



**SEMIS**  
GROWING THE  
SEED INDUSTRY

## 3<sup>RD</sup> YEAR REPORT

College of Agriculture and Veterinary Sciences,  
University of Nairobi



## Executive Summary

The Seed Enterprise management Institute (SEMI) project was started in February 2010. This collaborative project brings together private and public institutions involved in the seed value chain, is based at the College of Agriculture and Veterinary Sciences (CAVS), University of Nairobi (UON) is funded by Alliance for a Green Revolution in Africa (AGRA). It was started as a way of providing much needed capacity, especially with regard to training, to the seed industry in sub-Saharan Africa. Collaborators include University of Nairobi, Iowa State University, International Maize and Wheat Improvement Center (CIMMYT), Kenya Agricultural Research Institute (KARI), Kenya Plant Health Inspectorate Institute (KEPHIS), Private and Public Seed companies and international Consultants.

The main objective of SEMI is to help seed companies in Africa produce more seed through provision of training on crucial aspects of seed in the seed value chain. Throughout much of Africa, seed companies face major challenges on basics of seed production, processing, quality assurance and general seed enterprise management. SEMI provides training on all these major issues through provision of short courses at the University of Nairobi on Seed production, Seed Drying Processing and Storage, Seed Business management and seed quality assurance and Seed Enterprise Quality Management. These courses are delivered by experts in the different fields with the intention that the acquired knowledge will be utilized in not only upscaling production but also quality of the seed produced for farmers.

In the third year of the project, over 140 seed company personnel from over 40 different seed companies and 17 countries received training at SEMI.

The seed production course, where all the basics of field seed production are taught had 30 participants and was held between 21<sup>st</sup> and 27<sup>th</sup> May, 2012. The main facilitators were Dr. John MacRobert from CIMMYT and Dr. Kiarie Njoroge from CAVS. Other facilitators were from KARI, KEPHIS and CAVS. The seed drying processing and storage course was held back to back with the seed production between 28<sup>th</sup> and 27<sup>th</sup> May 2012. The main facilitator, as in the previous year was Dr. Yuan Shyy from Iowa state. He was helped by Dr. Ayub Gitau from CAVS. Other facilitators included Dr. Ragwa from KARI Katumani and lecturers from the Department of Environmental and Biosystems engineering of the University of Nairobi.

The course on seed business management had 29 participants from 26 seed companies and 18 African countries. The participants in this course are mainly Chief Executive Officers (CEOs) who make the hard decisions in the seed company ensuring seed company sustainability and profitability. Aline O'Connor Funk, a consultant with AGRA and the Gates foundation and Professor Evans Aosa from the School of business were the coordinators of the course. Other facilitators were mainly drawn from the School of business. Dr Julius Kipng'etich, the director of the Kenya wildlife Service was invited as a guest speaker as in previous courses in the last two

years. . The Seed marketing had a total of 30 seed company personnel from 24 seed companies and three universities, Haramaya, West Africa Centre for Crop improvement (WACCI) and African Centre for Crop Improvement (ACCI). Seventeen African countries were represented.. Aline O'Connor Funk and Dr. Justus Munyoki from the school of business, with help from other staff at the school of Business and CAVS, were the coordinators of the course.

Seed quality assurance and seed enterprise quality management course was held between 16 and 30<sup>th</sup> of September, 2012. a total of 29 participants from 25 seed companies and 15 African countries. Two participants from the AGRA West African office in Accra also attended the course in order to familiarize themselves with the training that the seed companies, for which they are in charge, go through. They paid tribute to the exemplary training that the seed company personnel were going through. The main facilitators, with help from UoN and KEPHIS staff, and other stakeholders were Dr. Joe Cortes from ISU, KEPHA Ogada from KEPHIS and Dr. James Muthomi from CAVS. Dr. Mike Stahr, from ISU, who is normally in charge of the seed quality aspects of this course, did not attend due to sickness.

Apart from training, SEMIs is involved in production of breeders' seed for beans. Currently, the project is engaged in production of six bean varieties including, Kenya wonder, Super Rosecocco, Kabete super, Miezi mbili, Kenya sugar bean and Kenya Red Kidney bean varieties. These varieties, developed by UON breeders have been licenced to seed companies and specifically Kenya seed company. SEMIs is providing foundation seed for these varieties to the seed companies for further multiplication to certified seed. One of the major hurdles in upscaling seed production for seed companies is the lack of foundation seed and this project is therefore helping increase food production and security in the country.

Although, this was initially meant to be the project, all indications are that AGRA will provide further funding for the continuation of the project for another three years. A decision based on the positive feedback from seed companies on the benefits of the training. We at SEMIs look forward to continuing providing this crucial capacity for the seed companies with the goal of having a vibrant and competitive seed sector in Africa that is responsive to the needs of African farmers.

