they all wanted to be clear about the terms and conditions payment for the “consultancy services” well in advance for them to make informed decisions.
- Some outgrower groups suggested that it would make sense if one of them would be trained as a service provider. Such a service provider would be a resident and more available to the growers to address day-to day issues within the group. They all stated that the service provided by export Companies is inadequate because area supervisors have a large area to cover, and sometimes growers are visited every three months.
- The inputs used by growers include seeds, fertilizer, pesticides, labour and fuel (for water pumps).
- The most costly input in the production of French beans is pesticide
- All exporting companies sourcing produce from the outgrower groups provide certified seeds on credit.
- All other agrochemical (fertilizers and pesticides) inputs are purchased locally from agrochemical dealers (agrovets)
- Some pesticides do not give good control of targeted pests
- Some groups have been experiencing high rejection levels of their produce. Various reasons were given by farmers to explain rejection.
 - i. Interference by undercover brokers
 - ii. Seasonal effects: higher rejection levels during low seasons
 - iii. Insect pest and diseases damage

These results were integrated in the training programme.

Table 3 Trainees attachment to outgrowers' groups

GROUP	SIZE	TOWN	LOCATION	NAME	CONTACTS
THIKA AREA –KENYA HORTICULTURAL EXPORTERS					
Makutano main	90	Makutano	Donyo sabuk	John Muteti Muthiani	0722 454341
Kayata	12	Kayata	Ol-donyo sabuk	Antony Kariuki Mwangi	0721 595482 0722 587643
Thayo	50	Swan	Delmonte	Henry Kamondia	0733 469147
Ngatho	20	Thagatha	Thangatha	Regina Wacera Kabiru	0721 953944
Kyeko	80	Oldonyo sabuk	Kyeleni	Micheal Kawinzi	0733 373844
KIMBIMBI - EAST AFRICAN GROWERS					
Mwea	11	Kimbimbi	Mwea tebere/kimbimbi	Daniel Kibugi Wanyoike	0722 507798 0733 809399
Baricho		Kutus	Kerugoya	Naomi Njeri Mungai	0721 306135
Embu		Embu-manyata	Embu	Albert Mwaniki Ndung'u	0733 664677 0721 538598
KERUGOYA-MYNER GROWERS					
Kiamuciri	33	Kambare	Kiamuciri	Paul Mwangi Ngonyo	0733 415569 0721 290240
Karia	35	Kambare	Karia	Andrew Edewa Okwakau	0722 847990 0733 566617
Kiorugari	23	Nyangati	Kimbimbi	Simon Kariuki Njihia	067 44477 0721 249881
Kiamwathi	45	Kambare	Kiamwathi	Anastasia Nyaguthii Mbatia	0722 571957
Kamburi/mugomo	40	Kambare	Kamburi	Christine Muthoni Kusewa	0722 271829
KATHIANI-GREENLANDS					
limbani	50	Iveti	Iveti	Ann Muona Mbole	0722 663384 0722 222563
New Ikoleni	25	Ikoleni	Iveti	Martina Ndonge Mueke	0721 910579 0734 873028
Kyonde growers	40	Mugalla	Machakos	Ngila Kimotho	044 21449 0722 829287
MATUU-GREENLANDS					
Kisiiki	13	Kisiiki	Kisiiki	Ernest David Muthomi	0721 455478
Kithendu	40	Kithimani	Sofia	Edwin Munene Gitaari	0734 743319
Kauthulini	13	Kauthuluni	Kauthulini	Micheal Hezekiel Waweru	0721 289942

A total of 15 private service providers graduated in May 2004. With technical and financial support from the Business Services Development Project (BSMDP), the trainees were facilitated to form and register Agribusiness and Allied Kenya Limited (AGRIBUS) Company to legalize their operations. AGRIBUS is an information and marketing centre for members.

Many of the outgrowers' groups have been trying to implement the EUREPGAP protocol but in piece meal. Some progress in terms of meeting the EUREPGAP Standard has been achieved. One outgrowers' group in Kerugoya district was certified EUREPGAP compliant on 17th

December 2004 by Africert Ltd, a local certification body accredited to EUREPGAP. Three other groups are due for full EUREPGAP certification (the groups have minor corrections to implement) soon.

All of the trained private service providers have found employment either as self-employed or working with fresh produce export companies to prepare small-scale producers for EUREPGAP certification.

Based on the results of the business plans submitted to the project, the trainees were given the start-up capital as recommended by the consultant from May 2004. The money was given as a soft loan (no interest) to be serviced by November 2004. Once the start-up capital was released, the trainees were at liberty to implement the approved business plans with technical support from the project.

