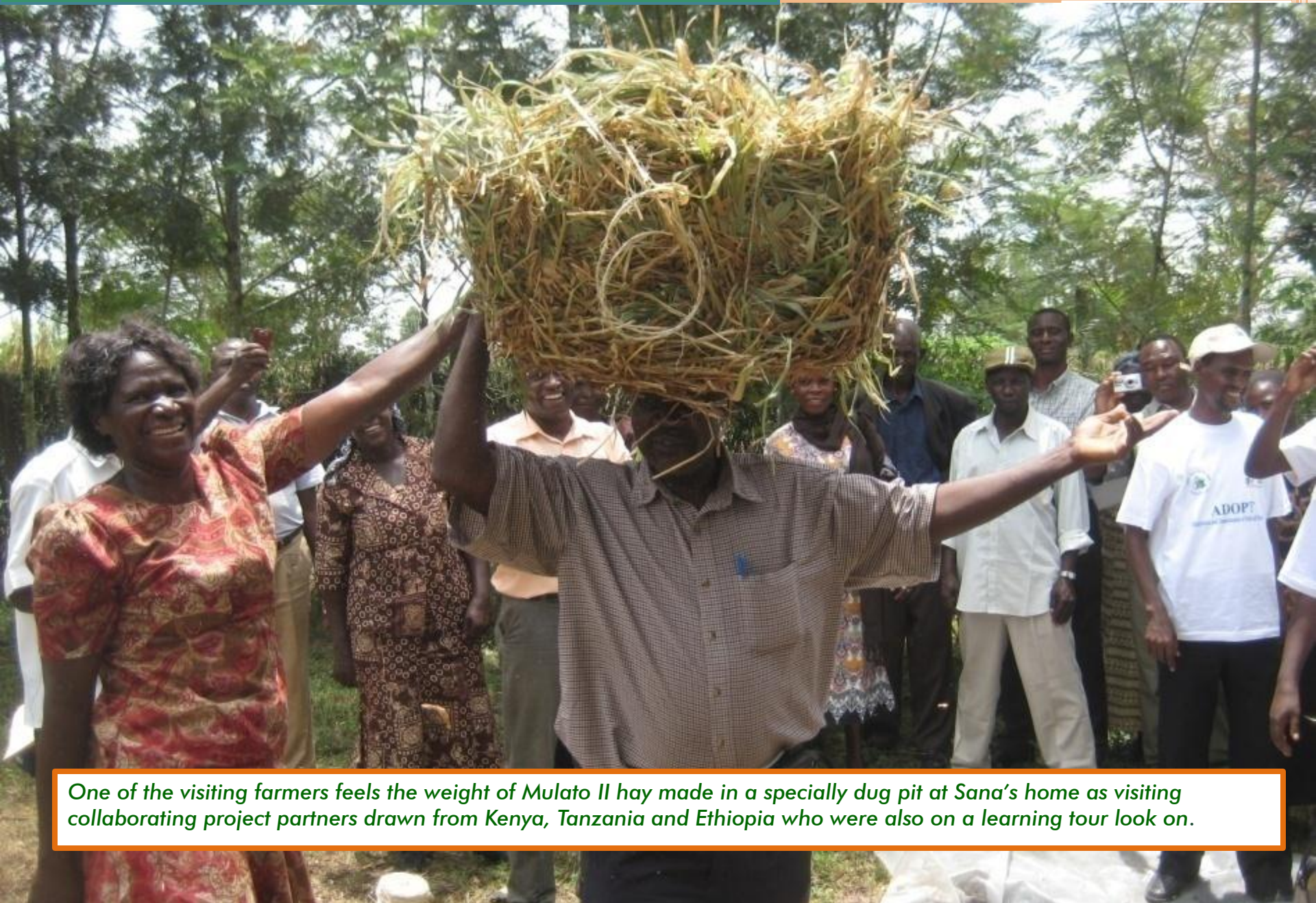
# IMPORTANCE OF BRACHIARIA HYBRID SPECIES IN ALLEVIATING POVERTY

MAY 2013

Tropical SEEDS



*One of the visiting farmers feels the weight of Mulato II hay made in a specially dug pit at Sana's home as visiting collaborating project partners drawn from Kenya, Tanzania and Ethiopia who were also on a learning tour look on.*

