



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLU Global



THE GLOBAL GOALS
For Sustainable Development



SLU Global Annual Report

SLU-Global Report 9, 2017

2016

SLU Global Annual Report 2016

Production: SLU Global, Uppsala 2017

Editors: Anders Malmer and Malin Planting

Graphic design and layout: Malin Planting

Cover photo: West Pokot, Kenya. Photo taken during the Triple-L dryland scenario workshop, see p. 14 in this report.

Photographer: Eric Röhss

Series: SLU-Global Report 9, 2017

Electronic publishing: <http://epsilon.slu.se>

Print: SLU Repro

Paper: Colotech Colour Impressions, label PEFC, EU Ecolabel

ISBN: 978-91-576-9500-0 (print), 978-91-576-9501-7 (electronic)

This publication can be downloaded at www.slu.se/slu-global or ordered from global@slu.se





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Photo: Anders Arnell

SLU Global staff 2016 and 2017 at a bird excursion north of Uppsala.

Back row, left to right: Ioannis Dimitriou, *International Research Advisor (Deputy Director from March 2017)*; Ewa Wredle, *theme leader*; Teun Dekker, *theme leader*; Libère Nkurunziza, *assistant theme leader*; Abraham Joel, *theme leader*.

Front row, left to right: Margarita Cuadra, *Communicator SIANI-SLU Global theme*; Ulf Magnusson, *theme leader*; Birgit Lundmark, *Administrator*; Pia Schultz, *substitute during spring 2017*; Malin Planting, *Communicator* and Anders Malmer, *Director*.

Not present in the photo: Carolyn Glynn, *Deputy Director up to March 2017*; Kostas Karantininis, *assistant theme leader* and Gert Nyberg, *theme leader*.

SLU Global 2016

SLU Global supports and develops SLU's engagement to improve poor people's situation in low-income countries*, based on the UN Sustainable Development Goals (SDGs). We are doing this through sharing and promoting SLU's science-based knowledge with national and international stakeholders. We also contribute to extended possibilities for global cooperation with partners in education and other capacity development.

SLU Global is SLU's platform to implement the university's strategy for PGU (Sweden's policy for global development). During 2016, the Swedish Government has been planning for a stronger implementation of PGU throughout the public sector. For SLU, already the only university with a specific PGU policy and one of the government agencies with the largest volume of partnerships in low-income countries (see p. 28), efforts in that direction have not changed much. Additionally, the UN Sustainable Development Goals (SDGs) in Agenda 2030, decided by the General Assembly in late 2015, are valuable for SLU and central to SLU Global's mission. The SDGs are a helpful framework to formulate needs for knowledge development and to shape constellations for improved multidisciplinary cooperation. The SDG goal no 2, about ending hunger, interlinks with a number of other goals related to development of rural as well as urban bio-based economies and value chains (see p. 9).

Developing capacity in low-income countries is a long-term commitment. Major assets for SLU in this respect are our researchers with long-standing experience from many regions and countries, as well as well-developed long-term cooperation at university level with our partners in low-income countries. A long-term quest for establishing new partnerships involving the new generation of SLU staff is needed to maintain and increase the strength to deal with global challenges. With this noted, the long and steady increase in published research in this field is noteworthy (see p. 28). An interesting example of the importance of long-lived cooperation

is the three major grants awarded to SLU in 2016 through three different research groups at the Faculty of Landscape Architecture, Horticulture and Crop Production Science. These collaborations with our southern partners were initiated as a result to the financial support to SLU for food security research and capacity development allocated by the Swedish Ministry for Foreign Affairs during 2010 – 2014.

The year 2016 saw the end of the first three-year period of formal cooperation between SLU Global and the SIANI network (Swedish International Agricultural Network Initiative). This last year was the most active in terms of the number of activities at SLU (see pp. 18–19). SLU also engaged in the 2016 policy week in Almedalen together with SIANI and other partners on Sida's stage. In the two panels, both the Minister for Rural Affairs Sven-Erik Bucht, and the State Secretary for Rural Affairs Elisabeth Backteman at the Ministry of Enterprise and Innovation, participated. The panel about risks of antimicrobial resistance due to the non-rational use of antimicrobials in the livestock sector globally was one of the most viewed of the more than 40 webcast panels on Sida's stage.

Welcome to experience some of the many other highlights of the past year in these pages. Welcome also to discuss with us how we can develop and improve together in the years ahead!

Anders Malmer
Director

Carolyn Glynn
Deputy Director
To February 2017

Ioannis Dimitriou
Deputy Director
From March 2017

*Low-income countries as defined by the OECD's DAC (the Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD))



At www.slu.se/slu-global/agenda-2030 you can read more about SLU's contribution to the SDGs and Agenda 2030.

The UN's Sustainable Development Goals in the centre path for SLU

The UN's Sustainable Development Goals (SDGs) within Agenda 2030 are a milestone for the global challenges and global collection of strength to meet them. Adopted in the UN General Assembly in late 2015, the 17 goals and their 169 associated targets differ considerably from the previous Millennium Goals. The SDGs are now a common target for all the 193 member states of the United Nations, an unusual unanimous decision by all world leaders who pledged common action and endeavor across such a broad and universal policy agenda.

Introducing and forming work along the SDGs has left its mark on a lot of our university's activities in 2016, activities arranged both by SLU Global and by others at SLU. SLU Global has been present in most major Agenda 2030 events at Sida and other government agencies. Some activities gathered participation from a vast range of actors, from civil society organisations to industry, academia and government agencies and offices; all of the actors involved have been signalling a high interest in and focus on various aspects of the goals.

It is of utmost importance that the pursuit to meet the goals is based on a sound scientific background and not on "partial or alternative data". SLU and our mission regarding the sustainable use of biological natural resources deal broadly with ecological, social and economic sustainability and bio-based development and are very central to the SDGs. During 2016, SLU responded to a government task to describe our university's ability to meet the SDGs, both for development within Sweden as well as for Sweden's support for the international fulfillment of the goals. To this end, SLU Global described the global aspect of SLU's

competences in its report to the Government of Sweden. Indeed, SLU contributes to reaching the associated targets in 12 out of the 17 SDGs through education, research, capacity development and communication. For the global effort, work towards goal number two, achieving zero hunger in the world, is a major task that engages many parts of SLU. Working for food security also has strong connections to several other goals such as goal number one, on eradicating poverty. Other linked goals include for example those related to health, climate mitigation and adaptation as well as sustainable growth and development of economies, ecosystems, and energy.

