Seed Enterprise Management Institute (SEMIIs)

UNIVERSITY OF NAIROBI, CAVS

Professor Agnes Mwang’ombe
### Project Implementation

**Alliance for a Green Revolution in Africa-AGRA**

Total funding: 4,495,432.00 USD  
Phase 1: 3 years (2010-2013)

### Institutions

**University of Nairobi**  
PI: Prof. A.W. Mwang’ombe  
Management: Prof. F. Olubayo, Dr. Kiarie Njoroge  
Dr. D.K. Ndung’u—Project Manager, Florence Kiwunja-Admin. Asst.,  
Rosebena Cherono—Field Asst, Francis Maina, Caroline Ndumi, B. Kirangu

<table>
<thead>
<tr>
<th>Institution</th>
<th>Contact Person</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIMMYT:</td>
<td>Dr. John MacRobert</td>
<td>Author-Seed Business Mgt In Africa</td>
</tr>
<tr>
<td>KEPHIS:</td>
<td>DR. Onsando-Director KEPHIS</td>
<td>Director</td>
</tr>
<tr>
<td>Dr. Riungu-Director KARI Muguga</td>
<td>KARI:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rosebena Cherono</td>
<td>Field Asst</td>
</tr>
<tr>
<td>Consultants</td>
<td>Aline O’Connor Funk Paul Seaward</td>
<td>Paul Okete</td>
</tr>
<tr>
<td>ISU</td>
<td>Dr. Misra Dr. Y. Shyy Dr. Joe Cortes</td>
<td>Dr. Mike Stahr</td>
</tr>
</tbody>
</table>

**Total funding:** 4,495,432.00 USD
### Overall Goal
- Eradication of food and nutrition insecurity through capacity building of seed actors.
  - Quality seed
  - Affordable seed

### Objectives:
1. To produce seed production and marketing management expertise in SSA region
2. To train seed industry practitioners on the best practices to efficiently produce adequate high quality seed for farmers.
3. To enhance production of seed of improved varieties for the SSA
   - Efficient production
   - Marketing
   - Good distribution
4. To strengthen the capacity of the SSA region to train on seed production and marketing management strategies
   - Enhanced technology
5. To develop a regional capacity to facilitate information sharing on seed issues and related disciplines in SSA.

**Growing the Seed Industry in Africa**
SEMIs PARTNERSHIPS

agra-alliance.org

AGRA

UoN

Uonbi.ac.ke

CIMMYT

IOWA STATE UNIVERSITY

CIMMYT

CONSULTANTS

ISU

KARI, KEPHIS

SEMI

KENYA SEED

AGRA

kephis.org

Seed Enterprises Management Institute

University of Nairobi

GROWING THE SEED INDUSTRY IN AFRICA

iastate.edu

kenyaseed.com
Over 17 African Countries!!
## SEMIs COURSES AT UON:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>MAIN FACILITATORS</th>
</tr>
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<tbody>
<tr>
<td>SEED PRODUCTION</td>
<td>UoN/CIMMYT/KARI/KEPHIS, Leldet, Kenya Seed, KEPHIS-Dr. John MacRobert, Dr. Kiarie</td>
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<tr>
<td>SEED DRYING PROCESSING ND STORAGE</td>
<td>UoN/IOWA STATE UNIVERSITY/KARI/KEPHIS/SEED COMPANIES-Dryland seed company, KARI Katumani; Dr. Shyy</td>
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<tr>
<td>SEED BUSINESS MANAGEMENT</td>
<td>UoN/SCH. OF BUSINESS, ALINE O’CONNOR FUNK, DILIP GOKHALE, SEED COMPANIES</td>
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<tr>
<td>SEED MARKETING</td>
<td>UoN/SCH. OF BUSINESS, CONSULTANTS, DRYLAND SEED COMPANY, LELDET</td>
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<tr>
<td>SEED QUALITY ASSURANCE AND SEED ENTERPRISE QUALITY MANAGEMENT</td>
<td>UoN/ISU/KEPHIS/KARI/SEED COMPANIES-Dr. J. Cortes, Mike Stahr</td>
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<tr>
<td>SEED PRODUCTION FIELD DIAGNOSTIC</td>
<td>UON/KEPHIS/KARI/Seed companies (New for 2014)</td>
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<tr>
<td>PLANT PROTECTION ORGANIZATIONS (NPPO’S) QUALITY REGULATORS</td>
<td>UON/KEPHIS/KARI/Seed companies (New for 2014)</td>
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<table>
<thead>
<tr>
<th>Course</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Total</th>
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<tr>
<td>Seed Production</td>
<td>29</td>
<td>27</td>
<td>30</td>
<td>23</td>
<td>109</td>
<td></td>
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<tr>
<td>Seed Drying Processing and Storage</td>
<td>31</td>
<td>28</td>
<td>31</td>
<td></td>
<td>90</td>
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<tr>
<td>Seed Business Management</td>
<td>29</td>
<td>26</td>
<td>29</td>
<td>25</td>
<td>109</td>
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<tr>
<td>Seed Marketing</td>
<td>28</td>
<td>25</td>
<td>30</td>
<td>27</td>
<td>110</td>
<td></td>
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<tr>
<td>Seed Quality Assurance</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td></td>
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<tr>
<td>Seed Legislation and Accreditation</td>
<td>25</td>
<td></td>
<td></td>
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<td>25</td>
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<tr>
<td>Seed Quality Assurance and Seed Enterprise Quality Management</td>
<td></td>
<td>26</td>
<td>29</td>
<td></td>
<td>55</td>
<td></td>
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<tr>
<td>Total( Yearly)</td>
<td>172</td>
<td>132</td>
<td>149</td>
<td>52</td>
<td>23</td>
<td>528</td>
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## Students trained at SEMIs