## Table of contents

Executive Summary .....	2
Table of contents.....	4
Introduction.....	6
Activities in 2011 .....	8
SEMs first Year Review and Planning Meeting.....	9
Review of SEMs short courses.....	<b>Error! Bookmark not defined.</b>
SEMs Courses in 2011 .....	14
Seed Production Course .....	15
Seed Drying Processing and Storage .....	18
Seed Business management.....	<b>Error! Bookmark not defined.</b>
Seed Marketing.....	33
Seed Quality Assurance and Seed Enterprise Quality management.....	37
Bean seed production.....	41

## Acronyms

PASS	Program for Africa Seed Systems
AGRA	Alliance for a Green Revolution in Africa
KARI	Kenya Agricultural Research Institute
CIMMYT	International Maize and Wheat Improvement Center
PI	Principal Investigator
STAK	Seed Trade Association of Kenya
KEPHIS	Kenya Plant Health Inspectorate Services
UON	University of Nairobi
KSC	Kenya Seed Company
ISU	Iowa State University
OPV	Open Pollinated Variety
ASIF	African Seed Investment Fund
AOSA	Association of Official Seed Analysts

## Introduction

The seed industry in Africa has experienced tremendous growth within the last decade with many seed companies currently locating all over the continent and doing the business of providing seed to the African farmer. These seed companies, by providing improved seed to small-scale farmers driving the economies of many African countries. Despite this tremendous growth however, many farmers in sub-Saharan Africa still experience challenges in acquisition of improved high yielding seed. The seed is normally not easily available and many are those that have to travel over long distances to get certified seed. Also, in many areas in Africa, certified seed is unaffordable to the farmers forcing the farmers to use their own farmer saved seed. In many other areas also, the seed is totally lacking. While there are many farmers in Africa, who out of ignorance, do not know the benefits of certified seed, others have become disillusioned from the effects of provision of poor quality seed choosing to grow their own saved seed.

Seed is the beginning of plant life and in its very nature, improved high quality seed is a major catalyst for improved crop yields, agricultural development and livelihoods. As most economies within Africa are agricultural based, a major priority for attainment of vision 2030 of food sufficiency is improvement in agricultural productivity. The required agricultural productivity needed to trigger a green revolution in Africa and make African countries food secure and net exporters of food commodities will have to come through provision of improved seed and fertilizers to African farmers. Farmers not only need wide access to improved seed, the seed has to be available when they need it. Owing to many of the challenges African farmers face in acquiring improved seed, utilization of improved seed in many African countries is dismally low. Incentives are needed for those seed companies already in operation to scale up production and for the development of new ones in order to meet the seed demand in the continent.

A major challenge facing seed companies, apart from financial access is seed systems knowledge. This is crucial knowledge that ensures that the seed enterprise is run profitably and sustainably. To fill this crucial gap on seed systems knowledge and improve seed production in Africa, AGRA through the University of Nairobi set up the Seed Enterprise management Institute (SEMIs) whose main objective was to provide capacity in the form of training to the seed industry in sub-Saharan Africa. Collaborators in this noble endeavour include International Maize and Wheat Improvement Center, CIMMYT, Iowa State University (ISU), Kenya Plant Health Inspectorate Services (KEPHIS), Kenya Agricultural Research Institute (KARI), Aline O'Connor Funk, a consultant with AGRA and Gates foundation, seed companies, and other government and private institutions involved in provision of improved seed.

SEMIs runs five short courses on seed production, seed drying processing and storage, seed marketing, seed business management and seed quality assurance and seed enterprise quality management for seed company personnel. These courses, developed at the UON with wide consultation with other learning institutions and stakeholders in the seed industry, were designed

to impart the most crucial aspects of seed enterprise management over a short period of time.

The seed production course is basically designed for production staff in seed companies and entails all aspects of field seed production. The course outline includes planning and management of seed production, seed production research and certification standards and seed grower contracts and management. Apart from imparting crucial knowledge on seed production for important food crops including maize, sorghum, millet, cassava and beans, the course also includes aspects of field seed regulation that is important for high quality seed production. Connected to seed production is seed drying, processing and storage. This particular course deals with seed processing, including drying, sorting, chemical treatment and warehousing.

The course on seed business management specifically targets chief executive officers (CEOs) who are basically in charge of making the seed business profitable and sustainable. Seed enterprises, unlike other businesses are critical owing to the fact that seed is a living commodity and requires special attention. The seed business course encompasses all aspects of seed business with emphasis on critical thinking in both financial and human capital. Connected to seed business management is seed marketing, another crucial aspect of any seed business. The course entails all aspects of seed marketing including market forecasting to ensure demand is met, analytical skills in seed marketing and seed promotion and farmer awareness campaigns to ensure increased seed demand.

The seed quality assurance and seed enterprise quality management course is intended for Seed Company personnel involved in seed quality maintenance and seed company process management. Apart from learning important aspects on seed health, seed quality, purity, certification and legislation, the course also explores the various ways of general seed enterprise quality management. Process management and analysis, key components of this course ensure that all departments of the seed company are run at the highest standards of quality.

## SEMI's Activities in 2012



## SEMIs Second Year Review and Planning Meeting

The SEMIs second year review and planning meeting took place on 1<sup>st</sup> and 2<sup>nd</sup> of February, 2012 at the College of Agriculture and Veterinary Sciences, University of Nairobi. The main objective of the meeting was to review SEMIs activities in the second year of operations and to chart the way forward for the third year. In attendance were SEMIs and University of Nairobi staff led by SEMIs Principal Investigator (PI), Professor Mwang'ombe, AGRA, led by PASS Director, Dr. Joe DeVries, Dr. Rufaro Madakadze and Dr. George Bigiriwa, representatives from ISU including Dr. Joe Cortes and Dr. James Okeno, KEPHIS, KARI, and STAK.