*So many institutions, public and private, ngo's, philanthropic, foundations, have taken as primary objective:*

**THE HARD TASK OF ERADICATING POVERTY**

*New different approaches have appeared, trying to separate from the initial donation practices for hunger, health and shelter. Programs that aim for making people self sufficient and gradually brake through the cycle of perpetuating poverty.*

*Many different visions prevail*

- *Multidisciplinary work is underway in various parts of the world.*
- *There are success stories. Efforts that have been able to combat this pervasive enemy, that finds strong roots in structural, historical, political and organizational circumstances. Conflict of interests are also present.*
- *Healthy and meaningful intentions are present*

*Education, job creation, health, economic growth, opportunities, appropriate policies, interdisciplinary cooperation, are the basis of actions aimed to incorporate large sectors of the world's population, particularly in third world countries, into improved living conditions to ameliorate their dramatic deficiencies.*

*WE BELIEVE THAT FOR THIS PROGRAMS TO SUCCEED, SELF SUFFICIENCY AND SUSTAINABLE INITIAL ACTIONS HAVE TO BE THE FOUNDATION OF A FRUITFUL PROJECT.*

*We think that by introducing an element or elements that can become the pivotal aspect for economic activities, growth over time will emerge.*

*WE PROPOSE ONE OF THESE POSSIBILITIES. AN ACTION THAT WE FIRMLY BELIEVE WORKS. THAT WILL NOT ONLY BRAKE THE STRUCTURAL DEPENDENCY, BUT CAN FOREVER DISABLE THE CICLE THAT CONDEMNS TO LIVE IN POVERTY.*

## OBJECTIVES

- *Introduce a sustainable production process that allows animal related activities achieve a sustainable and economical positive plateau, for small scale to large scale producers.*

- *Demonstrate how the new Brachiaria hybrid seed, breed by Ciat, can be this key element for promoting economical and social growth.*

- *Define the economical activities related to new improved tropical grasses that can initiate sustainable economical activities and father industrial processes for assuring continuous growth and development.*

*A company that initiated as a sister company for Semillas Papalotla in Mexico, to promote and expand the usage of* ***Ciat Brachiaria's Hybrids****.*

*As part of Grupo Papalotla, Tropical Seeds LLC is devoted to the research, diffusion and promotion of forage grass seed that will be the basis for competitive animal production processes in tropical and sub tropical countries.*

*When Semillas Papalotla signed the Ciat contract in 2002 and committed itself to world wide distribution of the Brachiaria varieties breed in Ciat, Tropical Seeds LLC was born.*

*THE OBJECTIVE IT HAD WAS TO MAKE THESE MATERIALS READILY AVAILABLE IN OUR NON TRADITIONAL MARKETS, MEANING OUTSIDE OF LATIN AMERICA.*


Tropical
Tropical

INITIALLY

*Tropical seeds started in S.E. Asia in research and production with small scale farmers and signed contracts with an Australian company.*

TODAY

*After years of struggle in phytosanitary regulations and successful research results, the first Brachiaria Hybrid varieties are proving their potentialities.*

## OUR AIM

*IS TO HELP EXPAND THE KNOWLEDGE OF THE BENEFITS OF THESE MATERIALS AND MAKE THEM AVAILABLE TO ANY PRODUCER IN THE TROPICAL AND SUBTROPICAL AREAS OF CENTRAL AND EAST AFRICA.*

*REGARDLESS OF SIZE AND TECHNOLOGICAL STRENGTH OF PRODUCERS.*

*GRUPO PAPALOTLA HAS BEEN WORKING IN S.E. ASIA SINCE 2002.*
*WE STARTED IN THAILAND, IN UBON RATCHATHANI PROVINCE.*

*Initially recommended by Ciat to produce seed in Asia, we finally signed an agreement with the faculty of agriculture of Ubon Ratchathani, our program is directed by Dr. Michael Hare.*

*Two main objectives were sought*

1. *Produce seed with small scale producers, increasing their income with a cash crop and sustainable prices:*

2. *Propagate the utilization of this new varieties in animal husbandry, including grass and legume consumption.*