Most of the SLU staff are involved in working towards the SDGs. With the complex and inter-linked nature of the challenges, the goals add a framework where we can pursue even higher multidisciplinary efforts. Supporting SLU's contribution to the fulfillment of the SDGs thus serves as one of SLU Global's major tasks in 2016 and onwards.

Anders Malmer

Director

*"Most of
the SLU staff are
involved in working
towards the UN's
Sustainable Development
Goals."*

Thematic work at SLU Global

Promoting multidisciplinary and policy development based on SLU's research and innovation are among the main tasks for SLU Global. SLU Global's four themes are led by researchers, "theme leaders", to promote broader and multidisciplinary research cooperation within SLU and with external partners. SLU Global's cooperation for research and innovation dissemination and policy dialogue within the SIANI network 2014 – 2016 also runs under a thematic title, *Sustainable agriculture production and food security*.

SLU Global's scientific themes

A number of researchers with part-time appointments as theme leaders are responsible for SLU Global's multidisciplinary themes. The objective, as part of SLU Global's strategic work, is to stimulate research, capacity development and education in broader constellations for complex global challenges and to make SLU's expertise more viable in the context of major international cooperation. The

theme leaders are based at their home departments, in this way part of SLU Global's objective to distribute efforts and discussion within SLU are fulfilled. Since 2016, each theme is represented by one theme leader and one assistant theme leader.

In this chapter we have asked the theme leaders to present some of the highlights from their themes.

SLU Global themes and theme leaders in 2016

Climate adaptation for biobased development

Abraham Joel *Theme leader*

Libère Nkurunziza *Assistant theme leader*

Efficiency in farming systems

Teun Dekker *Theme leader*

Konstantinos Karantininis *Assistant theme leader*

Restoration of degraded rural landscapes

Ewa Wredle *Theme leader*

Gert Nyberg *Assistant theme leader*

Urban and peri-urban farming

Ulf Magnusson *Theme leader*

Carl-Johan Lagerkvist *Assistant theme leader*



Several metres of soil washed away by intensive rains in dryland of Bolivia.

Photo: Abraham Joel

SLU Global theme

Climate adaptation for bio-based development

New theme
2016!

During 2016, SLU Global started a new theme addressing the challenges in climate adaptation for bio-based development. Assoc. Prof. Abraham Joel was appointed theme leader and Dr Libère Nkurunziza assistant theme leader. Their responsibilities are to build up and coordinate multidisciplinary research, education and capacity development activities dedicated to agricultural initiatives (including forestry, veterinary and social sciences) within a context of global development.

The natural resource base in agriculture has undergone degradation over a long period and continues to be under threat from various pressures such as unsustainable practices and erratic climate conditions. Over the years societies have adapted farming practices to cope with environmental change and climate variability, but the present speed and intensity of climate change is challenging the capacity of agricultural communities in developing countries to adapt. Agriculture in these countries accounts for a significant share of the national economy and involves the highest percentage of the national population.

Strategies and actions for climate adaptation and bio-based development are central for achieving food security, poverty alleviation and economic growth. Adaptation will require a transformation of agricultural systems to be more productive and less vulnerable and to result in a reduced carbon footprint.

This theme accommodates multidisciplinary research in three major focus areas. The first will contribute to fill the knowledge gaps in assessing vulnerability of agriculture to climate change and adaptation needs. The second focus is sustainable

management of land, water and biodiversity potential and limitation for adapting production systems. The third focus is how to put in place conditions for development and dissemination of the acquired knowledge.

The theme is under development but two activities have been initiated. One is developing research projects in cooperation with Rwanda University and University Major San Simón (Bolivia) with a focus on local capacity for climate adaptation through sustainable agriculture intensification. The second activity is preparation of a workshop with the goals of bringing together researchers involved in research and capacity building in low-income countries, in order to find synergies, stimulate collaborations and deepen our understanding of climate adaptation for bio-based development. This workshop will take place in April 2017.

"Strategies and actions for climate adaptation and bio-based development are central for achieving food security, poverty alleviation and economic growth."

Abraham Joel
Theme leader

Libère Nkurunziza
Assistant theme leader



SLU students at the *Youth and Agenda 2030* seminar in September 2016. From left to right: Filippa Jansson (Chair of the Union for Students of Agricultural and Rural Management) and Cecilia Klasson (Head of the International Committee). To the far right: Anneli Sundin (SIANI).

Photo: Teun Dekker

SLU Global theme

Efficiency in farming systems

The theme *Efficiency in farming systems (EFS)* captures research and education that contribute to the sustainable intensification of agroecosystems. Intensification is a strongly felt need in the light of the growing world population and the concomitant growing food insecurity, particularly in the developing world. However, to secure food for generations to come, intensification should be sustainable, and involve innovations with long-lasting positive effects on global ecosystems and human health in all its multidimensionality.

This theme spans expertise from across a variety of disciplines represented at SLU, such as plant and animal breeding, nutrition, physiology and health, ecology and soil sciences, as well as social sciences such as economics, sociology, political science, agribusiness and value chains.

Within the EFS theme we continue to identify and channel opportunities for SLU colleagues to link up with partners in developing countries through both research and educational opportunities. We develop partnerships with education, research and other international organisations. We engage in and develop workshops and meetings to inspire colleagues, and inform partners about SLU competence in the areas of agricultural technologies, and practices, in the development of markets and participation in value chains.

With these activities in the EFS theme we strive to contribute to the development of efficient farming systems towards achieving the sustainability development goals (SDGs) in the battle to reduce poverty and hunger in 2030 and beyond.

