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Visit by DFID Crop Protection Programme Managers to Bean IPDM Project Sites in Tanzania

65800

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Farmer group activity reports for the DFID Crop Protection Programme (CPP) Bean IPDM Promotion Project in eastern and southern Africa

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For distribution to Village Information Centres (VICs) in bean growing areas in eastern, central and southern Africa.

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Introduction

The DFID Crop Protection Programme (CPP) Manager (Dr F Kimmins) and Deputy Manager (Dr A Ward) made a one week field visit to Tanzania to meet with participating farmer groups and other stakeholders involved in four CPP funded projects in the northern and southern highlands of the country. The projects are on bean IPDM, community armyworm forecasting and control, management of maize streak virus and *Striga* weed in cereal fields. The bean project has pilot sites in northern and southern Tanzania while the armyworm project has sites all over the country where armyworm outbreaks are common. The breeding work for maize streak virus is based in the southern highlands of Tanzania whereas the *Striga* project has pilot sites in western, central, east and southern Tanzania.

Dr R Kirkby (Coordinator, CIAT Africa) teamed up with the visitors for a one day visit to farmer research groups in Hai district, Kilimanjaro region in northern

Tanzania. The Hai farmer groups are involved in armyworm forecasting and control; developing, testing, dissemination and promotion of pest management strategies for beans, other crops and livestock production. The community forecasting armyworm project activities are also conducted by some of the bean IPDM groups in the district. Consequently, group discussions at the respective locations were conducted on activities for both projects.

Objective

To familiarise with four CPP project activities in northern and southern Tanzania and capture the progress made with dissemination and promotion of technologies by farmer research groups and other stakeholders

A. Northern Tanzania

1. Hai district office

A courtesy call was made to the District Agriculture

and Livestock Development Officer – DALDO (Dr E Ulicky) and introductions were made to the District Commissioner. Dr Ulicky gave a brief introduction on his responsibilities, the district location, agricultural activities and constraints to increased production of beans, other crops and livestock. He went on further to give the history of the integrated pest management (IPDM) activities for beans and the participatory farmer group approach in research, dissemination and promotion of IPDM technologies.

Bean farmers in Hai experienced crop losses due to various constraints including pests. One of the major insect pests that farmers diagnosed and prioritised as a major constraint was the bean foliage beetle (BFB) - *Ootheca* spp. A few farmers were bold enough to approach the district agriculture extension office to request for assistance in the management of the pest. The extension officers did not have a lasting solution.

They in turn approached the Selian Agricultural Research Institute (SARI) in Arusha where CIAT scientists are also based. CIAT, SARI, DALDO and village extension personnel teamed up to facilitate the farmers to study the life cycle and ecology of BFB in their fields during 1997-2000. The farmers, researchers and extension staff discussed possible traditional (wood ash, cow urine and cow shed slurry, intercropping, etc.) and improved (timely planting and weeding, crop rotation, post harvest tillage, high yielding bean varieties, appropriate spacing, timely harvesting, clean storage, etc.) management strategies.

The first innovative farmers decided to form a group that selected and tested those strategies in demonstration plots. The farmer group organised a field day to share the information with neighbouring farmers and other partners. Participating farmers and their neighbours selected preferred options and rejected crop

rotation due to land shortage. Some farmers also objected post harvest tillage because of difficulties in ploughing some of the soils during the dry period (although it has proved to be very effective in the estate farms). Both practices were also rejected by some farmers because most of them hire different field plots every season. The smallholder farmers in the district have a tradition of intercropping beans with maize especially in the main cropping season (March to July).

Farmers continued to experiment and learn about other pests on beans (including bean stem maggots, aphids, pod borers, leaf eating caterpillars, storage weevils, etc.), maize, pigeonpea, sunflower, bananas, coffee, vegetables and livestock. Participating farmers increased from 14 in 1998 to 5500 in 2004 while farmer research groups increased from 1 in 1998 to 77 in 2004 and participating villages from 1 to 52. Farmer activities widened from the study of bean foliage beetle (BFB) to include bean stem maggots (BSM),

aphids, pod borers, pollen beetles, seed multiplication, storage bean weevils (bruchids), climbing beans, participatory market research and soil fertility management strategies. The number of stakeholders also increased to include SARI, CIAT (through IPDM, ECABREN, Enabling Rural Innovation- ERI, TSBF), World Vision, Adventist development and Relief Agency (ADRA), TechnoServe, Sokoine University of Agriculture (SUA), TIP (Traditional Irrigation Project), PADEP (Participatory Agricultural Development and Empowerment Project), AMSDP (Agricultural Market Systems Development Project).