PAPALOTLA
Ubon Forage Seeds
มหาวิทยาลัยอุบลราชธานี

Ubon Forage Seeds

PAPALOTLA

มหาวิทยาลัยอุบลราชธานี

*TROPICAL SEEDS, THROUGH THIS WORK, HAS ALLOWED FOR THE UNIVERSITY TO GET FUNDING, MAINTAIN A GROUP OF WELL SKILLED RESEARCHERS IN SEED TRIALS, PRODUCTION AND SEED PROCESSING.*

*Today, our target in production is as follows:*

| ***New season production targets Thailand and Laos*** | | | | |
|---|---|---|---|---|
| Species | Area (hectares) | No villages | No farmers | Estimated production (kg) |
| Mulato II | 450 | 33 | 750 | 59,800 |
| Mombasa | 560 | 56 | 1100 | 161,000 |
| Cayman | 173 | 25 | 267 | 10,950 |
| Tanzania | 5 | 2 | 17 | 2,450 |
| Arachis pintoi | 56 | 5 | 41 | 14,000 |
| Crotalaria | 12 | 3 | 41 | 4,000 |
| Total | 1256 | 124 | 2216 | 252,200 |

## NEWS

**MULATO II IN EAST AFRICA**

In Kenya and Ethiopia

*CHARLES WASONGA, ICIPE*

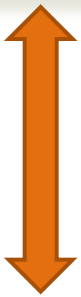
*AFRICAN INSECT SCIENCE FOR FOOD AND HEALTH*

*WWW.ICIPE.ORG*

"Over 600 farmers having planted Mulato II in Kenya and another 600 will be planting it in Ethiopia beginning June when their main cropping season commences. Our on-station demonstration plot is now very well established and the farmers/visitors who have seen it are all requesting for seed. I am attaching a photo from our demo plot in which we have planted Mulato II as the trap plant around a Push-Pull plot. Looks like we will need more seed in the next year gauging from the expressions of interest already coming in from farmers" Charles Wasonga.

*HYPOTHESIS:*

*Tropical forage grasses, particularly Ciat's Brachiaria varieties, can serve as promoters for social and economical transformation of a community or region.*



*THIS TRANSFORMATION IS POSSIBLE THANKS TO*

- *The higher productivity, adaptability, disease and plague resistant, and sustenance that this new hybrids can offer to producers.*

- *Diverse animal husbandry activities can be implemented for different animals: cattle, sheep, goat, fish, guesse.*

- *Complementary activities can be sustained with the introduction of Brachiaria hybrids, such as the push pull technology.*

- *Industrialization process can initiate from forage production based on these materials, like producing compressed bails, producing hay, ensilage and pellets*

*Thanks to efforts like the one of Dr. Charles Wasonga from Icipe, Mbita point campus in Kenya, through the support of EU funding, the initial worldwide distributed Brachiaria hybrid from Ciat, Mulato II, has been distributed among small farmers of Kenya, Tanzania, Uganda and Ethiopia.*

*A project focused on selected drier agro-ecologies in Kenya, Tanzania and Ethiopia*

***Background***

*Inadequate fodder supply is one of the major challenges to livestock production in eastern Africa.*

*Dependency on naturally growing low quality fodder species whose growth and availability is dependent on cycles and abundance of seasonal rains.*

*Inadequate rains and drought events arising from changing climatic conditions*

*The fodder species grown or naturally occurring are susceptible to drought.*

*Moisture deficit stress, diseases such as the Napier stunt disease that affect commonly grown fodder grasses such as Napier (Pennisetum purpureum)*

***ICIPE's Approach***

*We have integrated Mulato II (due to its drought tolerance, high fodder quality and high attractance to cereal stem borers) together with the forage legume greenleaf desmodium (Desmodium intortum), which also has some drought tolerance) as component companion plant species in a conservation agriculture technology known as 'Push-Pull' to contribute to increased cereal crop and livestock productivity in the drier areas of eastern Africa (for further details about this project visit push-pull.net/adaptation).*

*To achieve the desired productivity increase, Greenleaf desmodium is intercropped with the cereal crop with the purpose of repelling stemborers insect pests from the cereal fields, controlling striga weed and improving soil fertility.*