Youth Agripreneurship: SLU's contribution

Key in driving the sorely needed innovation and intensification in agriculture in developing countries is a healthy and dynamic agribusiness sector. However, in reality agriculture is rather associated with the opposite – stagnant traditions, lack of opportunities, and poverty – and is considered seriously out-of-fashion, particularly by youth. A massive exodus of youth to cities and an



The signing of a Memorandum of Understanding (MoU) between SLU and IGAD (Intergovernmental Authority on Development). SLU's Deputy Vice-Chancellor Karin Holmgren and H.E. Dr. Maalim (IGAD).



Photos: Malin Planting

ageing farming population is the result, which jeopardizes innovation and intensification. The international community recognizes this threat to agriculture and invests heavily in 'youth entrepreneurs in agriculture' (agripreneurs) initiatives.

Although numerous, these youth agripreneur initiatives are only interlinking nationally or regionally, in spite of the fact that agribusiness is global. North-south linkage is largely unexplored, and we see here a very good opportunity for a significant contribution for SLU. SLU has a long and strong history of embedding SLU's Agricultural and Rural Management programme into the university's core educational programme. Our attention in 2016 has therefore been focused on making the much-needed North-south linkage, with visits to potential partner universities and schools in Uganda, Kenya and Somaliland. The EFS team contributed to the signing of a memorandum of understanding (MoU) between

"We develop partnerships with education, research and other international organisations."

SLU and IGAD (Intergovernmental Authority on Development). IGAD is a key intergovernmental organisation among seven countries in East Africa. IGAD's activities are in the areas of peace, development and education in the region.

Teun Dekker
Theme leader

Kostas Karantininis
Assistant theme leader



Active participants in the Triple-L dryland scenario workshop in West Pokot, Kenya.

Photo: Eric Röhss

SLU Global theme

Restoration of degraded rural landscapes

During 2016, this theme extended the network of stakeholders and researchers working in degraded drylands. The theme further had considerable focus on capacity building and collaboration with universities in Tanzania and Mozambique. Besides drylands, the theme also has a long-term project running in Borneo, building a landscape scale "Rainforest Restoration Lab" placed around the INIKEA rainforest restoration project.

Triple-L dryland scenario workshop

29-30 November 2016

A scenario workshop was organised in West Pokot, Kenya, during November 2016. It brought together researchers, representatives of non-governmental (NGO) and intergovernmental organisations (IGO) as well as county officials, mainly based in either Kenya or Sweden. The participants' fields of expertise were transdisciplinary and included, among other things, rangeland ecology, livestock science, politics, economics, soil and water science, extension, local leadership and administration. The aim of the workshop was to discuss ongoing research taking place within the Triple-L research initiative (www.triplel.se), explore possible future scenarios for dryland development in West Pokot, and based on these scenarios identify future research and policy needs. The scenarios presented in this report should be viewed as structured, qualified guesses of different possible developments in West Pokot and similar drylands around the world.

Based on the discussions during the development of the scenarios, four critical research and policy areas in need of consideration to enable the sustainable development of drylands in West Pokot

County were therefore identified: 1) Land restoration and improved natural resource management capacity, 2) Productive and sustainable agriculture and livestock production and market development, 3) Conflict management, security and equality, 4) Dissemination and implementation of and education in knowledge technology and policies.

The four scenarios constructed were:

1. Poverty persists: Increased climate variability and a decreasing rural population in West Pokot County
2. Rural-urban push-pull: A stable climate and a decreasing rural population in West Pokot County
3. Same, same but worse: Increased climate variability and an increasing rural population in West Pokot County
4. The crowded market: A stable climate and an increasing rural population in West Pokot County



Pasture during dry season in Kilosa in the Miombo forest, Tanzania. Photo: Ewa Wredle



Photo: Ulrik Ilstedt

PhD student and Assistant Supervisor Gert Nyberg testing the infiltration method in the Miombo forest, Tanzania.

PhD students from Tanzania

Two PhD students with their doctoral projects carried out in the Miombo forest in Tanzania were admitted at SLU during 2016. One focuses on grazing and feed for the livestock and the other on water infiltration. In large parts of Africa, and especially in the Miombo woodlands, the degradation is largely due to agricultural activity including livestock grazing and charcoal production. Miombo woodlands are found in southeastern and central Africa and form a dominant vegetation type in Tanzania, Angola, Zambia, Malawi, Mozambique and Zimbabwe. The PhD students will conduct their projects in areas under severe transformation pressure that have intensive grazing. The project is done in collaboration with the University of Dar es Salaam and Sokoine University.

Read more about SLU's involvement in capacity building in Tanzania at SLU Global's website, www.slu.se/slu-global (click on *Projects and themes*).

Capacity development with Mozambique

In a new capacity development programme with Eduardo Mondlane University in Mozambique, SLU will have three PhD students and Lund University one, with Miombo forest restoration and sustainable use as their focus. The programme will also train the same number of PhD students in Mozambique, with some supervision from SLU and Lund University. More information about the collaboration with the Eduardo Mondlane University (UEM) can be found on page 23.

“The PhD students will conduct their projects in areas with a large transformation pressure and intensive grazing.”

Ewa Wredle

Theme leader

Gert Nyberg

Assistant theme leader



The speakers at the event *Low use of antimicrobials and healthy productive animals – a possible equation?*, at the UN Global Committee for Food Security, CFS43, in 2016. From the left: Juan Lubroth, FAO's Chief Veterinary Officer; Ola Möller, Senior Policy Specialist (Sida); Christina Furustam, Federation of Swedish Farmers (LRF); Professor Ulf Magnusson, Department of Clinical Sciences (SLU) and Elisabeth Backteman, State Secretary to the Minister for Rural Affairs of Sweden.

Photo: Malin Planting

SLU Global theme

Urban and peri-urban farming

The *Urban and peri-urban farming* theme has in 2016 worked mainly on three broader issues – though all of them with the core elements of the theme embedded – in order to leverage the SLU contribution to the global development agenda. The three issues have been antimicrobial resistance in the global livestock sector, involvement of SLU competence in one of the CGIAR system's large research programmes and starting up the *Agriculture for Food Security 2030* programme.