The armyworm forecasting activities are in the second year of operation in the district. According to participating farmers, community forecasting is proving very effective because outbreak information spread very fast among crops and livestock farmers. The major constraint that farmers raised during discussions was the

the availability of knapsack sprayers for insecticide application. The groups at Sanya Juu pilot site were issued with some sprayers and group members were advised to sensitise and solicit fund raising (e.g. by hiring out the available sprayers, forming savings and credit accounts, etc.) to enable them buy more sprayers.

In response to a question from F Kimmins on ***"What happens after the end of the 2 projects in 2005",*** the DALDO indicated that the Ministry of Agriculture has started (through the Participatory Agriculture Development and Empowerment Project- PADEP) supporting 80% of the costs for project proposals from farmer groups that are approved by the district for improving agricultural production in the communities. The ministry is also hosting an IFAD project on Agricultural Marketing System Development Programme- AMSDP, aimed at promoting the development of linkages between agricultural production and markets. The district

will also continue to seek new ideas from various stakeholders to address farmer needs. Such needs include new research technologies, new and emerging markets, setting up agro enterprises, etc.

2. Kimashuku village- armyworm and bean pest activities

a. Village community Armyworm forecasting

Kimashuku village is at the lower slopes of Mount Kilimanjaro (about 800 meters above sea level-m.a.s.l.) along the Moshi to Arusha main road. Farmers rely on irrigation after the main rains in March to July. The major crops include maize, beans, sunflower, vegetables, bananas, sugarcane and some coffee. A number of farmers also keep livestock. Village farmers nominated Mr JA Massawe as their armyworm forecaster and the armyworm trap is installed at his farm. He has been trained by the armyworm project to monitor the trap and maintain daily records of captured moths.

moths. He then places warning announcements at the front door of his house (which is at a cross link for the main village paths) to create awareness to his neighbours. He also sends word messages to all village households on the magnitude of armyworm forecast together with instructions on individual farmer action within the following week.

More than 90% of land owners at Kimashuku village reside on the upper slopes in the coffee/banana belt. The village residents relay armyworm warning messages to the rest of their

relatives in those slopes and actions are implemented by all maize field owners in the same week. Mr Massawe and the other meeting participants from the village were most happy with the forecasting system because farmers are now able to prepare themselves to manage the pest on time. Initially they would loose some of their crops due to lack of information in advance of larval outbreak.

The major constraint that Mr Massawe pointed out to the visiting team was some means of transport to cover the extensive village households to disseminate warning messages within a day. He requested to be facilitated with at least a bicycle. When community members were asked to suggest how they would assist the forecaster, they indicated that they were not yet in a functional research group and were therefore unable to handle the transport case at the moment but requested the project to look into the issue.

b. Ingule bean IPM farmer group

This farmer group was formed in 2001 with the aim of improving bean production through adoption of integrated pest management (IPDM) and other practices. The group has 20 members (14 women, 6 men) involved in the production of beans, maize, coffee, bananas, vegetables, sunflower, sugarcane and livestock. The major pests on beans are bean foliage beetle, bean stem maggots, aphids, pod borers and sucking bugs. Farmers have been experimenting with

improved bean varieties, botanical pesticide crude leaf extracts (Neem, *Tithonia* sp., etc.), cow. urine and wood ash for field and storage pests.

Group members expressed satisfaction with the results obtained with beans and have started

experimenting with other crops. They are keen to work with different development and service providers including researchers, extension, NGOs and the private sector. The major constraint that farmers have been experiencing at Kimashuku village in recent seasons is shortage of water for irrigation and efficient irrigation equipment for effective use of the little available water. Currently farmers are using surface furrow irrigation and the group sensed that they were loosing a lot of water through this method. Members requested for information on different small scale irrigation equipment. Dr R Kirkby has provided a manual for one of these simplified models developed and used in Central America.

3. Mungushi village – Bean pests and armyworm activities

Mungushi village lies between 1000-1200 m.a.s.l. The village has 5 active bean IPDM groups, each with 15-35 members. All members in one

of these 5 groups are women who in addition to farming activities, own and run a sunflower oil pressing mill near the Hai district office. Two of the 5 groups were formed in 2001 while the other 3 were formed between 2002 and 2004. Over 50% of group members are women. Farmer groups are involved in crop and livestock production. The main crops are maize, beans, sunflower and vegetables. Farmers have also been experimenting with improved genotypes of pigeonpea, high protein maize, soy bean and *Dolichos* sp., as well as fertilizers (Minjingu rock phosphate, animal manures, etc.). Livestock include cattle, goats, pigs, sheep, rabbits and poultry.