*Mulato II is at the same time grown in strips around cereal crop fields where it acts as a trap plant against cereal stemborers repelled by Greenleaf desmodium from the cereal field. The lines forming the Mulato II strips are also sequentially harvested/cut and utilized as fodder for livestock especially in the zero grazing systems thus giving the grass a dual function.*

*To further enhance the nutritional quality of the resulting fodder especially with respect to protein content, the desmodium that is intercropped with the cereal is also harvested and mixed with Mulato II. The technology especially targets smallholder farmers with limited landholdings but who are also involved in livestock rearing in addition to crop farming.*

## *Project target areas, goals and partners*

*The targeted farmers stand a great chance to immensely benefit from introduction of Mulato II given the productivity challenges they currently experience in crop and livestock productivity.*

| *Target areas* | *Goals* | *Partners* |
|---|---|---|
| *Ethiopia: Central Tigray (in Tigray region), South Wollo (Amhara region), West Hararge (Oromia region) and East Shoa (Oromia region).* | ***In these target areas and the wider eastern Africa region we aim to reach some 50,000 farmers*** | *Ethiopian Institute for Agricultural Research (EIAR), and the Institute for Sustainable Development (ISD* |
| *Kenya:Homabay, Migori, Siaya, Kisumu and Nyamira counties of Nyanza Province and Busia and Kakamega counties of Western province.* | | *Kenya Agricultural Research Institute (KARI) and Heifer Project International (HPI-Kenya)* |
| *Tanzania: Tarime, Sengerema, Igunga, Bunda and Bukombe districts of Mara, Mwanza and Tabora* | | *Lake Zone Agricultural Research and Development Institute (LZARDI) and Heifer Project International (HPI-Tanzania)* |
| | | |

*Since March 2012*

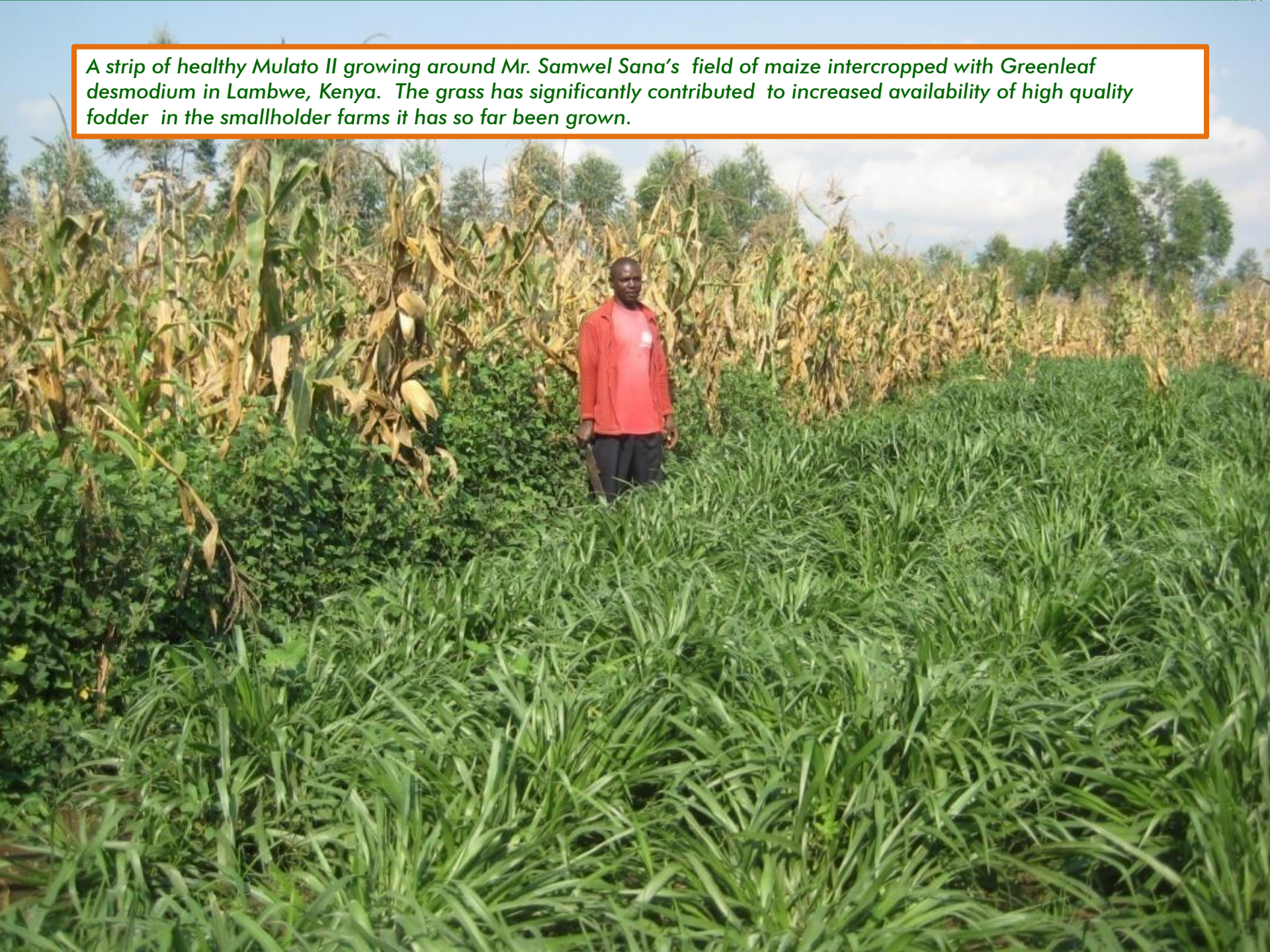
- *More than 5000 farmers have been directly trained through our project in Kenya, Tanzania and Ethiopia on the growing and management of Mulato II.*
  - *More than 2000 of these farmers have grown the grass.*
- *An additional 5000 new farmers are targeted to train to grow Mulato II across the sites.*