In 2016, the theme Urban and peri-urban farming played a very active role in the international agenda for curbing the emergence of antimicrobial resistance (AMR) in the global livestock sector with a series of events – some of them in cooperation with the SIANI network. Firstly, there was a seminar at SLU in early July with presentations from the Government Offices, Sweden, the International Livestock Research Institute (ILRI), the National Veterinary Institute, the Academic Hospital in Uppsala and SLU Global. Some weeks later, the theme leader gave a keynote speech at the annual multi-stakeholder meeting of the Global Agenda for Sustainable Livestock in Panama City. Then during the so-called “Almedalen Week” – an annual event where the Swedish political establishment and all lobbyists gather on the island of Gotland in the Baltic Sea – SLU Global gave a presentation on the international AMR situation in the livestock sector and compared it to the situation in Sweden. The State Secretary to the Minister for Rural Affairs,

Elisabeth Backteman, and the Director-General of Sida, Charlotte Petri Gornitzka, were also involved in this event. See page 19 for more information on the seminar.

“SLU Global takes on antimicrobial resistance in the global livestock sector.”

In August, there was a similar seminar with SLU Global, the State Secretary, the chief veterinarian of FAO and staff from ILRI and the Federation of Swedish Farmers (LRF). Finally, in October, SLU Global, together with SIANI, organised a Swedish side-event at the annual Committee for Food Security at FAO in Rome. Presentations were given by the Swedish State Secretary of Rural Affairs, the theme leader for Urban and peri-urban farming, SLU Global and representatives from Sida and LRF. These presentations were then commented on by the chief veterinary officer at FAO. All in all, SLU Global has contributed a great deal during the year to the discourse on AMR in the international livestock sector by sharing experiences about how Sweden managed to reach the uniquely favourable situation regarding the use of antimicrobials and AMR in the livestock sector.



Cattle in West Pokot, Kenya.

Photo: Eric Röhss

SLU Global becomes a strategic partner with a research programme at CGIAR

The Consultative Group for International Agricultural Research (CGIAR) is the world's largest consortium for international agricultural research and runs several large cross-disciplinary and cross-national research programmes. SLU has become a strategic partner in one of these programmes, the Livestock Agri-food Systems programme, and was heavily involved in this programme in 2016. SLU Global is the contact point for the whole programme and associate professor Ewa Wredle is the SLU contact person for the Feed and Forage part of the programme, professor Dirk-Jan de Koning for Animal Genetics, and professor Ulf Magnusson for Livestock Health. Professor Magnusson also leads the livestock health activities of the whole programme and is a member of the programme's management committee. The programme runs for six years and has a total budget of USD 294 million. Overall, the SLU Global partnership with the Livestock programme at CGIAR is an acknowledgement of the very high competence in livestock at SLU.

SLU Global hosts AgriFoSe2030

The programme *AgriFoSe2030 (Agriculture for Food Security - Translating science into policy and practice)* runs for 4 years and has a budget of SEK 60 million and is hosted by SLU Global with Professor Ulf Magnusson as programme director and Dr Carolyn Glynn as his deputy. The programme is developed by researchers at SLU, Lund University, the University of Gothenburg and the Stockholm Environment Institute and

comprises four themes of which two are led from SLU, one from Lund and one from Gothenburg. The programme was launched in January 2016 at SLU with speeches from the deputy chair of the SLU Board, Ambassador Lennart Båge, and Ambassador Kajsa Olofsgård from the Ministry for Foreign Affairs among others.

During the year, the programme has had outgoing and incoming researchers to and from the Swedish universities active in the AgriFoSe themes, as well as to and from universities in low-income countries. These colleagues are gathering, analysing and synthesising the available scientific literature on various topics within each theme and publishing critical review papers and then packaging this scientific information so it becomes palatable for various kinds of stakeholders in order to translate science into policy and practice for increased food security. The programme also plans several training activities in performing systematic reviews or meta-analyses and how to communicate science to stakeholders outside academia. Some of these activities were implemented in 2016. In summary, 2016 was very much a start-up year for AgriFoSe 2030 and more activities are to come in 2017.

Ulf Magnusson
Theme leader

Carl-Johan Lagerkvist
Assistant theme leader

AgriFoSe2030

Agriculture for Food Security
- Translating science into policy and development





Above: Participants in the workshop *Theory of change for Agricultural Development*. Photo: Margarita Cuadra

SIANI theme

SLU Global's cooperation with SIANI: Sustainable agricultural production and food security

Looking back at the three years with SLU as an integral part of SIANI through the theme *Sustainable agricultural production and food security*, January – August 2016* has been the time when the activities and their broader ownership within SLU have taken off. By offering a broad and rich open call to researchers at SLU, the number of workshops and seminars more than doubled in this period and resulted in seven workshops in eight months. This also involved more individuals within SLU as first time organisers of policy-targeted activity, in contrast to earlier work with core individuals at SLU Global (already in policy-relevant positions). This “flat” model for initiating activities will be carried through to SIANI phase III (see the fact box on the next page) by reducing the number of steps/levels.

The joint SIANI and SLU activities on Sida's stage during Almedalen Week in Visby attracted among the biggest audiences and highest number of followers on the web. The seminar *Antibiotics in animal husbandry – what can other countries learn from Sweden?* was number four in numbers out of 46

“January – August 2016 has been the time when the activities and their broader ownership within SLU has taken off.”

events during five days. This activity and the SLU-SIANI seminar *Antimicrobial resistance in livestock in low-income countries* that was held on 9 June 2016, jointly organised by SLU Global and SIANI at SLU Campus Ultuna, were part of high activity on the subject with responses on both national and international level.

The workshop on *Theory of Change for Agricultural Development* that took place at SLU, Uppsala on 26 April 2016, has been instrumental both for SIANI in planning phase III as well as for the new programme *AgriFoSe 2030* (see the previous page in this report) and it lifted their strategic planning to a higher level.

www.siani.se/theme-groups/sustainable-agricultural-production-and-food-security

The Minister for Rural Affairs, Sven-Erik Bucht, opened the meeting *Food and climate without conflict and disasters – Development support for resilience in Almedalen*.