Farmers were happy with the exposure and awareness that they have gained through participation in project activities. They are keen to train, share knowledge and exchange experiences with other farmers and continue to collaborate with researchers and other

stakeholders for the development of their community. These farmers requested to be facilitated to learn more from other communities in different locations. When the farmers participating in the discussions were asked by the visiting CPP team about the number of farmers who have adopted IPM technologies, one of them responded by saying that on average, 4-5 members in each group are using at least 2 IPDM strategies in their individual household fields.

4. Sanya Juu village- Bean pests and armyworm activities

The altitude for Sanya Juu village ranges between 1300-1500 meters. The major crops include maize, beans, sunflower, coffee, bananas and vegetables. Most farmers also own livestock. The first innovative farmer research group that formed four years ago has sensitised and stimulated the formation of 4 groups (Mshikamano, Upendo, Mwamko and Upendo) that form a cluster called Umoja. While the other 3 groups have both men

and women farmers, Upendo is a women group that is also involved in various other activities including needle work. The 4 groups plan and organise field activities together but each group has its own separate programme. The plans for Umoja in 2004 were to establish field demonstrations on improved genotype seed and agronomic practices for the production of beans, maize, pigeonpea, soybean, green manure, pasture, botanical plants and soil fertility amendments. The groups will use their meetings, drama, songs, poems (See Appendix), field days and visits to train, disseminate and promote the field results to other farmers.

Benefits

The benefits that the Sanya Juu group members have realised through the participatory IPDM group activities include:

- Bean grain yield increased from 1-1.5 to 4-5 bags @ 120kg and that of maize from 7-10 to 12-18 bags @ 100kg
- Organised and conducted training seminars/workshops, meetings and visits to share knowledge and exchange experiences
- Linked to armyworm project in 2002 when they were trained in forecasting and managing traps, supplied with 5 knapsack sprayers, traps, record books and attended another seminar in 2004
- Linked to TechnoServe for access to improved pigeonpea seed and production technology
- Linked to AMSDP project and other CIAT

projects (ERI programme on market studies, TSBF on soil nutrient management)

Constraints

The major constraints to increased farm production include:

- Unpredictable weather conditions
- High prices for agricultural inputs
- Land shortage
- Unreliable markets
- Non group members are still untrained and very poor

Requests

- Study visits to learn and share knowledge as well as exchange experiences
- More training in the control of pod borers and other bean insect pests (e.g. semi looper-*Trichoplusia ni* and bollworm i.e. pod borer-*Helicoverpa armigera*)

Future plan

- Increase the production of sunflower, pigeonpea, soybean and protein maize
- Strengthen collaboration with the district authority, researchers and other service providers for new information on science and technology

B. Southern Highlands of Tanzania

1. Meeting at Agricultural Research Institute (ARI) Uyole: With Zonal Director- Southern Highlands Zone (Dr. M. Msabaha) and teams of scientists in the bean and maize research programmes. Dr Msabaha noted that the DFID funding support to bean (disease tolerant varieties and IPDM promotion) and maize (improving farmers' access to high yielding, GLS resistant maize varieties, breeding for maize streak virus resistance and *Striga* management) research programmes in the southern highlands

research zone has greatly improved the skills of research staff in technology promotion with small holder individual farmers and farmer groups. Links to the national client oriented research funding that is based at district level and collaboration with the private sector (especially in horticultural produce) has enhanced technology dissemination to farmers at village level.

ARI Uyole farm produces quality seed for several crops (beans, maize, soybean, wheat, vegetables etc.) that is sold to farmers and other stakeholders. The research teams are also involved in training farmer groups and extension agents in quality crop seed production. Farmer groups and extension agents frequently visit the Uyole farm and its substations in some of the districts (e.g. Mbimba in Mbozi district) for training in different aspects of agricultural production.

2. Farmer group meeting at Zelezeta village, Mbozi district- Led by Dr Catherine Madata and Mr David Kabungo

The meeting was organised by Zelezeta farmers and their extension personnel in Mbozi district. About 60 participants attended the field day from various locations in the district. Participants included farmers, district agriculture officials (District Agriculture and Livestock Development Officer-DALDO, District Agriculture Extension Officer- DAEO, etc.), ward and village extension officers, leaders from the wards, divisions and individual villages, teachers and school children, church leaders, researchers and visitors. Farmer group members from four bean IPDM groups (Laibembwa, Shilanga, Hatelele and Satunduma) and invited farmers from the neighbouring Ivwanga village were involved in organizing the activities for the day.