The highlights of the second year of activities included:

- Review of SEMIs activities in 2011-Professor Mwang'ombe
- The principal PI of the SEMIs project gave a breakdown of the SEMIs activities in 2012. This report is available at the SEMIs office office and Website.
- The principal also presented the plan for the 2012.
- Overall, the project commended for the good work was accomplishing

Group photo of participants of the Review meeting

- Other areas discussed include the SEMIs courses and execution, foundation seed production and SEMIs construction.
- Dates for the SEMIs courses were firmed up and areas needing improvement with regard to delivery and suitability were also dicussed.



Participants at the 2<sup>nd</sup> SEMIs Review Meeting

### **SEMI's Curriculum Review Meeting**

Every year SEMI's holds a curriculum review meeting, where stakeholders in the SEMI's project are invited to input and review the SEMI's curricula. The main objective of the the meeting is mainly to appraise the curriculum and incorporate changing trends of the seed industry in order to make the curricula relevant to the seed industry. This meeting was held between the 19<sup>th</sup> and 21<sup>st</sup> of March 2012 at the Kenya School of monetary studies. In attendance was the SEMI's PI and Principal of CAVS, professor Mwang'ombe, the Dean of Faculty of Agriculture Prof. Shibairo, other UON/CAVS lecturers and stakeholders form KARI and KEPHIS. Iowa state was represented by Dr. James Okeno.

Outputs from the workshop included:

updated curricula of all the courses five courses

Updated day plans/programmes for all the five courses.



Participants for the meeting at Kenya School of Monetary Studies Nairobi

### **African Seed Trade Association congress**

SEMI's participated in the African Seed Trade association (AFSTA) congress that was held between 5<sup>th</sup> and 8<sup>th</sup> of March, 2012. SEMI's was represented by Dr. Kiarie Njoroge and Dr. D. K. Ndung'u who show-cased SEMI's at the meeting. Being a meeting of seed companies, and seed experts from all over Africa, SEMI's was well placed with in attending the congress. The SEMI's team received overwhelming interest from many seed companies who would like to have their staff trained at the Short courses.

At the meeting, Seed experts discussed a wide range of topics ranging from effects of

climate change on seed trade to business trends and statistics in seed in Africa. The congress was officially opened by his Excellency the President of Zanzibar Dr. Ali Mohamed Shein.



H.E. Dr. Ali Mohamed Shein, the President of Zanzibar after visiting the SEMIS Stand at the AFSTA congress in Zanzibar

The AFSTA congress provides a platform for stakeholders in the seed industry to meet, exchange ideas and trade. AFSTA which was officially inaugurated in 2000 is hosted in Nairobi Kenya. The association serves as a regional representative body for the seed industry and also serves to promote the development of private seed enterprises



Dr. Kiarie Njoroge at the SEMIs stand.

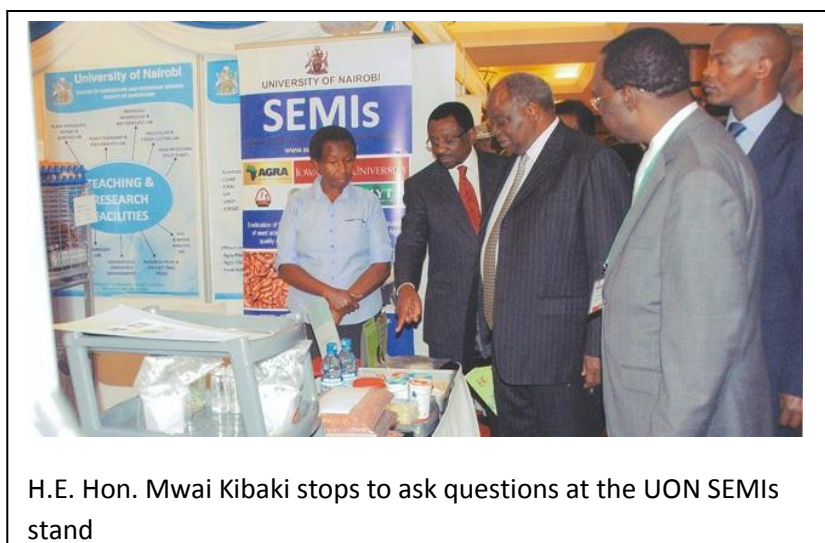
### Kenya transformation day-22<sup>nd</sup> August 2012

The Kenya Agricultural transformation day brought together agricultural stakeholders in government, private sector and agricultural experts in Nairobi. The forum was sponsored by AGRA and had among the experts, AGRA president, Jane Karuku. The forum was also attended by the prime minister who emphasised government’s commitment towards agricultural self sufficiency.

The SEMIs team was led by the PI, Professor Mwang’ombe and Professor Olubayo.