Photo: Anders Malmer

*Phase II of SIANI ended in August 2016 and phase III started in December 2016.

Some highlights from the SLU Global – SIANI joint activities 2016

Bending the Curve – Africa's Unfolding Agrifood System and Diet Transformation Workshop

This workshop took place in April 2016 at SLU in Ultuna, and was organised by Dr Linley Chiwona-Karlton, Senior Researcher at the Department of Urban and Rural Development, SLU. The participants were PhD students, researchers and practitioners working on or interested in these issues. The event also saw the presence of two esteemed guests, HE Mr Lameck Nthekela, Ambassador of the Republic of Botswana to Sweden, and Dr Simon Indongo, First Secretary at the Namibian Embassy in Stockholm.

The participants had deep discussions around the workshop themes of adolescent perceptions on diet, physical activity, body size, and obesity; impact of maternal nutrition deprivation and later life chronic non-communicable disease risk as part of the nutrition transition; and capacity for scaling up nutrition interventions. This event was a pre-conference workshop as preparation for the upcoming Uppsala Health Summit 2016.

SIANI and SLU Global jointly staged two seminars on Sida's stage in Almedalen, *Sweden in the world*, both on Thursday the 7 July 2016:

Food and climate without conflict and disasters – Development support for resilience

This seminar was the only activity on Sida's stage during five days that was allowed double the time of any other seminar. A third party to arrange this activity was the civil society organisation "VI – Agroforestry" (Vi-skogen). The Minister for Rural Affairs, Sven-Erik Bucht, opened the meeting and participated in the first panel discussion, in which conflicts and migration in

relation to development in agriculture and rural regions were discussed. The minister stressed that Sweden's place in the UN Security Council 2017 – 2018 offers opportunity to push for prosperous development. In a second panel, Anders Granlund (Sida), Anders Malmer (SLU Global), Åsa Odell (LRF, the Federation of Swedish Farmers) and Maria Ölund (SIANI) participated in a broader dialogue giving several examples of how the role of increased production in agriculture can be central to several of the development goals in the 2030 agenda.

Antibiotics in animal husbandry – what can other countries learn from Sweden?

Ulf Magnusson (SLU Global) and Åsa Odell (LRF) described how Sweden has managed, through good animal husbandry, to keep use of antibiotics very low in combination with high production. In a dialogue panel, State Secretary Elisabeth Backteman and Sida's Director-General (up to 2017) Charlotte Petri Gornitzka clarified that the Swedish resource base has a large potential to contribute to the global challenges within antimicrobial resistance. Sida's DG noted that this coincides well with Sida's more recent task to coordinate broad constellations of Swedish actors for development.

Margarita Cuadra

Communicator SIANI-SLU Global theme

Policy briefs and reports from the SLU Global-SIANI workshops can be found at www.slu.se/slu-global

SLU and SIANI

SIANI is a member-based network that supports and promotes Swedish expertise in sustainable food security and nutrition, in line with the Swedish Policy for Global Development (PGD).

SIANI's theme 1, *Sustainable Agricultural Production and Food Security*, serves as the entry point for synergy between SLU Global and SIANI and provides an opportunity for SLU to strengthen capacities for, and facilitate the connection between, research disciplines/institutes, the community of practice and policy-makers. Academia and research institutes are the largest single stakeholder group at SIANI. The single organisation with most representation in SIANI is SLU. SIANI started the collaboration with SLU Global in 2012.

SIANI phase II and III

SIANI III was initiated on 1 December 2016 immediately following SIANI II. Phase III will build on the two previously successful phases of network building that now includes more than 1,700 members. During the second phase SIANI evolved from a loose network into a multi-stakeholder platform. In spring 2016, after a successful implementation of phase II, an external evaluation concluded that the network should no longer be an initiative, but a long-term investment aimed at tackling issues concerning poverty reduction, food security and sustainable agricultural development.

European cooperation



Photo: Carolyn Glynn

Panel during the final report of the ProIntens Africa project, at the African Union headquarters in Addis Ababa in March 2017. From the left: David M Amudavi (BIOVISION, Kenya), Bongiwe Nijobe (ZANAC Consulting, CIMMYT Board of Trustees) and SLU's Pro Vice-Chancellor Ylva Hillbur.

IntensAfrica

The expected growth of the world population to 9 billion by 2050 and changing diets will drastically affect food availability, access, and utilisation. Therefore, improving food and nutrition security while ensuring the sustainability of agriculture (FNSSA) is, and will continue to be, a global issue in the years to come. This holds for Europe, but the challenge is even greater for Africa as Africa's population is expected to double over the coming decades. Nonetheless, Africa also has the potential to become a major food basket. To reach this potential, this situation requires a transformation of African agro-food systems, and the joining of forces to explore and harness the strengths and assets of African agriculture.

Sustainable intensification is generally acknowledged as a major driver for increasing food and nutrition security in Africa. While it implies higher agricultural production per unit of resources, labour and/or land, it also aims at providing employment and improving livelihoods. Additionally, sustainable intensification plays a central role in the management of natural resources such as water, biodiversity, soil nutrients and in the regulation of the carbon cycle.

The means to this end are many and the IntensAfrica Consortium emerged with the objectives to document the variety of pathways leading to sustainable intensification, and to align efforts in

doing so. African and European members of the consortium agreed to jointly engage in the preparation of a new, strategic, long-term and ambitious research and innovation partnership between Europe and Africa in the thematic area of sustainable intensification of agri-food systems. A project named PROIntensAfrica was formulated to develop such a partnership, and, with funding from the EU Horizon 2020, was carried out for two years with active involvement of 23 African and European partners.

The questions addressed in the PROIntensAfrica project were: What new or additional research is

Partners in the ProIntens Africa project

African partners

FARA Ghana, CORAF/WECARD Senegal, CCARDESA Botswana, ASARECA Uganda, AFAAS Uganda, ARC South Africa, CSRI-CRI Ghana and INERA Burkina Faso.