Satunduma farmer group activities

The meeting started with introductions and report

on the history and activities of Satunduma IPM farmer group (Appendix 2). The major insect pests on beans at Zelezeta village are aphids, bean stem maggots, cutworms and pod borers. Satunduma group was formed in 2001 with 4 objectives:

- To collaborate with ARI Uyole in integrated insect pest and disease management (IPDM)
- To access improved bean seed
- To experiment with different botanical pesticides and organic fertilizers
- To train neighbouring village farmers on the appropriate pest management strategies for increased production

The farmers had prepared and organised songs, poem and drama on the use of traditional (including botanicals), cultural practices and improved high yielding pest tolerant bean and maize genotypes. Farmers have experimented

with common botanical plants as sources of insecticides and fertilizer. The common botanicals include *Tephrosia*, *Vernonia*, *Neuratenia* and Neem. Group members have planted some of these (especially *Tephrosia* and *Vernonia*) at individual farmer field edges for regular domestic use. The group has established a demonstration plot of the botanicals that will be used for training farmers from neighbouring villages, visitors and supply planting materials for other farmers.

Another demonstration/learning field had just been planted with 12 improved bean lines (including Uyole 94, 96, 98, Wanja, Urafiki-NRI, CNF 5520 BILFA, Sinon - a local selection from bean stem maggot nursery at CIAT Arusha, etc.). The seed was obtained from Uyole but it was increased by group members during the first planting season (Nov/Feb). Two other pioneer farmers' fields about 0.5km from the venue of the

meeting were also visited. Both fields had germinating plants of the 12 improved bean lines.

One of the participating farmers had a maize field near the bean demonstration plot. The plant stand was uneven with poor growth in most parts of the field indicating use of poor quality seed on low fertility soils. The farmer had recycled a hybrid maize seed (H614 from Kenya) that was purchased from a nearby town shop. The amount of inorganic fertilizer applied in the field was very low because of high prices and scarcity at the appropriate time. Farmers were advised to obtain locally adaptable seed from ARI Uyole, follow appropriate cultural practices and use organic fertilizers (green and animal manure) to compliment the small amounts of inorganic fertilizers that they can afford to purchase.

Benefits gained from project activities and group approach

Satunduma group members and neighbouring

village farmers have benefited from the project in the following aspects:

- Increased bean yields from 2-3 to 4-6 bags (@ 100kg) per acre
- The average time spent by project participating farmers in field work has increased from 4-6 to 10-12 hours per day
- Group members have increased the use of traditional and decreased the use of conventional pesticides
- Group members have participated and gained knowledge from tours and visits organised through the bean IPDM project
- The confidence and knowledge of group members has increased to a very high level
- Group members are able to buy and eat better quality food (e.g. animal meat and milk)
- The family life of group members has improved for the better (better health for the children, clean school uniforms, increased

cleanliness, better clothing for the whole family, family cohesion improved- men are paying more attention to their wives and children, etc.)

- HIV/AIDS incidences are currently absent in group member families
- Group member increased from 14- 24

Technology dissemination and promotion by Satunduma group

- Establishment of a demonstration plot for botanical plants and new crop varieties for training non participating farmers and visitors

- Group members have created IPDM awareness among farmers and village leaders, trained and sensitised the formation of a new

group – named NYERI, with 14 members (8 men, 6 women)

- Non group farmers (between 100-120) from Zelezeta village have trained on IPDM technologies at the group demonstration field at different periods during the growing season
- Other farmers (total 82) from neighbouring villages visited Zelezeta to learn about IPDM strategies and practices
- In 2003, 6 farmer groups from Mbeya and Mbozi districts (between 82-100 farmers) visited Zelezeta to gain knowledge on IPM strategies

Constraints

- Some group members feel satisfied with knowledge gained and therefore absentee themselves from regular meetings
- High prices for improved seed, fertilizers

and other farm inputs

- Have not accessed knowledge on traditional grain storage pest management strategies (farmers experience up to 50% grain losses during storage)

Expectations/Future plans

- Increase experimentation and adoption of improved bean varieties
- Increased use of organic fertilizers including animal and green manure
- Continue collaboration and training farmers from neighbouring villages on use of IPM in farming
- To construct an office for the group and set up a village information centre (VIC)
- To strengthen collaboration with ARI Uyole for new technologies on improved farm production

Request from group

Satunduma group requested the IPM project in collaboration with ARI Uyole to assist the farmers in the search for suitable strategies for storage pest management.