*Representatives of the project's partners from Ethiopia, Kenya and Tanzania are meeting some of the participant farmer groups from Kenya during a farm visit. The project's partners in Ethiopia are Ethiopian Institute for Agricultural Research (EIAR), and the Institute for Sustainable Development (ISD). In Tanzania the partners are Lake Zone Agricultural Research and Development Institute (LZARDI) and Heifer Project International (HPI-Tanzania). The partners in Kenya are Kenya Agricultural Research Institute (KARI) and Heifer Project International (HPI-Kenya)*

*On-station testing at ICIPE Mbita campus*

*A pioneer group of Mulato II farmers from Bondo and Siaya Districts during a 2012 exchange visit to share experiences on establishment, management and utilization of the grass. On the foreground is the Mulato II grass. Participation in the growing of the grass and lesson sharing on experiences has also contributed to networking and increased social cohesion among the farmer groups and families*


On-farm testing



*A strip of healthy Mulato II growing around Mr. Samwel Sana's field of maize intercropped with Greenleaf desmodium in Lambwe, Kenya. The grass has significantly contributed to increased availability of high quality fodder in the smallholder farms it has so far been grown.*

*Mr. Samwel Sana's field with well established Mulato II has become a learning site for other farmers in the Lambwe area and beyond. Many farmers who have visited the farm have learnt about the grass and have gone back to grow it in their farms having obtained small quantities of seed through ICIPE's European Union funded project.*

*Mr. Samwel Sana's sharing with a group of farmers his experience on growing Mulato II during a field day at his farm. He says his having grown the grass on his farm has increased his social standing in the village and people respect him and consult him time and again on how to grow and manage the grass.*

*Our project has so far organized many field days and tours during which farmers previously not exposed Mulato II learn about its uses and how to plant and manage it. In this effort the farmers who have had experience in growing the grass have been at the forefront in hosting field days and training the other farmers with our project officers only providing technical backstopping during such meetings. Such pioneer farmers have in the process improved on their skills on communication and social interactions.*

*Visit to fellow farmers field plots planted with the grass have increased demand for Mulato II by new farmers who then get confident that they would similarly succeed in growing it.*

*Project personnel's regular follow up visits to sites where farmers have established Mulato II has sharpened the skills of such farmers with respect to good management practices for the grass.*


*Farmers have learnt and tested alternative methods for establishing Mulato II using root splits from already established fields*