### Third Agricultural Sector Development Forum-October 16

SEMIs under the Banner of the University of Nairobi was showcased at the 3<sup>rd</sup> Agricultural Sector Development forum that was held at the Safari Park hotel in Nairobi. His excellency the president of Kenya, Hon Mwai Kibaki officially opened the one week forum on 16 October, 2012. While highlighting the importance of the Agriculture to the country,



H.E. Hon. Mwai Kibaki stops to ask questions at the UON SEMIs stand

the President urged the youth to be more involved in agriculture as only then can the sector move rapidly towards vision 2030 Goals.

The forum which brought together over 1,200 participants from government and private sector and farmers, provided a great opportunity for SEMIs to showcase its activities. Dr. Ndung'u, SEMIs project manager represented SEMIs at forum.



Participation of SEMIs in Agricultural Fora is important to spread the seed message

### **African Green Revolution Forum (AGRF) 2012: Arusha, Tanzania, 26-28 September, 2012.**

The African Green Revolution Forum (AGRF) conference was held in Arusha Tanzania between 26-28 September, 2012. This forum, sponsored by AGRA brought together global leaders for discussions on how to sustain agriculture growth and food security in Africa. the high ranking meeting came right on the heels of G8 summit meeting where leaders committed themselves to development of public-Private sector partnerships to alleviate hunger and food insecurity.

The forum, which was hosted by H.E. Jakaya Kikwete, provided a forum for stakeholders in Agriculture, to meet and exchange ideas on how best to tackle the issues of food insecurity in Africa. SEMIs was represented by SEMIs PI, professor A. Mwang'ombe, Professor Florence Olubayo-SEMIs management, and Rosebenna Cheron, a field technician in charge of the Bean project at SEMIs.

## SEMIs Courses in 2011

### Seed production



### Seed drying processing and Storage



### Seed marketing



### Seed Business Management



### Seed Quality Assurance and Seed Enterprise Quality Management



## Seed Production Course

*“This course is the catalyst for a green revolution”-Joe DeVries, PASS Director*

The seed production course was held between dates of 21<sup>st</sup> and 26<sup>th</sup> May, 2012. As in the previous courses, Dr. John MacRobert was the main facilitator with help from Dr. Kiarie Njoroge of CAVS and other UON of lecturers. John has vast experience in the seed industry and has extensively worked on providing capacity for the seed industry in Africa. He is author of the much acclaimed book, “Seed Business Management in Africa”. This book delves deeply into the whole issue of how to go about seed business in Africa and provides a vision and strategy of seed enterprise. It provides useful information on production, marketing and finance and is an invaluable asset for seed companies.. Dr. MacRobert works with International Maize and Wheat Improvement Center (CIMMYT) and is based in Zimbabwe. Other facilitators included Dr. Riungu and Dr. M’Ragwa, the director KARI Muguga and head of the KARI seed unit respectively, Mr. William Munyao, Patrick Maluku and Kinyanjui, from KEPHIS Nairobi and Nakuru.

In total 30 participants from 27 seed companies and 13 African countries attended the training. As one of the objectives of the SEMIs project is to train both Phd and MSc. Students in seed enterprise, among the participants were two Phd students from West Africa Center for crop improvement and three masters students from Makerere and Kwame Nkurumah University of Science and technology. From East Africa, there were representatives from Ethiopia, Uganda, Tanzania, Rwanda and Kenya, West Africa was represented by Ghana, Nigeria, Mali, Niger and new entrants Liberia and Sierra Leone.

The Production course involved four days of formal lectures at CAVS followed by two days of field excursions, where the participants travelled to Nakuru to visit the KEPHIS laboratory in Nakuru and Leldet seed company. On the second day the participants visited KARI Njoro where they were learnt of the Wheat rust programme at KARI Njoro.

### **Countries and Seed Companies represented in Seed production course in 2011**

No. of Countries	No. of Seed companies/ Institutions	Students	Total Number of Participants
19	20	2 Phd 3 Msc	30

Most of the participants were from the production departments of their respective seed companies. All aspects of seed production from seed classes to planning seed production, management of out growers, to seed production budgets, field inspection, and national performance and DUS trials were taught.



Dr. John MacRobert delivering formal lectures at CAVS



Lectures at KARI Njoro in the Wheat rust Programme

Over 50% of the training is experiential where participants normally involve themselves with actual field work. The field work has come to be one of the strong points of this programme.



Visit to KEPHIS in Nakuru for Variety testing



Dr. Kiarie Njoroge from SEMIs with Participants at KEPHIS Nakuru

After a week of intense class, laboratory and field training the participants were awarded certificates of participation at a formal ceremony hosted by the Principal of the college at the Jacaranda hotel in Nairobi. In attendance were the Principal of the college and SEMIs PI, Prof. Mwang'ombe, Dr. Onsando from KEPHIS while AGRA was represented by Dr. Rufaro Madakadze. Others included the dean of the faculty of Agriculture Prof. Solomon Shibairo and SEMIs and UoN staff.





Dr. Onsando from KEPHIS presents a certificate of participation to one of the participants from KIPATO seed company based in Tanzania



Dr. Madakadze, right, presents a certificate to Dr. Amade Muitia from Mozambique, a Phd Graduate from ACCI South Africa.