European partners

Wageningen UR The Netherlands, CIRAD France, UCL Belgium, SLU Sweden, IICT Portugal, Luke Finland, University of Copenhagen Denmark, ZEF Germany, INIA Spain, NRI UK, Teagasc Ireland, BOKU Austria, University of Life Sciences Czech Republic.



Agrinatura



needed to identify and implement effective pathways to sustainable intensification of the agri-food systems (conventional, ecotechnological, agroecological and organic pathways)?; In what ways will stakeholders benefit from a partnership in research and innovation?; and not least, How can such a partnership be governed and financed?

The report, *Harnessing the potential of diverse pathways for sustainable intensification in agri-food systems; a strategy proposal for a long-term EU-Africa Research and Innovation Partnership*, is actually a proposal for continued funding to address food security issues.

The PROIntensAfrica project demonstrated the potential of the diversity of pathways for sustainable intensification in agri-food systems. It identified future challenges for science and innovation to address. It documented the salient characteristics of a successful bi-continental research and innovation partnership, and drafted an outline for such partnership. By doing so, the partners that were jointly engaged in PROIntensAfrica showed their expertise and creativity in the scientific field.

The PROIntensAfrica project has now ended and will be presented at the African Union Headquarters in Addis Ababa in March 2017.

www.intensafrica.org

SLU is honoured to host the presidency for the years 2017 – 2021 of the European Alliance of Agricultural Knowledge for Development; AGRINATURA.

The 33 European universities that are active within the realm of agriculture for global development join forces in different constellations to apply for funding for research, education and capacity development. An example of one such application in which SLU participated during 2016 is the JoMeta project: *Joint meta-learning and synthesis of lessons learned on Science Technology Innovation initiatives and investments in improving Higher Agricultural Education: Guiding the Future*. The lead partner in this proposal is RUFORUM, an African association of 66 agricultural universities operating in 26 countries.

“SLU is honoured to host the presidency for the years 2017-2021 of Agrinatura.”

<http://agrinatura-eu.eu>

Carolyn Glynn
Deputy Director
Up to February 2017

Capacity development

Capacity development

Capacity development projects in which SLU is involved in different parts of the world aim at enhancing the human, scientific, technological, but also the institutional, know-how of our partners. The main funding source of capacity development projects is within bilateral programmes issued by the Swedish International Development Cooperation Agency (Sida) for selected cooperation countries; these priority countries are selected based on political decisions made by the Swedish government. Other funding sources for capacity development projects with SLU as a partner include the European Union (EU), the Swedish Research Council Formas, the Swedish Research Council (Vetenskapsrådet), the Consultative Group for International Agricultural Research (CGIAR) institutes, and others. At the moment SLU is involved in several bilateral but also multinational programmes mainly in Sub-Saharan Africa, Latin America, South East Asia but also in other parts of the world. The common role of SLU is to assist our partners by accommodating research concerning issues that they themselves have identified as crucial to develop their human capacity towards sustainable development in their countries.

"Traditional" capacity development

The predominant type of capacity development projects at SLU is PhD studies to strengthen the research capacity of individuals. The PhD students usually spend most of their time in Sweden to fulfil courses, do data analyses and writing, while data collection and empirical research take place in their home countries to keep the local perspective and context. After graduation, the students are holders of a doctoral degree from SLU or also from their home university, where they are expected to continue working and form the core of research staff who will develop the future postgraduate programmes in the country. The overall objective of capacity development over the years is that the PhD and other training offered will build a critical mass of academic staff who will in turn conduct high-quality research and finally be able to train researchers in their own countries.

Developing quality: Quality assurance programmes

"The pre-dominant type of capacity development projects at SLU is PhD studies to strengthen the research capacity of individuals."

The critical mass of PhD graduates at SLU's collaborating institutions who can manage and sustain local postgraduate programmes is very important since the ultimate goal of the capacity development programmes is the establishment of local PhD programmes. However, this is not the only requirement to succeed in this goal. The existence of mechanisms to ensure the quality and high standards of MSc and PhD programmes, but also enabling the development of independent academic careers,

are central to the success of such programmes, particularly when considering the constraining circumstances under which universities operate in these countries.

Therefore, SLU is increasingly involved in capacity development that is not only related to research capacity, but also aims at building or developing the quality assurance of research and postgraduate training at our partner universities. Activities aiming at training our partners' staff on issues such as supervision, leadership, research management, reform strategies, and others, are key aspects in order to stand on their own feet in the future. SLU realises the importance of such issues to develop their own research capacity and therefore participates in relevant programmes with partner universities in several countries.

Ioannis Dimitriou
Deputy Director
From March 2017

Capacity development - an example of SLU's involvement



Eduardo Mondlane University, Maputo, Mozambique.

Photo: Rosina, Flickr CC BY-SA 2.0

SLU in Mozambique

Quality assurance of research and post-graduate training within the Eduardo Mondlane University (UEM) - a Sida bilateral research programme.

An example of SLU's increased involvement in institutional capacity is the programme *Quality assurance of research and post-graduate training* at Eduardo Mondlane University (UEM) in Mozambique. The programme has been formulated during 2016 and is a comprehensive effort of institutional capacity development. UEM is the oldest and largest university in Mozambique covering almost all research disciplines (therefore not only SLU-relevant disciplines) with about 30,000 students, the vast majority being undergraduate students and only a few of them PhD students. UEM recognises the importance of establishing functioning quality assurance mecha-

nisms and has identified this as a prioritised key supporting component within Sida's bilateral research programme for Mozambique.

SLU, in collaboration with Uppsala University (UU) and local partner UEM, has been asked to develop existing or build new (where needed) quality assurance components towards the institutional capacity development of UEM in a 5-year quality assurance programme. The main strategic goals of this programme at UEM are to: i) improve capacity at programme level to develop and deliver high-quality post-graduate programmes and research; ii) continuously improve the quality of institutional research environments, and iii) strengthen the institutional capacity for quality assurance system development and management. The idea is that several SLU administrative divisions will work together and with their counterparts at UEM and UU to succeed in the above-mentioned goals set by UEM.