3. Promotion of improved maize cultivars- Led by Dr Nick Lyimo

The expected outputs from the maize project include:

- Disease resistant maize varieties appropriate to farmers' needs and adapted to local conditions validated by farmers and other stakeholders
- Approaches for improving access to and management of quality seed by farmers validated and promoted
- Sustainable pathways/systems for quality seed supply appropriate to local conditions and farmers' needs developed by farmers

and other stakeholders

Progress/achievements

- Maize variety demonstrations were successfully conducted in 2002/2003. This has contributed to the high demand for seed of one of Uyole's hybrids –UH615 by Mbozi and Njombe district farmers
- Mbarali district has high incidences of maize streak virus (MSV) and most of the demonstrations were severely affected. Due to a shorter rainfall period associated with frequent moisture stress conditions, the area requires early maturing varieties with resistance/high tolerance to MSV
- Participatory involvement of farmers, extension agents and private seed traders in seminars and field visits in the 3 districts has helped to identify gaps between farmers and knowledge source. Hence the development of appropriate learning

approaches (demonstrations, field days/visits, farmer training seminars/workshops, leaflets- on maize production and fertilizer application, etc.)

- Training farmers and extension agents on quality seed production and management
- A stakeholder survey of current seed systems was conducted in June 2003 and followed by a workshop on sustainable seed systems/pathways for quality seed supply in July 2003
- Two private seed companies have expressed interest in producing and marketing locally bred maize seed in southern highlands (e.g. Tanseed International Company Ltd based in Njombe town)

Constraints

Marketing of fake maize seeds by untrustworthy traders (some seed stockists have been brought

to court in Njombe and Mbeya for selling bad seed with UH615 labels)

- Lack of local entrepreneurs to produce and market quality maize seed
- Maize streak epidemic in Mbarali district
- Low soil fertility in most areas of the southern highlands

Visit to maize demonstrations at Majenje and Igomelo villages, Mbarali district in Mbeya region

Majenje and Igomelo villages lie in the rift valley off the main road to Iringa, 50 and 125 km respectively from Mbeya. These sites are a hot spot area for maize streak virus incidence. All maize lines proved to have various levels of tolerance/resistance elsewhere in the southern highlands are highly susceptible at these locations. Igomelo is the worst of all, as three of the varieties tested in this location were completely wiped out by the disease (UH615,

TMV-2, local entry called Sanguonitu). Staha and Kilima ST survived marginally. The maize

research team is screening different crosses in order to come up with materials (parents) resistant to streak. Farmers have provided ample area for the screening work, and are also assisting in irrigating the maize research blocks. Promising resistant lines are in the pipeline.

Visit to improved maize demonstration plots at Mtwango village, Njombe district in Iringa region

Mtwango village is at an altitude of about 1800 metres and village is located along the Makambako-Njombe-Songea road. The major crops in this area are maize, beans and potatoes. Mtwango farmers, like in the rest of the project area, volunteer plots to be used for the maize demonstrations. Different improved high yielding disease resistant maize lines were approaching maturity stage at the time of the visit and unlike the crop at Majenje and Igomelo villages, there were no incidences of maize streak in the demonstration plots at Mtwango. Farmers were very happy with the performance of the varieties and could point out varieties of their choice. The most outstanding varieties were Uyole Hybrids 6305, 6504, 6303 and the already released H615. These farmers' choices are among those that have been earmarked by the research team to be tabled for release at the national seed release

committee in December this year.

4. Witch weed (*Striga asiatica*) management in rice fields in Kyela district (Mbeya region) - Led by Dr AM Mbwaga

The district agriculture and livestock development officer (DALDO) informed the visiting team that Kyela district is the main producer of rice in Mbeya region and the crop is the main source of cash and food for the district farming communities. The major constraints to increased production have been diseases and weeds, where the witch weed (*Striga asiatica*) is

increasingly becoming important in limiting rice production. Both lowland and upland rice are produced under rain fed conditions. The most common cultivars are Kilombero, Zambia and Mwangulu. Kilombero is an improved commercial cultivar while Zambia and

Mwangulu are local cultivars. Mwangulu is hard to thresh and fetches low market prices, but it has high tolerance to *Striga* growth and development. Four farmer groups in 4 village sites have been experimenting with several strategies for the management of *Striga* and *Ramphicarpa* sp.

Meeting with Kilasilo village farmer group at Mbako Primary School

The Kilasilo village farmer group started in 1997 with 9 farmers and the number has increased to 26 including men and women. Rice fields are individually owned and every farmer demonstrates selected strategies in their personal fields. The main objective of forming the farmer group was to access knowledge from research and extension agents on management of constraints to rice production and conduct experiments in their individual rice fields.

