

**2013 PASS 017**  
**January 2014 – June 2017**  
**Phase II Report**

**i. EXECUTIVE SUMMARY**

The Seed Enterprise Management Institute (SEMI) Program at the Department of Plant Science and Crop Protection, CAVS, University of Nairobi is supported by the Alliance for a Green Revolution in Africa (AGRA). In Phase II part of the program (2014-2016) SEMIs received funding to the tune of USD 1,842,192 from AGRA. SEMI Program is managed by Professor Agnes W. Mwang'ombe as the PI and supported by Prof. Florence M. Olubayo. In 2016, SEMI Phase II program was granted a No-Cost Extension ending March 2017 to enable it realize all its planned objectives.

The Alliance for a Green Revolution in Africa (AGRA) provided funds. SEMI in the Department of Plant Science and Crop Protection, University of Nairobi is in charge of the program. To deliver the planned activities, other key partners were included namely; Kenya Plant Health Inspectorate Service (KEPHIS), Kenya Agricultural, Livestock Research Organization (KALRO), CIMMYT and project consultants. SEMI was set up to contribute towards alleviation of food and nutrition insecurity and poverty reduction in Sub-Saharan Africa. The aim of SEMI phase II was "To build capacity of seed companies and their associated personnel to efficiently produce high quality seed for increased agricultural productivity, nutrition and alleviation of poverty in Sub-Saharan Africa".

This report presents activities carried out by SEMI from January 2014 – June 2017. Training of seed company personnel from various Sub-Saharan African countries was held in years 2014 and 2015 only. In year 2014, the program conducted the seven International short course trainings which were attended by 143 participants. The participants represented 73 different seed companies from different Sub-Saharan African countries. In 2015, 189 participants were trained giving a total of 332 personnel trained from 114 seed companies in total from 19 different African countries. During the phase II period, the program installed and commissioned the seed processing factory and began offering seed processing services to other seed companies in October, 2015. To date, 672,169 metric tons of seed maize and beans have been processed at SEMI. The established seed processing and seed quality testing facility and the University Seed Unit (UNISEED) will continue to work closely with commercial seed companies in an effort to inculcate good practical and hands-on real life experiences to trainees.

UNISEED is registered under KEPHIS to support seed processing plant and in addition to support UoN released and licensed varieties and to produce and promote the non-licensed but released varieties.

In year 2016, activities focused on seed processing at SEMIs factory, participation in conferences and exhibitions, furnishing of offices and equipping of laboratories translation of course modules to French and breeder/foundation bean seed production. Construction of phase II buildings which comprises of administration offices, computer and seed laboratories, lecture rooms and seminar rooms was completed and buildings handed over to UoN by the contractor on 13<sup>th</sup> October, 2016. Furnishing of the facility with furniture, computers, office accessories, laboratory equipment among others was also conducted hand in hand through the UoN procurement office. Most of the furnishing have been done, however, due to the long process of procurement, the remaining items have been committed for purchase. Translation of SEMIs 7 course modules to French is complete with documents compiled in CD. The SEMIs Building and Equipment was officially launched on 30<sup>th</sup> January, 2017 by the Chairman of Council, University of Nairobi, Dr. Idle Omar Farah.

The program also participated in a number high level forums and exhibitions in Africa with the view of creating awareness and marketing the program activities. In year 2014, SEMIs participated in: the soil testing results launch and presidential fertilizer flag off expo in Njoro, Nakuru; and Annual STAK Congress and Exhibition held at Kenyatta University, Kenya. In year 2015 the program exhibited at; the 1<sup>st</sup> Nairobi Innovation week held at the UoN; AGRF in Lusaka, Zambia; and ASK Nairobi International Trade Fair held in Nairobi, Kenya. In year 2016, participation by the program was at; the 3<sup>rd</sup> Global Forum on Agricultural Research (GCARD3) in Johannesburg, South Africa, FARA conference held in Kigali, Rwanda, AGRF 2016 in Nairobi, ASK Nairobi International Trade Fair held in Nairobi and RUFORUM conference held in Cape Town, South Africa. It is worth noting that a number of key guests visited the facility during phase II. These include; AGRA president, Dr. Agnes Kalibata in 2015 and UoN Vice-Chancellor, Prof. P.F.M. Mbithi accompanied by University Senate in 2016.

In 2017, SEMIs conducted survey on seed companies as guided by AGRA in selected four Sub-Saharan African countries namely; Ghana, Rwanda, Tanzania and Kenya out of the 21 countries. The aim of the survey was to document impact of SEMIs trainings to the companies in order to identify future training needs. The survey was through a structured questionnaire and involved visits to the specific companies in Ghana, Rwanda and Tanzania to collect the questionnaires and further hold detailed discussions on

the performance of the seed companies and their future needs and strategies. In Kenya, the questionnaire was administered through mail and telephone conversation but due to poor response, visits to selected companies were made. In the survey work, 14 seed companies were visited in Ghana while 4 seed companies were surveyed in Rwanda and 14 surveyed in Tanzania. In Kenya, 5 seed companies gave information. Major challenges of the seed companies included; unavailability of basic seed, high staff mobility and restrictive seed laws among others. Poor knowledge on how to interact with government agencies in handling seed issues is a major constraint in the surveyed countries. Based on the survey data, the training workshops are working because we have already seen where the seed companies are producing breeder/foundation seed after engaging their governments to make the breeder seeds available for the companies. Ghana is one company where the government has allowed seed companies to produce breeder seed. A case in point is Legacy Crop Improvement Center (LCIC) which has moved into foundation seed production and have invested heavily on it. The other area is seed companies which never had seed labels have now insisted on having their seed labels and at the bottom have government labels on them. This has enabled the companies to vigorously market their seeds as they know they produce quality seed. The seed companies have now diversified into other seed crops and have gone into hybrid seed production.

Ghana has a unique model which can be described as captive marketing in which seed companies produce foundation seed and give out growers to multiply to certified seed. The company then buys the certified seeds from the out growers and sells to farmers for grain production. The company then buys the grain from farmers and sells to millers and in the case of sorghum they sell to breweries. One seed company, Josma Agro-Industries Ltd, has changed its model whereby they are focusing on vegetatively propagated material while descaling true seed production. As per discussion with the company CEO, Janet Gyimah-Kessie, when she received seed production training course, exposure to propagate crops vegetatively was exciting to her that she put in as her new business focus. She is now doing total cassava value chain. She gives seed cuttings to farmers, buys back tubers which she sells to millers. She has thus invested heavily on greenhouses. However, as indicated in the report, the training needs for seed companies have equally increased. Staff mobility is a challenge to companies as trained personnel move to other jobs.

SEMI's phase II program continued to produce breeder seed beans of six varieties (Miezi Mbili, Kenya Red Kidney, Kabete Super, Kenya Wonder, Kenya Sugar Bean and Super RoseCoco). In 2014, 4.30 tons of

beans was harvested in Kibwezi and Kabete farms. In 2015, 3.7 tons of breeder seed beans was realized while 1.6 tons was harvested in 2016. The reduction in yields was due to scaling down of production in land size and moving from Kibwezi and concentrating production in Kabete.

Lastly, SEMIs website [www.semis-africa.org](http://www.semis-africa.org) has continued to run and personnel in the seed industry including farmers continue to access information on seed and are able to purchase seed through the online seed trade platform which has linked other seed companies trained at SEMIs.