## Seed Drying Processing and Storage

*Many seed companies in Africa lack the capital to invest in high tech seed processing facilities, however, by adopting simple practical methods and pragmatism, seed can still be processed cheaply and to highest quality needed.*

The seed drying processing and storage course was held between May 28<sup>th</sup> and 2<sup>nd</sup> June, 2012. Dr. Yuan Shyy from ISU and Dr. Kiarie Njoroge from CAVS were the main facilitators of the course. Other facilitators were drawn from CAVS and included Dr. Ayub Gitau, the chairman of the Environmental and Biosystems Engineering (EBE), professor Micheal Okoth, the Chairman of Food Science, Nutrition and Technology, among others.

In total there were 31 participants from 23 seed companies. The course also had Phd and Msc students from WACCI, ACCI, Makerere and Kwame Nkurumah University of Science and technology. The Food and Agricultural Organization sponsored two participants from Sierra leone engaged in the seed multiplication project

Countries	No. of Seed companies	Universities/ Institutions	No of Students	No of Seed company Personnel
14	24	4	7	23

Dr. Yuan Shyy, a seed expert from ISU took participants through aspects of all the different types of seed processing equipment needed for high quality seed processing.



There were four days of class and laboratory training and two day of field trip. In the field trip the participants travelled to Machakos County and visited, Kenya seed company seed processing factory in the outskirts of Nairobi, BrazAfric, a seed equipment merchant, Kenya Agricultural Research Institute (KARI) Katumani, and Dryland seed company ltd. Dryland Seed Company, as with most of the companies that attend the SEMIs courses is one of the seed company being supported by the AGRA



Participants at Brazaftric, a seed company that sells seed processing equipment



Alson Shangali from Northern Seed company discusses how his company processes tomato seeds

Participants learnt the really practical issues of seed processing on the large and small-scale level.



Seed Packaging at Simlaw Seed company in Nairobi

Dryland Seed Company produces seed of maize, sorghum, cowpea, beans, green grams and pigeon peas. For maize, the company has a hybrid and OPVS. In collaboration with KARI, the company continues its acquisition of more hybrids to boost its varietal portfolio.

Apart from production, marketing is a crucial department for any seed company. Dryland seed company has established an agro-dealer outlet to market and sell its seed products. The Agro-dealer outlet also sells other agricultural inputs like fertilizers and crop protection products.

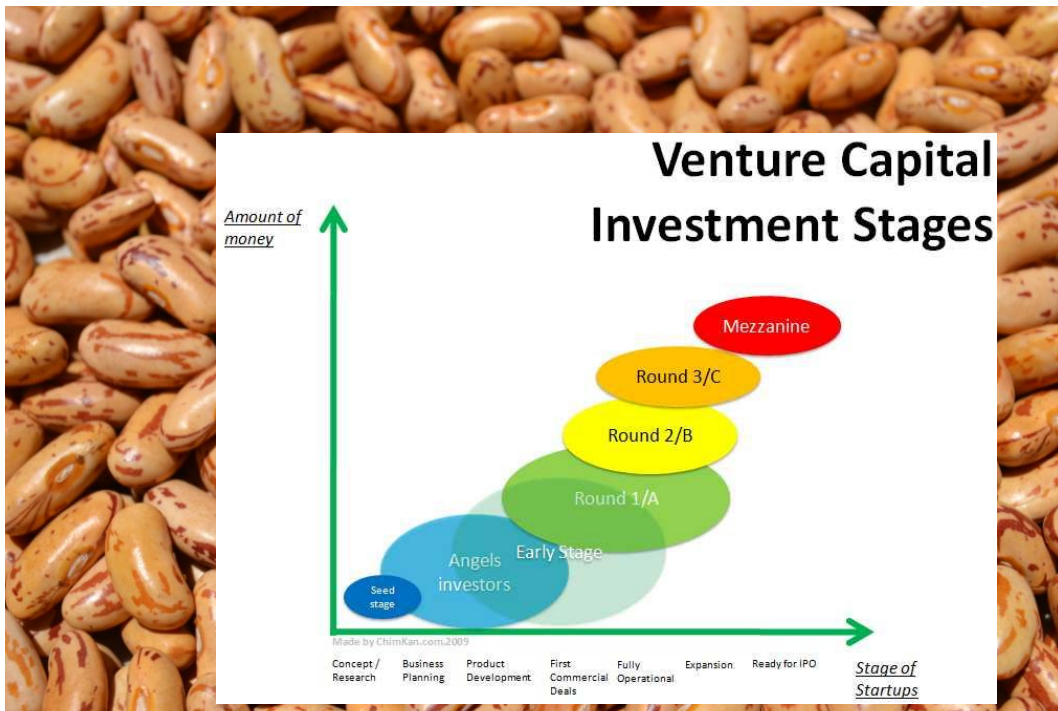


Learning to use a moisture meter at BrazAfric

Visit to Dryland seed company



## SEMI's Seed Business Management course 2012



Seed Business course participants-2012

### Seed Business Management

Seed business management course was held between 16<sup>th</sup> and 21<sup>st</sup> July 2012. This course as with the seed marketing one is jointly facilitated by CAVS and the University of Nairobi business school. The main facilitator was Aline O'Connor Funk, a consultant with the Gates foundation and AGRA, and Professor Evans Aosa of the school of business. Aline has vast experience in managing seed companies, having been an owner of a seed company in the USA, and also having worked with many seed companies in the USA and in Africa.