Strategies developed, tested and used by farmers include:

- Timely planting
- Planting rice in rows
- Hand pulling *Striga* plants before flowering
- Farmer experimentation with inorganic fertilizers (Urea)
- Rotation/trap cropping with different green manures (*Crotalaria*, *Carnavalia* and pigeonpea)
- Integration/combinations of more than one of the above strategies

Research results

- When fertilizer prices increased to more than twice the original price (to 22,000 Tanzanian Shillings -TzShs per 50 kg bag) and paddy remained at 12,000 TzShs per bag, farmers opted for rotation with the legumes that canalso be harvested *and* used for food (pigeon pea), animal feed and

sale (*Crotalaria* seed and pigeon pea grain)

- Farmers are observing positive results on rotation with pigeon pea and *Crotalaria*. These plants produce exudates that stimulate the germination of *Striga* seed but because *Striga* plants cannot survive on the legume roots, they die immediately. This gradually reduces the seed bank in the soil and the legumes add nutrients to the soil for use by

the following rice crop. The deep legume roots also help to percolate the soil profile for better aeration. Pigeon pea plant roots are known to produce exudates that help to solubilize fixed P in the soil, and making it available to plants in the following season

- Most of the farmers that were visited have

embarked in producing legume seed for home use and sale to other farmers

- Some Kyela farmers also cultivate cowpea, bambara and groundnuts that can also be used in rotation for *Striga* management
- Livestock farmers are using the legume plants as a source of nutritious fodder for cattle and goats.

Benefits from the project

- Access to new information and knowledge on *Striga* management including cultural practices and use of green manures
- Empowerment of individual farmers and

groups in owning and using traditional and improved technologies

- Farmers have gained knowledge on cropping systems diversification for weed and soil nutrient management

  Revival of abandoned rice fields and increased crop yields per given land area

Future plans

- Farmer have planned to continue collaborating with research and extension to acquire new knowledge on rice production
- Farmer intend to intensify the use of legumes in rice cropping system
- Participating farmers would like to disseminate their knowledge and share experiences with other rice farmers

Appendices

1. Poem from Umoja groups, Sanya Juu village *(presented in Kiswahili and translated to English by EM Minja)*

Hello, hello, we are coming with a short message
We are greeting our esteemed visitors with lots of respect
For our own gain and honour to our visitors
Welcome to Hai district, welcome to Sanya Juu

We waited long for this day, this special day has come
Once visitors have arrived, farmers applaud them
Our village has received knowledge, farmers have benefited
Welcome to Hai district, welcome to Sanya Juu

We waited long for this day, this special day has come
Once visitors have arrived, farmers applaud them
Our village has received knowledge, farmers have benefited
Welcome to Hai district, welcome to Sanya Juu

Visitors and scientists, we first thank you all
As you come from various locations with re-known experiences
That you shared with farmers in other villages at not cost
Welcome to Hai district, welcome to Sanya Juu

We are bringing the message to our fellow farmers
Who have extensively planted maize and beans
We urge you to follow appropriate management practices
Welcome to Hai district, welcome to Sanya Juu

We are also reminding our fellow farmers not to forget
The maintain the armyworm trap properly
Because we have suffered losses due to armyworm damage
Welcome to Hai District, welcome to Sanya Juu

We need to use appropriate fertilizers for increased production
And monitoring traps for armyworm forecasting and management
Let us continue to use IPM for Ootheca management
Welcome to Hai District, welcome to Sanya Juu

To our leaders in the offices, your work is important
If you don't respect farmers' needs what will farmers do?
This we leave to you because we value agriculture
Welcome to Hai District, welcome to Sanya Juu

We will stop at this point and rush to the fields
To plant crops and reap the benefits in the coming year
You can claim the product when we meet at the market
Welcome to Hai District, welcome to Sanya Juu

2. Satunduma group report – Zelezeta village, Mbozi district

YAH: Taarifa ya kikundi cha Satunduma juu ya mradi wa IPM kuanzia Machi 2001 hadi Julai 2003

Utangulizi

Jina la kikundi ni Satunuma kipo Kijiji cha

Zelezeta, Kata ya Igamba, Wilaya ya Mbozi, kipo Km 20 kutoka makao makuu ya wilaya. Kikundi kilianzishwa Machi 2001 kikiwa na wakulima 14, wanaume 8 na wanawake 6.

