Masters of Advanced Studies in Integrated Crop Management

Annual Review – 2016

UNIVERSITÉ DE NEUCHÂTEL

CABI

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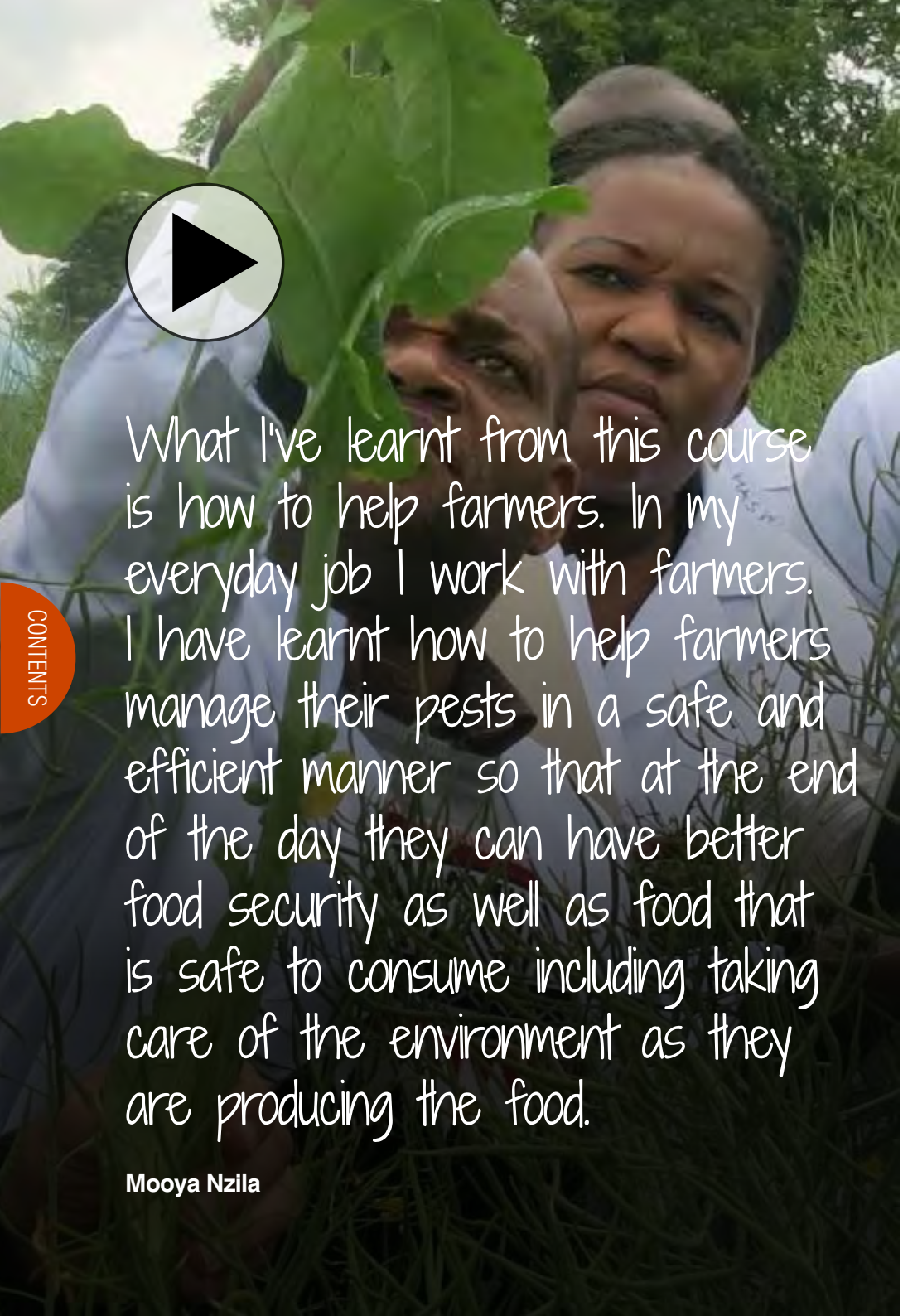

What I've learnt from this course is how to help farmers. In my everyday job I work with farmers. I have learnt how to help farmers manage their pests in a safe and efficient manner so that at the end of the day they can have better food security as well as food that is safe to consume including taking care of the environment as they are producing the food.

Mooya Nzila

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Why is a course on Integrated Crop Management so important?