To name some examples, our Division of Educational Affairs will "train the future UEM

trainers” in supervision skills and will also be involved in developing guidelines for student mobility, admission, assessments for double, joint and UEM PhD degrees (in co-operation with the Division of Planning), and other relevant issues. SLU’s Leadership Development Unit at the Division of Human Resources will be responsible for developing structures for continuous development of leadership skills at UEM and will also be actively involved in developing the leadership skills of the existing high-level staff at UEM with the ultimate aim of facilitating proper management of quality assurance systems. SLU’s Grants Office will work together with UEM staff initially to assess the existing research funding and management systems and also as a step further to improve the administrative support for project managers and the skills to acquire external funding at UEM.

SLU staff will be collaborating with UEM in several other quality assurance related issues that have already been identified by UEM where we believe we can contribute (e.g. quality management system for established research infrastructure such as laboratories, library, ICT, etc.), developing modules and structures and training UEM colleagues. This work cannot be accomplished in an effective way without close contact and cooperation with SLU researchers active in the “traditional” capacity development programmes (see training PhD students) in Mozambique. Close collaboration with scientific coordinators, i.e. Assoc. Prof. Abraham Joel (Programme *Land use and agricultural technologies for poverty reduction and sustainable development*) and Assoc. Prof. Gert Nyberg (Programme *Forestry and agroforestry for poverty reduction in rural Mozambique*) who will share their own experiences identifying areas of improvement when working at/with UEM is therefore foreseen.

Ioannis Dimitriou

Deputy Director

From March 2017

*“The idea
is that several SLU
administrative divisions
will work together and with
their counterparts at
Eduardo Mondlane
University.”*



View over Avenida Eduardo Mondlane, Maputo, Mozambique.

Photo: Maurits Vermeulen, Flickr CC BY-SA 2.0



Source: Flag Counter and Google Maps

Screen shot from Flag Counter in June 2017. The flags represent the 76 countries with people who visited SLU Global's website between December 2016 and June 2017.

Newsletter

We launched the first SLU Global newsletter in 2016, something we are very happy about. The newsletter keeps you updated on major events and activities, visits by our international partners, new publications and upcoming funding opportunities, all in the area of global development in agriculture. Today we have about 1,000 subscribers, both internal and outside SLU. A major part of our external subscribers are collaborating partners in low-income countries. We send out the newsletter four times a year. You are welcome to subscribe, or to read the issues already published at our website, www.slu.se/slu-global



Publications

This annual report is part of SLU Global's report series. You can download and read all the reports at our website, www.slu.se/slu-global. Click on *Documentation*.

Web

During 2016 SLU Global launched a new website, as part of the new, redesigned SLU web. Before the launch we conducted a web survey among our target groups and also ran an internal workshop. This resulted in some new information on our website, for example the new heading *Get involved*, where you can find out about opportunities to help to put a more sustainable and equal world into practice, be it through studies or as part of professional life, but also through online networks and in everyday life. Find out more about our *International career opportunities* booklet on the next page.

In December 2016, we installed a *flag counter* on our website, which means we can now follow from which country in the world our web visitors surf from. Between December 2016 and June 2017 we had web visitors from 76 different countries around the world. You can see the results of the flag counter statistics in the picture at the top of this page, or visit our website for daily updates. You will find the flag counter at the bottom of our start page.

“We can now follow from which country in the world our web visitors surf from”

Malin Planting

Communications Officer



International career opportunities



Download the
booklet at
www.slu.se/slu-global
or order your printed copy
by sending an e-mail to
global@slu.se

Global development involves numerous different branches and varied stakeholders. Many organisations, companies, municipalities and other public authorities are working with the Global Development Goals.

Today, global development work is conducted as much in the North as in the South. Development presents opportunities for new forms of cooperation and exchange. If you are a committed student or professional, there is surely a place for you in this field.

You can work in academia, governments, private businesses or non-governmental organisations. But which one is right for you?

To help students pursue international careers, SLU Global in 2016, within the SIANI theme (pp 18-19), produced a publication that highlights possible pathways and employers. In this booklet, *International Career Opportunities*, you can find 33

relevant employers as well as essential pieces of advice, and interviews with SLU alumni now working internationally.

Download the booklet at www.slu.se/slu-global (click on *Get involved* and then on *Work*) or order your printed copy by sending an e-mail to global@slu.se

The booklet was designed for students at SLU but there is a lot of useful advice for non-SLU students too!

At our website you have access to more information about:

- Finding your employer
- Internships/Trainee positions
- Current global job opportunities
- Job opportunities at LU

Malin Planting
Communications Officer



Mosaic landscape in Honduras. Photo: Anders Malmer

Cooperation with African researchers increases

– traditional capacity development still essential

A long-term increase in SLU joint publications with low- and middle-income countries (as defined by the DAC list* by OECD) is evident and they accounted for 21% of all SLU publications in 2016 (Fig 1). The strongest increase over the last four years is in joint work with authors from Sub-Saharan African (SSA) countries, with around 40 publications per year between 2006 and 2012, has now risen to over 100 in 2016 alone (Fig 2).

Twenty percent of SLU's PhDs are from low- and middle-income countries, but it is other cooperation that is increasing

Interestingly, the proportion of PhDs from DAC-listed countries in relation to the total number of PhDs conferred at SLU is also around 20%. This figure has varied widely over the years and was between 10% and 24% during the period 2010–2016. Therefore a clear trend of increase cannot be detected. In contrast, the ratio of annual publications to annual PhD graduates increased clearly from approx. 6 to approx. 10 for DAC-listed countries and from around 5 to around 11 for SSA. This means that the steady increase in joint SLU DAC/SSA publications in recent years is possibly due to increasing joint research rather than to increasing capacity development activities. (Every thesis is based on around four articles, so any increase in the ratio above indicates other articles than those written by PhD students.)