Being a business oriented course, it was deemed necessary to bring on board expertise from the School of business. Prof Aosa, the Associate Dean, Graduate business studies at the school of business holds a Phd in strategic management and facilitates the seed business Course, while Dr. Justus Munyoki, whose area of specialization is strategic management, technology transfer and new product development, facilitates the seed marketing course. They are helped by other UON lecturers and guest speakers.



**Prof. Evans Aosa from the School of Business at the Seed Business course in 2012**

This year also witnessed the facilitation from Dilip Gokhale a consultant with AGRA who together with Aline O'Connor Funk, were the main consultants for both the business Management and seed marketing courses. Dilip, Gokhale is consultant with AGRA and has long term experience within the seed industry having worked at one time as a senior advisor to the Syngenta foundation for sustainable agriculture. Dilip also brought on board seed experience from India, which boasts of a very mature seed sector.



**Dilip Gokhale during the SEMIs seed business training**

In total, there were 22 seed company practitioners, three PhD and two MSc. Students. The PhD students were from West Africa Centre for Crop Improvement (WACCI) based at the University of Ghana and Africa Centre for Crop Improvement (ACCI) based at the University of KwaZulu Natal in South Africa. The MSc students were from Haramaya University in Ethiopia. Most of the seed company participants were Chief executive officers (CEOs) of their seed companies.

Country	No. of Seed companies/Institutions	Seed companies/Institutions	Number of Participants
Nigeria	1	WACCI	1
Cameroon	1	WACCI	1
Ethiopia	1	Haramaya University	2
Uganda	1	Victoria	1
Tanzania	2	Suba Agro, Kipato	2
Malawi	3	Panthochi Seed, Peacock Seed Company, ACCI	3



Zambia	1	Stewards Globe Ltd	1
Mozambique	3	NzaraPeya, Morais Comercial, Dengo Comercial	3
Rwanda	1	APC	1
Ghana	3	Heritage Seeds, Josma, Meridian	3
Liberia	1	Greenstar	1
Niger	1	Halal	1
Sierra Leone	2	Seed Multiplication Project	2
South Sudan	2	Green Belt, Century	2
Zimbabwe	1	Mukushi Agrodealers(PVT)	1
Burkina Faso	1	<a href="#">EPC-SAC</a>	1
Guinea	1	Guinee-Semence	1
Mali	2	BADDAR, MaliPaysans	

The Seed Business course is designed for seed company executives (CEOs) and senior management personnel in seed companies. Topics include strategy and strategic management presented by Professor Aosa, managerial skills, key success factors for seed companies, critical thinking and financial management. In order to acquaint the managers with information technology, an ICT session where participants learn how to make the best use of excel spreadsheets and important management tools.



Participants engage during a break out session

As is normally the case for the seed business group, a guest speaker from either the private or public sector is invited. This year the guest speaker Dr. Julius Kipng'etich from the Kenya Wildlife services (KWS) who spoke at length on important aspects that any entrepreneur needs in order to succeed. Dr. Kipng'etich is credited with turning around the KWS into one of the best managed parastatals and the most profitable.



Dr. Kipg'etich delivering a talk to participants

### Visit to the Seed Industry

SEMI's strives to make the seed courses as much experiential as possible. Therefore, and to break monotony of class, the seed business class travelled to Machakos County where they visited Dryland Seed company which has benefited from AGRA support. Dryland seed company has also benefitted from the training at SEMI's. Currently, the seed company is one of the seed company that has shown tremendous improvement in seed production resulting from the AGRA support and from SEMI's training.



The CEO, Dry land Seed Company (2nd left) discusses with Participants at Dryland Seed Company

The company through AGRA support has recently acquired a seed processing unit and in now able to process its own seed.

Apart from, the seed company, Dryland also runs an agro-dealer shop which serves as an outlet for its seeds.



## Seed Quality Assurance and seed Enterprise Quality Management 2012

The Seed quality assurance and seed Enterprise Quality Management course was held between 17 and 29 September, 2012. In total there were 28 participants from 17 African Countries. The course consists of two weeks of lectures and laboratory practicals at CAVS and field visits to the seed industry. Participants visited the KEPHIS seed laboratory in Nakuru County in the heart of the rift Valley of Kenya.



Participants during seed quality assurance practical sessions at CAVS

In total there were 29 participants from 27 seed companies and 15 African countries.

### **SEMI's construction**

Considerable progress has been made on SEMI's construction of the seed processing unit at CAVS. This seed processing unit, once complete will process seed for the University and also for seed companies that don't have processing facilities.

### **Breeder Seed production**

SEMI's is also actively engaged in breeder seed production both at the Kibwezi farm and at the college of Agriculture and Veterinary Sciences (CAVS) fields at the college.