Population growth combined with a changing climate continues to challenge global food security, food safety and environmental sustainability. A change to "business as usual" crop production is required to address this challenge.

One solution is to adopt Integrated Crop Management (ICM), an approach to sustainable agriculture that combines biological, environmental, land management, economic and social considerations.

The Masters of Advanced Studies (MAS) in ICM, jointly coordinated by CABI and the University of Neuchâtel, aims to help address today's critical agricultural and environmental challenges by offering a unique higher education programme to agricultural professionals.

The course gives students the opportunity to learn about sound crop management principles and to explore solutions that can be incorporated into practice and policy within their own countries. It therefore has a role to play in contributing to the Sustainable Development Goals.

In March 2016, 12 students began the programme in Delémont, Switzerland, where the course is based.

The study programme, which started in 2015, is supported by:

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

JURA CH
RÉPUBLIQUE ET CANTON DU JURA

plantwise

Meet the students

Click on each student for their full biography.

Debraj Adhikari
Nepal

Erick Haraman
Malawi

Julius Banda
Malawi

Jean Pierre Kalisa
Rwanda

Mathews Matimelo
Zambia

Michael Kumah
Ghana

Mooya Nzila
Zambia

Paul Musa Lahai
Sierra Leone

Rukmali Gunapala
Sri Lanka

Saul Hernandez
Honduras

Stephen Katabaazi
Uganda

Tamrat Tsegaye
Ethiopia

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What did the course cover?

The course is an interdisciplinary study programme providing knowledge on ICM. ICM involves managing crops to optimize yields and profitability while minimizing negative impacts on the environment and human health.

The MAS in ICM has been specifically designed to help agricultural professionals, such as extension agents, trainers and policy makers, understand the principles of ICM and how to successfully adapt and apply it within their own country contexts.

The MAS in ICM study programme also addresses the wider implications of ICM, particularly the socioeconomic and ecological aspects, which form the backdrop to this approach to sustainable agriculture.

Taught in English, the duration of the study programme was two semesters consisting of 11 thematic modules, a workshop on the future of agriculture and a final case study session on building an ICM strategy.

Module subjects included: soil management, seed selection, crop nutrition, cropping strategies, pest and landscape management, water management, statistics, national and regional agricultural policies, and rural economics. Each module included theory and practical sessions and most incorporated research demonstrations, field visits and study tours to partner organizations. These have been designed to help students understand how ICM can be practically applied in working farm contexts.

Participants on the MAS in ICM course were required to write a thesis during the last 12 weeks of the programme. All students selected thesis topics that have direct practical application in their own work. These included using an ICM approach to compile production guidelines for economically important crops, and identifying ways to improve current plant pest diagnosis and extension practice within their own countries.

The course was taught by ICM experts from CABI and the University of Neuchâtel, and featured interdisciplinary guest lecturers from around the world.

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My message for other students considering undertaking this programme is... I will encourage them to go for it. It is very rich in content, especially in areas like control of insect pests, and they can also learn about different aspects of crop nutrition and crop protection. So the course is rich in content and they will definitely learn from the programme.