Our joint publications are used all over Africa

It is difficult to know to what extent published works are used. Using bibliometrics, more particularly the analysis of citations, is a way to understand how research results are spread and used in the research community; by whom and in what countries. 426 co-published SLU-SSA publications (2008–2015) were cited by 7,291 articles. Citation analysis was used to identify the number of articles with at least one author from an SSA country. The share for each SSA country was then stated as a percentage of the total number of citing articles (7,291).**

The result shows citations from articles with SSA co-authorship from 37 Sub-Saharan African countries. Among countries in SSA, South Africa is dominating (5%), while Kenya (2.5%) and Ethiopia are in a class in-between, before an asymptotic tail with Zimbabwe, Burkina Faso, Uganda, Tanzania, Nigeria and Ghana in the lead with between 1 – 0.5% (approx. 72 – 36 articles for each country during those years).



Fig 1. Share of SLU publications jointly with authors from low- and middle-income countries (as defined by the OECD DAC list* of countries eligible for official development support) out of total number of SLU publications per year. (ISI Web of Science by SLU Library)

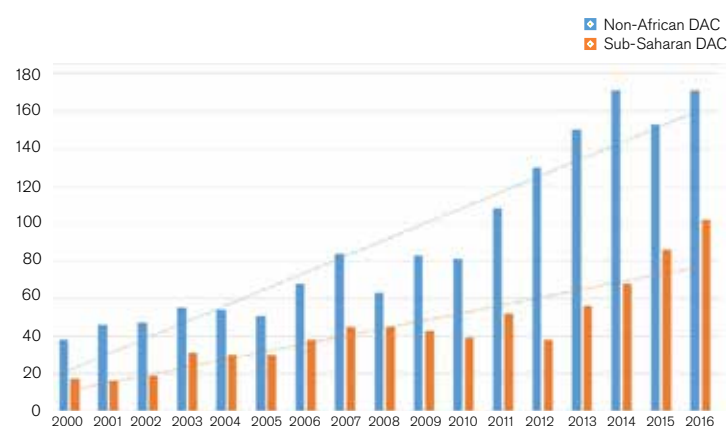


Fig 2. Total number of SLU publications per year jointly with authors from Sub-Saharan Africa (orange) and with authors from other low- and middle-income countries (as defined by the OECD DAC list* of countries eligible for official development support) (blue). (ISI Web of Science by SLU Library)

Capacity development still strongly needed

To understand the relative data on citation above it is crucial to realise the monumental lead by academy in the high-income countries. Even for the SLU – SSA articles analysed above, 32 % of the citations are from articles with an author from the USA. Thus, even if African ability to cooperate in international research is increasing, traditional academic capacity development is still strongly needed to gain better possibilities and ownership of science-based development in most African societies.

Anders Malmer
Director

*DAC list by OECD DAC: The Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD)

**Source: Web of Science (Clarivate Analytics). Analysis carried out by the SLU Library 17 January 2017.

SLU Global in the near future



Photo: Emelie Zonabend König

SLU Global 2017-2018

The year 2017 will include some major and noteworthy events at SLU. By the end of April, SLU is hosting the Agrinatura General Assembly 2017 at SLU Ultuna. During 21-22 September the biennial Agricultural Research for Development Conference (Agri4D) will also take place at SLU Ultuna (as usual). These are two events that will bring many of our collaborating partners to SLU, giving us the opportunity to discuss future ideas on research and capacity development. SLU turns 40* in 2017, and our longstanding collaboration with partners in low-income countries will of course not be forgotten during the celebrations.

Our increasing focus on youth and entrepreneurship in agricultural development will be manifested, among other ways, in two workshops before summer 2017; one in January at SLU's campus in Alnarp in the south of Sweden, and one at the Swedish International Development Cooperation Agency's (Sida) headquarters in Stockholm in May.

SLU Global was initially formed as a programme called *Agricultural Sciences for Global Development* for the period 2012 – 2017, placed at the Vice-Chancellor's Office. A transformation into a permanent unit at the Vice-Chancellors Office was initiated in late 2016. During 2017, a new mission and a business plan will be developed to be implemented from the start of 2018. This process is aligned with the appointment of a new pro vice-chancellor at SLU responsible for international relations from 2016

and onwards. Furthermore, the UN Sustainable Development Goals will be increasingly important in framing SLU Global's work related to education, research and capacity development over the coming years.

Anders Malmer
Director

“Our increasing focus on youth and entrepreneurship in agricultural development will be manifested...”

*SLU is a young university with a long history. It was founded in 1977 by merging the agricultural, forestry and veterinary university colleges, the Veterinary School at Skara and the Forestry School at Skinnskatteberg.



THE GLOBAL GOALS
For Sustainable Development



SLU Global Annual Report 2016

Welcome to share with us glimpses of the past year at SLU Global!

In this report you can read about our activities and achievements in 2016. SLU Global is a unit tasked with facilitating and developing SLU's policy for global development.

In 2016 the joint publications between SLU researchers and colleagues in low- and middle-income countries continued to increase. They have more than doubled in five years and now represent 21% of all SLU publications, or more than 270 publications in 2016. The joint share with Sub-Saharan Africa is 100 publications; this too has doubled in the last five years.

The Sustainable Development Goals (SDGs) for the UN Agenda 2030 were taking off during 2016 and SLU took active part in the initial Swedish alignment with the goals. SLU's joint work with low-income countries in forest, agriculture and the natural resources management is central for Swedish international engagement for major SDGs such as no poverty and eradicating hunger as well as many other goals.

To strengthen SLU's involvement in issues related to improving productivity in agriculture, food security and sustainable livelihood in low-income countries, our university established the programme *Agricultural Sciences for Global Development* (SLU Global) in 2012 and it is now a central unit at the Vice-Chancellor's office. SLU Global supports and develops SLU's commitment to improve the situation for people in low-income countries* based on the United Nation's global Sustainable Development Goals

SLU contributes to the development of a fossil-free and bio-based economy and to many of the SDGs within the UN Agenda 2030. At SLU, we have been working with capacity development for education and research for natural resources management in low-income countries for more than 60 years. Today, this is an integrated activity in all faculties and departments and we publish more than five peer-reviewed research publications per week jointly with partners in low- and middle-income countries and with international institutes for global development.

*Low- and middle-income countries according to OECD DAC (The Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD))

www.slu.se/slu-global