Climber beans bred at UON that SEMIs is involved in breeder seed production

Class seed	Variety	Location	Quantity
Breeder Seed	new Roseocco	Isiolo	5354
	Kenya Early	Isiolo	1437
	New Roseccoco	Naivasha	?
	<b>Total Breeder seed</b>		<b>6791</b>
Basic seed	Kenya Mavuno	Kutus	54
	Kenya Mavuno	Kerogoya	154
	Kenya Mavuno	Naivasha (karongo)	585
	Meizi Mbili	Naivasha	1399
	Kenya Safi	Naivasha	738
	Kenya Tamu	Bungoma	?
	<b>Total Basic Seed</b>		<b>2930</b>

Breeder seed produced by UON in 2011.

SEMI is working together with the University to produce breeder seed of improved bean varieties bred here at CAVS.

were where participants were taught how to use excel spreadsheets and other important business management tools.



Ms. Aline O'Connor Funk making a presentation to the seed business management group



Professor Aosa (standing) presents a lecture on strategy and strategic management

SEMI invited Dr. Julius Kipng'etich as a guest speaker for the seed business course. Dr. Kipng'etich is the director of Kenya Wildlife Services (KWS) which is mandated to preserve Kenya's worldwide acclaimed wildlife. Dr. Kipng'etich has been the driving force in management of the KWS and he presented the simple qualities of successful business managers. SEMI was highly honoured to have Dr. Kipng'etich share his experiences with the participants. Dr. Joe DeVries also took time to attend some of the lectures at the UoN



Dr. Julius Kipng'etich (standing) discusses a point with participants

Dr. Joe DeVries from AGRA in discussions with the seed business management group

The group also had opportunity to meet with potential financiers in Root Capital and African Seed Investment Fund (ASIF). Root capital provides finance for communities and conservation while ASIF is an AGRA initiative that provides funding for African agricultural development. In addition to the formal lectures at the University, the group also visited an agro-dealer outlet 30 kilometres out of Nairobi in Limuru, a high agricultural potential district in the Kenya highlands.

The closing ceremony was attended by among others, Dr. Joe DeVries, Professor Agnes Mwang'ombe, the dean faculty of veterinary medicine, Professor Munene Njenga and Professor Shibauro, the dean of the faculty of agriculture. Participants were awarded certificates of participation.



Professor Njenga Munene addresses the participants



From Right: Dr. Aduda, (School of business), Alson Shangali (Northern Seed), Professors Mwang'ombe and Olubayo (CAVS)



## Seed Marketing

The seed marketing course took place between 25<sup>th</sup> and 30<sup>th</sup> of July 2011. This course is run in collaboration with the University of Nairobi Business School. The coordinator of the Course is Aline O'Connor Funk, a consultant with AGRA and the Gates foundation helped by Dr. Justus Munyoki from the school of business. Aline has wide experience working with seed companies in the USA and currently works with AGRA providing consultancy services to seed companies all over Africa. Other trainers were mainly drawn from the school of business.

A total of 25 participants from 25 seed companies attended and 14 countries attended the training.

Country	No. of Seed companies	Seed companies	Number of Participants
Ethiopia	3	Hadia, Oromia, Nile	3
Uganda	1	Pearl	1
Tanzania	5	IFFA, Aminata, Northern Seed, AgriSeeds Technologies, Itente	5
Malawi	1	CPM Agriseeds	1
Zambia	1	Indigenous Seed Company	1
Mozambique	1	Semente De Nampula	1
Rwanda	1	Win Win Agritech	1
Ghana	3	CLSD-Ghana, Isakuf Enterprises, M&B seeds	3
Liberia	2	Arjay Farms, Brac Liberia	2
Mali	1	Nakoshi-SARL	1
Niger	2	Husaa, Gamonzen	2
Sierra Leone	2	Yeava Enterprises, Abhajar	2
Kenya	1	Kenya seed company	1
Burkina Faso	1	Nafaso seed company	1

Topics taught included marketing concepts, market segmentation, culture and ethics in marketing, Customers, promotional strategies among many others. Besides the formal lectures in class the participants had opportunity to experience firsthand seed marketing in the real world by visiting the Simlaw seed company. Simlaw Seed Company is a subsidiary of the Kenya seed company, Kenya's largest seed company that commands over 80% market share of the seed market in Kenya.



Dr. Munyoki from the School of business demonstrates to the participants the essence of branding in marketing



Ms Aline O'Connor Funk goes through the aspects of seed marketing with the participants

A most important aspect of SEMIs courses is the experiential training that the farmers undergo. To this end, SEMIs engages with the seed industry to avail guest speakers from the seed industry. During the SEMIs course on seed marketing, Jenny Leakey the CEO of Leldet seed company and George Otieno from Wakala Seed Company gave lectures on various aspects of marketing. Leldet Seed Company from the rift Valley has pioneered with the much success the strategy of seed marketing using small seed packs.



Jenny Leakey demonstrates seed marketing using small seed packs



Video sessions at SEMI have proved to be an effective technique of getting the message through to the participants

During the visit to the seed industry, the group visited Simlaw Seed Company in Nairobi where participants experienced first-hand effective seed marketing techniques that the company utilizes to maintain lead market share.



Participants engage Simlaw seed staff in discussions on marketing strategies.



Visit to the ultra modern seed selling store that Simlaw seed company is developing

The seed marketing, after one week of lectures and visits to the seed industry, came to a close on 30<sup>th</sup> July, 2011. As usual, a closing ceremony dinner was held to award participants with well deserved certificates of participation. Dr. Joe DeVries, Aline O'Connor Funk, Professor Agnes Mwang'ombe among others attended the ceremony where all the participants were awarded certificates of participation.