Mathews Matimelo

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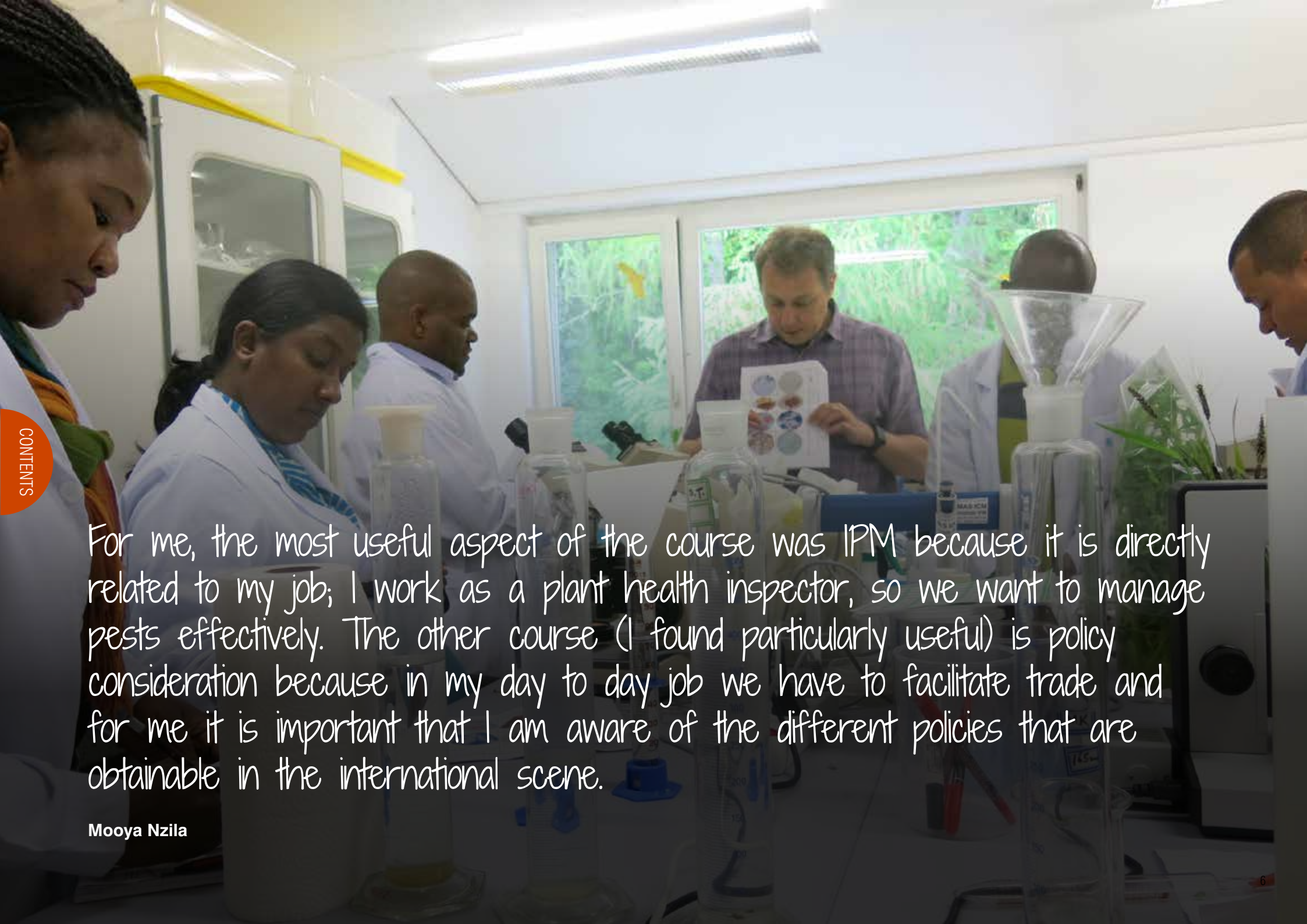

For me, the most useful aspect of the course was IPM because it is directly related to my job; I work as a plant health inspector, so we want to manage pests effectively. The other course (I found particularly useful) is policy consideration because in my day to day job we have to facilitate trade and for me it is important that I am aware of the different policies that are obtainable in the international scene.

Mooya Nzila

What did students think of the course?

Each year the students are asked for their feedback on individual modules, and for their overall opinion once the course is completed. Student feedback is extremely valuable in the course quality assurance process. CABI and the University of Neuchâtel continually assess and make changes to the course content and administration based on students' comments.

The favourable feedback received in 2016 is comparable to that received from students in 2015 and indicates that the course maintained its quality and relevance.

In 2016, 100% of students said the course met their expectations and would be beneficial to their careers. Importantly, in post-course feedback, the majority of students said they would use knowledge gained from the course to improve advice they provide to farmers and contribute to policy discussions.

Modules on Integrated Pest Management and seed and planting material received the highest overall rating in 2016 with 100% of students agreeing that these courses were excellent.

For the module content, an average of 89% of the students responded that they "strongly agree" that the modules were interesting and of good quality, with 11% saying they "agree".

Students were also asked if the modules provided new information or knowledge. In response, an average of 86% of the students said they "strongly agree" and 13% that they "agree". See figure opposite.