*A root split established Mulato II plot at Sana's farm. This is a strategy that farmers are adopting to expand their farm plots planted with the grass.*

*Farmers learn to make Mulato II hay in a specially dug pit at Samwel Sana's home in Lambwe Kenya as visiting collaborating project partners drawn from Kenya, Tanzania and Ethiopia who were also on a learning tour look on.*

*Farmer Ngige of Lambwe Kenya sharing his experience on growing and utilizing Mulato II with project partners drawn from Kenya, Ethiopia and Tanzania during a learning tour for project trainer of trainers in Feb 2013*

*The performance of the grass has been excellent around many farmers fields producing high biomass (fodder). In the current picture is strip of Mulato II on one side of Mzee Ngige's maize plot in Lambwe area of Kenya*

*A strip of Mulato II on another side of Mzee Ngige's maize plot in Lambwe area of Kenya. The high biomass production by Mulato has created the need for farmers to conserve surplus fodder to ease shortages during the dry months often experienced across majority of the project's target sites*


*Farmer Mary Onyango leads farmers from Umbrella. A women group in Kamsama area during the training of their neighboring Wapa farmers group on making Mulato II hay using a hay box as a way of preserving surplus Mulato II harvested from a section of Mr. Ngige's field plot (seen in the background) as visiting collaborating project partners drawn from Kenya, Tanzania and Ethiopia who were also on a learning tour look on*

*One of the of the participants feels the weight of a bale of Mulato hay  prepared by Umbrella. A group during a training visit to Wapa group*

*Mulato II has significantly contributed to increased availability of high quality fodder in the smallholder farms it has so far been grown. Used in combination with the Greenleaf desmodium the protein content of the resultant fodder is further increased. The high quality fodder has resulted in healthier livestock and increased milk production. The increased milk production has contributed to improved nutrition, health and income within farmers' households.*

*Dairy goats fed on Mulato II are well nourished and healthy*

*Farmers who have planted Mulato II now spend less time looking for livestock feed or taking livestock out to graze in the fields saving the time for other essential responsibilities at home.*

*The project has empowered farmers including women. For example in the current slide is Farmer Alice Odima of Siaya who was one of the pioneer farmers to plant Mulato II. Apart from realizing overall increase in sorghum yield in her farm based on the plant arrangement promoted by ICIPE, the well established strips of Mulato II around her plot were an additional source of income as she sold the grass to a neighboring farmer who kept dairy cattle but lacked fodder.*

*Alice Odima's farm has become a learning site about Mulato II for other farmers who visit on various occasions including field days. In the current picture a group of farmers attending a field day at the farm learn about Mulato II*

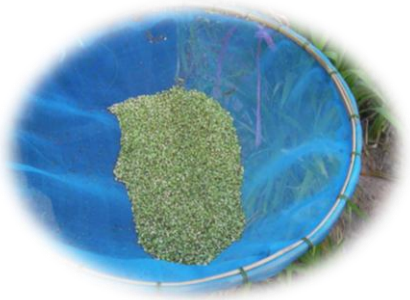
*Farmers' fields including Alice Odima's (standing second left in the current picture) are excellent learning grounds not only for farmers but also for other stakeholders including government agriculture and livestock extension officers who also work with farming communities in many other areas. This has further expanded ICIPE's farmers' outreach programs with Mulato II.*

*The main aspect is to have readily available seed to expand the usage of Mulato II and gradually introduce new hybrids of other ecosystems, like Cayman (already sold in Latin America), and tropical legumes.*

*Cayman*

*IT IS IMPERATIVE THAT WE FIND A MEAN OF SUBSIDIZING THE SEED FOR THESE PRODUCERS TO EXPAND THE PROCESS.*

*Seed production systems will happen, but will take at least five years to be developed for viable seed production at competitive prices and quality.*



*ONCE THIS EXPANSION OCURRS, DIVERSIFICATION WILL HAPPEN: EXPANSION FOR PUSH PULL TECHNOLOGY,ANIMAL HUSBANDRY INCREASES, HAY PRODUCTION FOR DAIRIES, PELLETS FOR ANIMALS, INCLUDING FISHERIES*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