OUTPUT 4: Recommendations for policy amendment formulated

Awareness about the effects of the supply chain requirements e.g. EUREPGAP, and access to the export markets by small scale producers, for a wide range of stakeholders at national and international policy level was created. Some standard setters and donor agencies have recognised the fact that small-scale producers are at risk of being excluded from the export markets due to stringent food standard requirements. As a result some policy changes have already taken place:

- A visit of Mr. Nigel Garbutt, the chairman of EUREPGAP to Kenya from 19th to 25th February 2005 which led to the following changes indicated below
 - EUREPGAP is committed to assist Kenya develop “Kenya-GAP” benchmarked on the EUREPGAP standard, this will bring the services closer to the end users
 - Kenya will have a representative at the EUREPGAP committee
- DFID is committed to co-finance the field-testing of the “EUREPGAP Smallholder Quality Manual” in collaboration with GTZ. This will be a starting point for Kenya to create its own quality manual by adopting contents according to local production situation in a view to prepare farmers for EUREPGAP certification.
- Some fresh produce export companies are working with outgrowers groups to meet the EUREPGAP standard e.g. co-sharing costs of putting up basic facilities and certification fees and issuing written contracts to their outgrowers’ farmer groups.
- The Ministry of Agriculture, Horticulture Department, has commissioned a review of the EUREPGAP Kenya training programme

Contribution of Outputs to developmental impact

- Private service providers were trained in integrated pest management, which is a strategy to reduce pesticide usage and improve produce quality, food safety, human and environmental health.
- The course graduates are now either self employed or contracted by fresh produce export companies this contributing to job opportunities
- The graduates facilitated EUREPGAP preparation and certification of outgrowers' farmers groups
- At policy level, awareness of the plight of the small scale farmers in respect to new food standards has prompted some of the standard setters to review the requirements, making them more end-user friendly.

Promotion pathways

To ensure that the project outputs and processes developed are made available and continue to be used after the CPP funding has ceased, several steps have been taken

- 1 Raising awareness among the horticultural export industry with emphasis on producers and exporters through dialogue, and mass media (radio, television, and local newspapers)
- 2 Publication and distribution of technical information (posters, leaflets)
- 3 Forming linkages with Horticultural industry and other relevant donor funded projects that would be the delivery vehicles to end users e.g. BSMDP, Pride Africa and HDC-Kenya. The project phase worked with Pride Africa to facilitate the formulation and design of a communication tool in a form of a comic-book to alert small farmers about EUREPGAP requirements.
- 4 Contributing policy related recommendations that will ensure formulation of supportive national and International policies

To ensure sustainability of the project outputs in terms of development impact, the following measures would be implemented

- 1 Forming linkages with horticultural industry and other relevant donor funded projects that would be the delivery and propagation vehicles (as indicated above).
- 2 Collation and publication of the process and lessons learnt in the pilot phase for distribution to stakeholders.

Dissemination outputs

Internal Reports

1. PPR1 (1st April to 30th September 2003) submitted 18th September 2003
2. PPR2 (1st September to 31st December 2003) submitted 24th January 2004
3. Annual report 2003/04
4. Project monitoring report 1 (1st April to 30th September 2004) submitted 19th October 2004
5. PPR3 (1st October to 31st December 2004) submitted 20th January 2005
6. PCSS 4th March 2005
7. B. Nyambo, J. Maundu, J. Gatama and I. Macharia (2003). CPP-R8297/ZA059 Development of private sector service providers for the horticultural industry in Kenya: baseline data collection for outgrowers groups, October 2003
8. B. Nyambo, Rose Kinoti, Julius Kiriga and Janet Maundu (2004). Awareness campaign for export horticulture producers and outgrower groups to comply with EUREPGAP protocol: knowledge and attitude baseline study 12th to 17th July 2004. **ICIPE-BSMDP contract Number H-SP-03**
9. Ibrahim Macharia, F. Akivaga and E. Ndenga (2004). Awareness campaign for export horticulture producers and outgrower groups to comply with EUREPGAP protocol: Mid- term evaluation of the Radio awareness programme, 20th to 26th September 2004. **ICIPE-BSMDP contract Number H-SP-03**

10. Anon (2004). Awareness campaign for export horticulture producers and outgrower groups to comply with EUREPGAP standard: radio magazine themes, December 2004. **ICIPE-BSMDP contract Number H-SP-03**
11. Anon (2005). Awareness campaign for export horticulture producers and outgrower groups to comply with EUREPGAP standard [July-November 2004]: Final report submitted to BSMDP, February 2005. **ICIPE-BSMDP contract Number H-SP-03**

Conferences

- **B. Nyambo (2004). Private service providers for the horticultural industry in Kenya: lessons in the use of mass media communication.** Paper presented to the workshop on "Effective communication between agricultural research, extension and farmer", Bolzano, Italy, 18th to 22nd October 2004
- **B. Nyambo (2004). Development of private sector extension services for the horticultural industry in Kenya.** Presentation made to the UK Food Standards, 12th December 2004, London, UK
- **B. Nyambo (2004). Development of private service providers for the horticultural industry in Kenya: a pilot study.** Paper presented at the AAB Centennial conference "Advances in applied biology: providing new opportunities for consumers and producers in the 21st century" 15-17th December 2004, St Catherine's college Oxford-UK

Interviews (TV, radio and journals)

- In the HOTSEAT, Kenya broadcasting Corporation, 5th August 2004
- Wren Media, August 2004
- Africa Farming Magazine, 12th December 2004
- Live radio-phone-in with KBC Kiswahili service, September and November 2004

Radio programmes

Awareness campaign for export horticulture producers and outgrowers' groups to comply with EUREPGAP standard: Radio magazine broadcasting in collaboration with Kenya Broadcasting Corporation, Kiswahili service, August-November 2004

Posters, leaflets and comic booklets

- EUREPGAP- What smallholder producers of fruits and vegetables must do to access markets in European Union (**poster**)
- EUREPGAP STANDARD for small scale farmers of fresh fruits and vegetables to the European market (**leaflet**)
- Experience used by Pride Africa in the Drumnet programme to produce a locale specific (kikuyu language) comic booklet on the EUREPGAP requirements (**comic booklet**)