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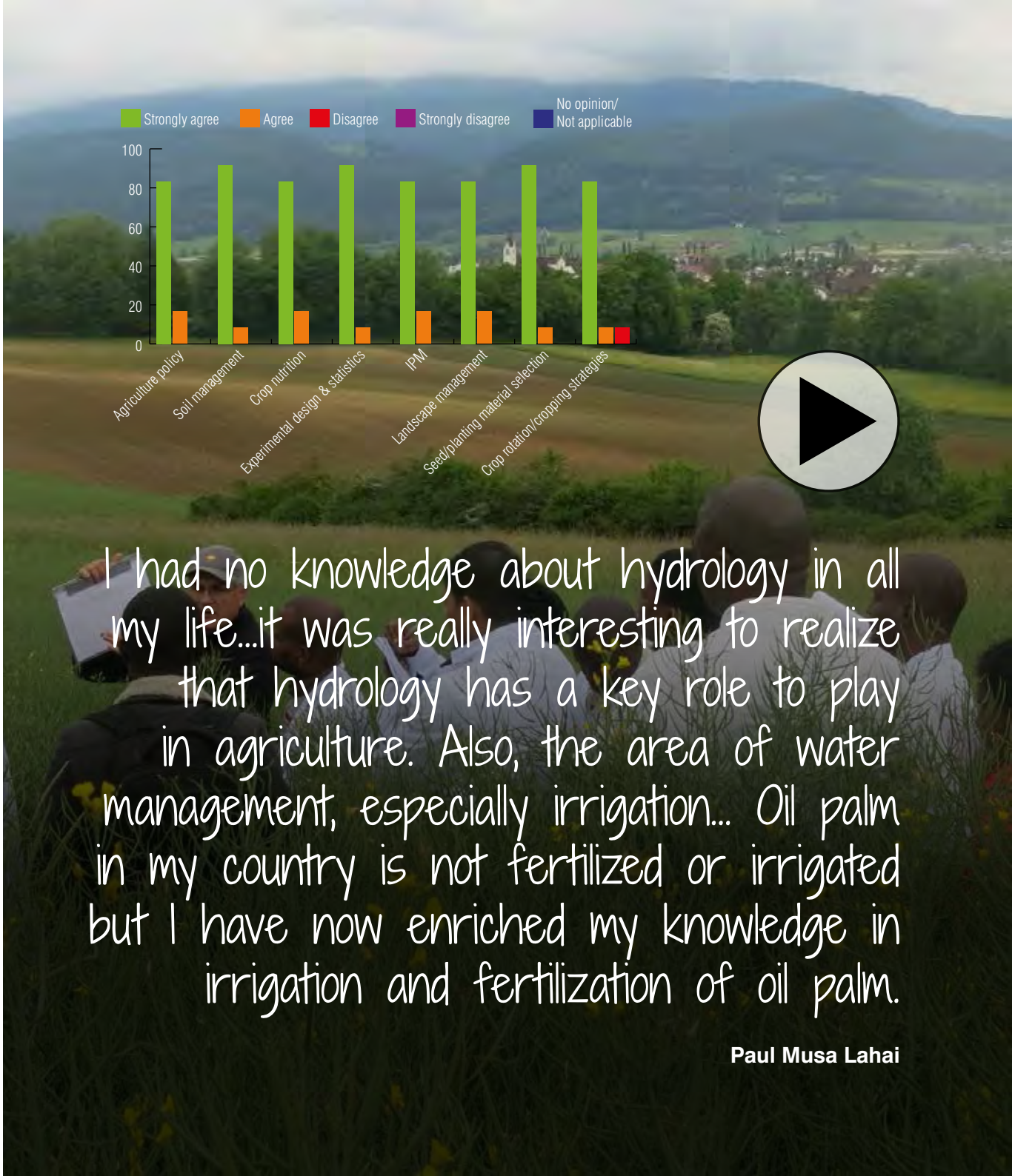