<table>
<thead>
<tr>
<th>Institution</th>
<th>Qualifications of Students</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>Haramaya University</td>
<td>MSc.</td>
<td>2</td>
</tr>
<tr>
<td>Kwame Nkrumah University of Science and technology</td>
<td>MSc.</td>
<td>2</td>
</tr>
<tr>
<td>Makerere University</td>
<td>Msc.</td>
<td>2</td>
</tr>
<tr>
<td>University of KwaZulu Natal (ACCI)</td>
<td>PhD</td>
<td>2</td>
</tr>
<tr>
<td>West Africa Center for Crop improvement</td>
<td>2 PhD, 2 Msc</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>12</strong></td>
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</table>
Unique SEMIs Curricula:

- Involvement of stakeholders in the development:
  - ISU, consultants, CIMMYT, UON, KARI, KEPHIS, Seed Companies
- Annual review every year to keep abreast on seed issues and changing trends in the seed industry

One of the best “thought-through” and relevant curricula in Africa focused on seed
World Class Facilitators!!:

- John MacRobert - CIMMYT
- Prof. Kiarie Njoroge - UON CAVS
- Jenny Leakey - Leldet
- Dr. Yuan Shyy - ISU
- Dr. Joe Cortes - ISU
- Aline O’Connor - Seed Business mgt/Seed Marketing
- KEPHIS for Seed quality
SEMIs Graduates: at the Helm of the Seed Industry in Africa Today!

- Graduates are using the knowledge acquired at SEMIs to scale up production of high quality seed, benefitting farmers and helping alleviate hunger in the continent.

- SEMIs graduates together with AGRA have contributed greatly in the increased seed production being experienced in Africa Today!

- So far over 120 seed companies from over 15 African Countries have benefited from training at SEMIs.
Long Term Courses in Seed Technology and Business at UON:

Curriculum already in place for:

I. Certificate - Seed Technology and Business
II. Diploma - Seed Technology and Business
III. Post-graduate Diploma - Seed Technology and Business
IV. MSc. - Seed Technology and Business

- The long term courses will complement the short term courses for those who want to learn more on seed systems
- The University is currently in the process of rolling out the programme
Other Activities at SEMIs:

- **Foundation/Breeders’ seed production**: Lack of foundation seed is a major constraint to seed production in Africa today.

Varieties currently under production by SEMIs:
- Meizi mbili
- Kenya Wonder
- Kenya Red Kidney
- Kabete Super
- Kenya Sugar Bean
- Super Rosecocco

Seed crop at the University Field farm at CAVS
Breeders seed production at Kibwezi

- University has over 12,000 Acres of land in Kibwezi in Eastern Kenya
- Kibwezi is ideal for seed production due to its aridity meaning less disease pressure
- River Kibwezi for irrigation
- SEMIs is using the land for breeders’ seed production
Other Bean Varieties developed at UON

Climbers from UON: Currently under licensed to Kenya seed company
Provision of foundation seed for seed Co.

White label seed produced at SEMIs

<table>
<thead>
<tr>
<th>Year</th>
<th>Tonnage</th>
<th>Variety</th>
</tr>
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<tbody>
<tr>
<td>2011</td>
<td>700 Kgs</td>
<td>Kenya Umoja</td>
</tr>
<tr>
<td>2012</td>
<td>1.7 tonnes</td>
<td>Meizi mbili, Kenya wonder, Kabete super</td>
</tr>
<tr>
<td>2013</td>
<td>1.76 tonnes</td>
<td>Kenya Red Kidney, Meizi Mbili</td>
</tr>
</tbody>
</table>

“A major constraint for seed production in Africa is access to foundation seed”!

Professor Mwang’ombe presenting White label breeder’s seed to Kenya seed company

Elgon Kenya Seed company Picking up their White label seed
SEMIs INFRASTRUCTURE DVPT

Modern Seed laboratory and Seed Processing facility being constructed at CAVS with SEMIs funds

Phase 1: Seed Processing Unit.
- Seed from UNISEED and other seed companies to be processed

Phase 2: Modern Seed Laboratory for Seed Quality Assurance
- Seed Quality Laboratory
Phase 1: Seed Processing Unit

• Once complete the Seed processing factory will be able to process over 5000 MT of seed
• The Processing Unit will be utilized by UON for processing seed from UON and other seed companies and also for training
SEMI's Seed Processing Unit under Construction:

SEMI's Seed Processing Line under Construction in China

Seed Processing unit to be operational by end of 2014

Seed Sheller Under construction in USA
SEMI participates in National and Regional Workshops and Meetings on Seed Issues!