Madhumuni ya kikundi

i. Kushirikiana na watafiti toka ARI Uyole juu ya udhibiti husishi wa wadudu waharibifu katika zao la maharage kwa kutumia dawa za asili

ii. Matumizi ya mbegu bora kama Uyole 96, Sinon, Uyole 94 na nyinginezo pamoja na matumizi ya mbolea za asili kama samadi na mboji

iii. Kushirikiana na wakulima wa vijiji vya jirani katika matumizi bora ya ardhi, udhibiti wa wadudu na uzalishaji bora katika eneo

Shughuli zilizofanyika hadi sasa (muda wa miaka mitatu ya IPM)

1. Wanakikundi waliweza kutambua wadudu

i. Serera (Cutworms)

ii. Wadudu mafuta (Aphids)

iii. Inzi wa maharage (Bean stem maggots)

iv. Viwavi (Funza) wa vitumba vya maharage (Pod borers)

2. Dawa za asili zilizotumika

i. Isogoyo kubwa (*Vernonia* sp.- with large leaves)

ii. Isogoyo ndogo (*Vernonia* sp.- with small leaves)

iii. Utupa (*Tephrosia* sp.)

3. **Viwango/vipimo**

i. Isogoyo kubwa: 0.5 kg ya majani yanatwangwa na kuchanganywa na maji lita 10. Mchanganyiko unawekwa kwenye chombo cha plastiki na kuhifadhiwa sehemu isiyokuwa na joto kwa muda wa saa 8-10 kisha unachujwa kwa kitambaa. Dawa ya maji hunyunyiziwa kwenye mimea asubuhi sanasana au jioni maana jua linapunguza nguvu ya dawa. Dawa inafanya kazi vizuri wakati hali ya hewa ni kavu maana unyevu pia unapunguza nguvu ya dawa. Machicha ya majani yaliyobaki baada ya kuchuja dawa yanaweza kutumika kama samadi/mboji

ii. Isogoyo ndogo: 1.0 kg ya majani yanatwangwa na kuchanganywa na maji lita 10. Hatua za hapo zinafuatwa

iii. Utupa: 1.0 kg ya majani yanatwangwa

na kuchnganya na maji lita 10. Hatua za hapo juu zinafuatwa.

4. **Matokeo ya utafiti juu ya dawa hizo**

i. Isogoyo kubwa na ndogo zilionyesha matokeo mazuri katika kudhibiti madudu mafuta (Aphids) na Serera (Cutworms)

ii. Utupa ulionyesha matokeo mazuri katika kudhibiti Inzi wa maharage (Bean stem maggots)

5. **Utafiti wa wadudu**

Inzi wa maharage (Bean stem maggots)

Utafiti ulionyesha kuwa dawa isipopuliziwa katika maharage mara baada ya kuota yakiwa na MAJANI MAWILI, wadudu hao huweza kusababisaha hasara ya asilimia 80 (80%)

6. **Utafiti wa dawa za asili**

i. Ni rahisi kupatikana

ii. Hazina madhara kwa wanadamu na mazingira

iii. Hupunguza gharama za uzalishaji

7. **Utafiti wa dawa za kiwandani**

i. Ni ghali zinauzwa kwa bei ya juu sana
ii. Ni hatari kwa maisha ya mwanadamu
iii. Zinaharibu mazingira
iv. Zinauzwa holela bila kuzingatia ubora

8. Matokeo ya utafiti wa mbegu bora za maharage hasa Uyole 96

i. Mbegu hii huzaa vizuri katika eneo (gunia 6-8 kwa ekari)
ii. Mbegu hii huiva haraka
iii. Mbegu hii ina ladha nzuri

Maisha ya wanakikundi kabla ya mradi wa IPDM

i. Uzalishaji wa zao la maharage ulikuwa mdogo wastani wa gunia 2 hadi 3 kwa ekari
ii. Muda wa kufanya kazi shambani ulikuw kati ya saa 4 hadi 6 kwa siku

iii. Kutumia dawa za viwandani pekee katika kudhibiti wadudu

iv. Baadhi ya wanakikundi kutosafiri nje ya kijiji

v. Wanakikundi hawakuwa na uwezo mkubwa wa kuzungumza mbele ya watu wengine (waliona aibu)

Hali ya maisha ya wanakikundi baada ya miaka mitatu ya mradi wa IPDM (Mafanikio)

i. Uzalishaji wa zao la maharage kuongezeka na kufikia wastani wa gunia 4 hadi 6 kwa ekari

ii. Wanakikundi kuongeza muda wa kufanya kazi mashambani hadi saa 12 kwa siku

iii. Wanakikundi kuongeza matumizi ya dawa za asili na kupunguza matumizi ya dawa za viwandani

iv. Wanakikundi kusafiri nje ya kijiji kwa msaada wa mradi wa IPDM.