Dr. Rufaro Madakadze from AGRA presents a certificate to Mr. Alimamy Kamara of Abhajar seed company from Sierra Leone



Mr. Tom Mutugu from the school of business presents Maiga Soumeila from Nakoshi seed company from Mali with a certificate



## Seed Quality Assurance and Seed Enterprise Quality management

The seed quality assurance and seed enterprise quality management course was held between September 18 and 1<sup>st</sup> October 2011. Unlike all other courses this particular course was held over a period of 2 weeks. This was mainly because the course was a merger of the previous seed quality assurance and seed legislation and Accreditation courses that were held last in 2010. During the 1<sup>st</sup> review and planning meeting it was strongly felt that in order to better serve the seed companies, the courses on seed quality assurance and seed legislation needed to be merged into one and the course run over period of two weeks.

A total of 27 participants from 27 seed companies and 12 African countries attended the training. Three new seed companies, FAGRI, from Burkina Faso, Brac, from Sierra Leone and Faida seeds from Kenya, were included in the training.

Country	No. of Seed companies	Seed companies	Number of Participants
Ethiopia	3	Hadia, Avallo, Oromia	3
Uganda	1	Pearl	1
Tanzania	3	Aminata, Northern Seed, Itente	3
Malawi	2	CPM Agriseeds, Funwe Farm	2
Zambia	1	Indigenous Seed Company	1
Rwanda	1	Win Win Agritech	1
Ghana	2	CLSD-Ghana, Isakuf Enterprises	3
Liberia	2	Arjay Farms, Brac Liberia	2
Niger	4	Husaa, Gamonzen, Alheri, Halal	4
Sierra Leone	3	Yeava Enterprises, Abhajar, Brac Sierra Leone	3
Kenya	2	Kenya seed company, Faida seeds company	2
Burkina Faso	2	Nafaso, FAGRI	2

The coordinators of the course were Dr. Joe Cortes and Dr. Mike Stahr from ISU helped by Dr. James Muthomi of CAVS. Dr. Joe Cortes is the leader of the Global seed Program at ISU, while Dr. Mike Stahr is the seed laboratory manager at the seed Science Centre in ISU and the current Association of Official Seed Analysts (AOSA) president. Other facilitators were from CAVS and KEPHIS.

During the first three days, the participants learnt among other topics, aspects of process management, analysis and flowcharting, documentation structure, quality manual guidelines. Basically, process management is the system of procedures that a seed company needs to ensure high quality performance in all departments of the seed company. Dr. Joe Cortes was the main facilitator for process management. Seed quality assurance was taught by Dr. Mike Stahr whose

expertise lies in germination, vigor of large seeds and trait testing. Topics that for seed quality assurance, among others included, national, regional and international certification procedures and standards, laboratory certification standards, field inspections, seed laboratory tests and seed purity tests.



Dr. Joe Cortes explains aspects of Process management Poster session during tea break

Participants were requested to bring posters and packaging material they use for exchange of ideas on the same. For process management, participants were required to come up with quality seed company manuals for each of their seed companies.



Dr. George Bigirwa of AGRA fields questions during computer session. Mr. Kibet of KEPHIS presents the topics on certification procedures

Participants also got to travel to Nakuru where they visited KEPHIS seed testing laboratory at Lanet. Here they got hands on experience on how to perform routine tests of germination, vigor, moisture, conductivity, purity and seed health tests.



Participants perform Germination tests at David Nellon (Arjay Farm Liberia) and Sani KEPHIS Lanet



David Nellon (Arjay Farm Liberia) and Sani Magagi (Halal, Niger) perform seed purity tests

The group also had an opportunity to attend the Agricultural society of Kenya (ASK) show at the Jamuhuri grounds in Kenya. The ASK show in Nairobi is the largest Agricultural show in Kenya. Participants got practical experience on different aspects of Kenyan agriculture and interacted with stakeholders in the industry.



Dr. Sikinyi from STAK making a presentation to the participants



Visit to the Kenya seed company Stand at the ASK show in Nairobi

The seed quality assurance and seed enterprise quality management course came to an end after two weeks of intense learning on many aspects of seed quality. A certificate award and closing dinner was hosted by SEMIs.



Dr. Mike Stahr from ISU addressing the participants at the closing ceremony



Dr. Kiarie Njoroge presents a certificate of participation to Njeri Muange of Northern seed company Tanzania



## Bean seed production

Apart from the training, one of the objectives of the SEMIs project was to produce breeders seed for the seed industry. Towards this end the SEMIs has been planted over 3 acres of beans and produced over 750 Kg of been seed that was inspected and passed by KEPHIS. This seed will be sold to seed Kenya Seed Company who have a memorandum of agreement with the University for CAVS to produce breeders seed for KSC.

During the short season in November, SEMIs planted approximately 5 acres of four varieties of bean seed. This crop is currently being and at least 2 tonnes of clean breeders' seed is expected to be availed to the seed companies for further multiplication.



Kenya Red Kidney bean variety planted at CAVS