**Agricultural Sector Development forum**
- President Kibaki in attendance

**Kenya-Agricultural transformation Day in Nairobi**

<table>
<thead>
<tr>
<th>Other meetings</th>
<th>Year</th>
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<tbody>
<tr>
<td>Iowa state University (ToT)</td>
<td>2010</td>
</tr>
<tr>
<td>FARA Meeting</td>
<td>2011/13</td>
</tr>
<tr>
<td>KARI congress</td>
<td>2012</td>
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<tr>
<td>STAK congress</td>
<td>2012/2013</td>
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H.E. Mohamed Shein Pres. Of Zanzibar at the AFSTA-Congress Zanzibar
SEMIs at the ASK show in Nairobi

Rosebenna from SEMIs talks to farmers on the New Bean Varieties
SEMI is a “Port” of call for seed sector players:

- Agricultural /Seed Institutions visit SEMIs to share experiences and learn from SEMIs.
- Point of reference for seed trends.
- In the future SEMIs is to be platformed to become the leading seed reference point in Africa.

Seed company personnel from Tanzania with STAK officials visiting SEMIs in 2013.
SEMI's Course Highlights..

Experiential training - Visit to the seed industry

Training on Finance and capital Acquisition:
- Root capital and ASIF funding

Experts at SEMI's
Collaboration with Stakeholders and Experts:

Dr. Julius Kipng’etich-Director, Kenya Wildlife Services (KWS)

Guest lecture at the seed business module course

Observed Changing trends in the Seed Industry in Africa.....

“as I move across Africa, I see African Farmers have changed their strategy to improved seed”

Dr. Joe DeVries-Director, PASS
Activities Highlights...

Seed Company CEO’s- Seed Business Management Course 2011

SEMI is nurturing competence in Strategic Seed Business management in Africa
SEMIs Highlights contd:

Visit to KARI Wheat Rust Resistance Breeding Station-Njoro
Highlights conts:
Seed marketing course 2011

SEMIs participants visiting the seed in Kenya

Well Done!-Certificate presentation upon completion of SEMIs courses
Participants visit Dry land Seed company seed store in Machakos
Activities highlights contd.....:
Seed Marketing Course-July 2012

Participants with the MD-Simlaw Seed company Mr. Soi
Familiarization with Certified seed packaging at a seed company in Kenya
Seed business training at its best in Africa!

SEMI's is working with highly experienced consultants to enhance capacity building in the seed sector!

Seed Business Class with Dilip Gokhale-consultant from India
Seed Business Course 2013:

Seed Business course participants being addressed by Dr. Joe DeVries of AGRA
Graduation – Certificate presentations:

Dr. Joe DeVries - Director Pass presents certificate and books to participants.

Prof. Mwang’ombe SEMIs PI presenting a certificate to Janet Gyima from Ghana.

Rewarding our Participants with certificates at the end of each course motivates them to be better “seed men”. 
Comments from Participants:

“I like every topic we did in this course especially seed certification and de-taselling”
Anonymous.

“Previously I did not know how to project seed requirements and co-ordinate backwards for procurement of basic, pre-basic seed…” Now I know”
Mr Omari Mduruma- Aminata seed company Tanzania

“The knowledge I have acquired through the course will be highly valued not only in our seed company but in the whole of Zambia”
Dorica Banda
Indigenous seed company Zambia
Monitoring and Evaluation:

A monitoring and Evaluation team from AGRA visited SEMIs on 19th February 2012 to assess the project.
SEMIs Website: www.semis-africa.org

- Sharing information on seed issues, current happenings in the seed industry in Africa
- Staying in touch with SEMIs participants
- Online registration of Students
<table>
<thead>
<tr>
<th>Course</th>
<th>Suggested Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed Production</td>
<td>26-31st May, 2014</td>
</tr>
<tr>
<td>Seed Drying, Processing and Storage</td>
<td>01-07th June, 2014</td>
</tr>
<tr>
<td>Seed Business Management</td>
<td>20-26th July, 2014</td>
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<tr>
<td>Seed Marketing</td>
<td>27th July-02 August, 2014</td>
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<tr>
<td>Seed Production Field Diagnostic</td>
<td>01-07th September, 2014</td>
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<tr>
<td>Plant Protection Organizations (NPPO’s) Quality Regulators</td>
<td>08-14th September, 2014</td>
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<tr>
<td>Seed Quality Assurance and Seed Enterprise Quality Management</td>
<td>27th Oct-08th November, 2014</td>
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</table>
Thank you for your attention.

University of Nairobi