a. Wanakikundi wote wa Satunduma katika miaka mitatu ya IPDM walisafiri kwenda katika kijiji cha Shilanga na kituo cha ADP Ukwile
b. Katibu wa kikundi alikwenda katika mkutano Arusha mwaka 2003
c. Mshauri wa kikundi alikwenda Arusha katika mkutano mwaka 2001
d. Bwana shamba wa kijiji alikwenda katika mkutano huko Arusha mwaka 2002

v. Wanakikundi sasa wanaweza kuongea kwa kujiamini mbele ya wenzao na wageni

vi. Wanakikundi kumudu kununua nyama badala ya kutegemea maharage kama chanzo pekee cha protein

vii. Maisha ya wanakikundi kuwa mazuri zaidi hasa:
a. afya za watoto kuwa nzuri
b. watoto kwenda shuleni na sare safi

c. wazazi kuvaa vizuri, usafi kuongezeka majumbani kwao na mazingira yao

viii. Upendo katika familia kuongezeka: kwa mfano, wanaume kupendana na kuwajali wake zao pamoja na watoto

ix. Maambukizi ya ugonjwa hatari wa UKIMWI (HIV/AIDS) hayapo kabisa katika familia za wanakikundi

x. Wanakikundi wameongezeka kutoka 14 hadi 24

Matatizo

i. Baadhi ya wanakikundi kutohudhuria mikutano ya kikundi wakidai kutosheka na elimu ya IPDM

ii. Bei za pembejeo kama mbegu na mbolea kuwa juu

iii. Kukosekana kwa utafiti wa dawa za asili katika hifadhi za mazao katika ghala

iv. Wadudu waharibifu wa nafaka katika hifadhi

i. ya chakula huleta hasara ya asili mia hamsini (50%)

Usambazaji wa technologia

i. Kuanzishwa kwa kishamba cha mimea ya dawa za asili ambapo wenyeji na wakulima wageni hujifunza
ii. Wakulima wa kikundi cha Satunduma wameipanda mimea hiyo ya dawa za asili kuzunguka mashamba yao kwa matumizi ya kawaida nyumbani na shambani
iii. Kuanzishwa kwa kikundi kiitwacho NYERI chenye watu 14 (wanaume 8, wanake 6) ambao wamepata elimu ya IPM kutoka kwa wanakikundi wa Satunduma
iv. Wakulima wapatao 100 hadi 120 wa kijiji cha Zelezeta walijifunza mbinu za IPDM kwa kutembelea majaribio ya kikundi kwa nyakati tofauti

v. Mwaka 2003 Julai vikundi vipatavyo 6 kutoka Mbeya na Mbozi vikiwa na wakulima 82 hadi 100 walitembelea shughuli za IPDM za kikundi cha Zelezeta

vi. Wakulima wapatao 82 wa vijiji vya jirani wameweza kutembelea shughuli za IPDM za kikundi kwa siku tofauti

Matarajio (Malengo) ya baadaye

i. Kuendelea na kuongeza matumizi ya mbegu bora za maharage

ii. Kuongeza matumizi ya mbolea za asili kama samadi

iii. Kuendelea kushirikiana na wakulima wa vijiji vya jirani katika kutoa elimu ya IPDM

iv. Kujenga ofisi ya kikundi

v. Kuanzisha maktaba ya kikundi

vi. Kuendelea kushirikiana na watafiti kutoka ARI Uyole katika kuboresha kilimo

Shukrani

Wakulima wa kijiji cha Zelezeta na wanakikundi cha Satunduma wanapenda kutumia nafasi hii kutoa shukrani kwa Uongozi wa Wilaya ya Mbozi, Mabwana Shamba wa wilaya, uongozi wa kijiji chetu cha Zelezeta pamoja na Bwana shamba wetu, Dr Minja, Dr Madata, Bwana Kabungo, Bwana Ndege Ulaya, Mama Kapiteni, bila kuwasahau wafadhili wa mradi kutoka Uingereza kwa jinsi walivyotupa ushirikiano katika kipindi chote tulichohusika katika mradi wa IPDM.

Ombi la kikundi

Tunaomba mradi wa IPDM na ARI Uyole kwa pamoja watusaidie utafiti wa dawa za asili kuzuia wadudu waharibifu kwa mazao yaliyovunwa (dav za asili za kutumia katika hifadhi ya mazao).

Mwisho – Wanakikundi wa Satunduma tunase. **KARIBUNI SANA DRS FRANCES KIMMINS na ANDREW WARD** pamoja na wageni wote

waliyoongozana nao, jisikieni mpo nyumbani na mtakaporudi Ulaya msitusahau Wanasatunduma.

Taarifa hii imetayarishwa na wanakikundi cha Satunduma na kusomwa na Katibu wa Kikundi

Ndugu

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Rehema Kasekwa