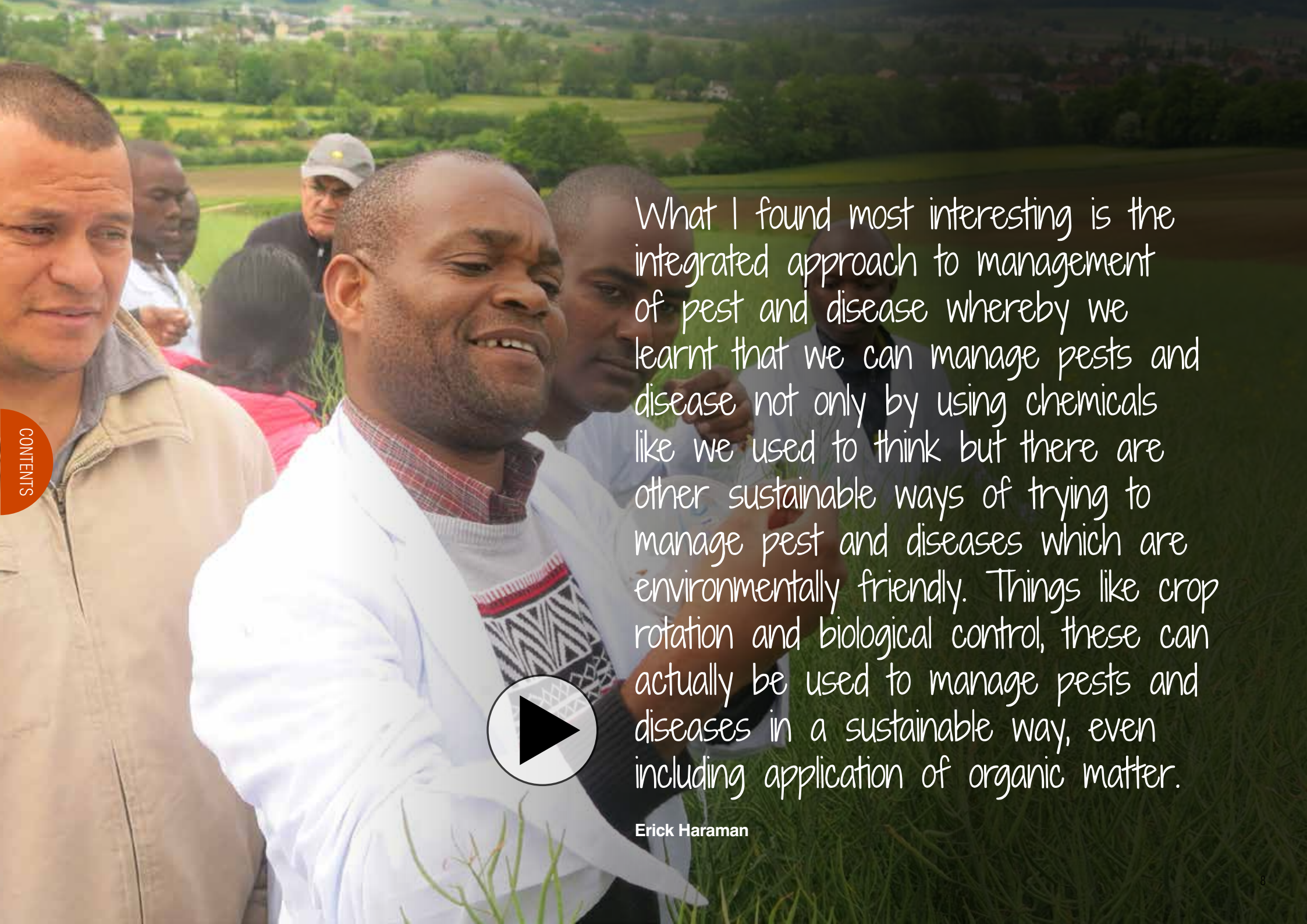

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What I found most interesting is the integrated approach to management of pest and disease whereby we learnt that we can manage pests and disease not only by using chemicals like we used to think but there are other sustainable ways of trying to manage pest and diseases which are environmentally friendly. Things like crop rotation and biological control, these can actually be used to manage pests and diseases in a sustainable way, even including application of organic matter.

Erick Haraman

Graduation day

After nine months of hard work, 11 students graduated from the programme with a Master of Advanced Studies in Integrated Crop Management and one with a Diploma of Advanced Studies in Integrated Crop Management (requiring no thesis).

The graduation ceremony took place on 17 November 2016 in Interlaken, Switzerland. Speeches during the occasion were given by the University of Neuchâtel's Professor Ted Turlings and CABI's Executive Director, Global Operations, Dr Ulrich Kuhlmann.

"We congratulate the students on their graduation. They have worked hard over the past year and should be proud of their achievement. We wish them all the best as they return home to their professional roles and begin to apply their new ICM knowledge. We would also like to encourage them to stay in touch with us and with each other over the coming months and years and to share their ICM success stories. On behalf of CABI and the University of Neuchâtel I would like to acknowledge and thank our donors and partners for their support in making the 2016 MAS ICM possible and for ensuring that this course continues for a third year in 2017."

Dr Ulrich Kuhlmann

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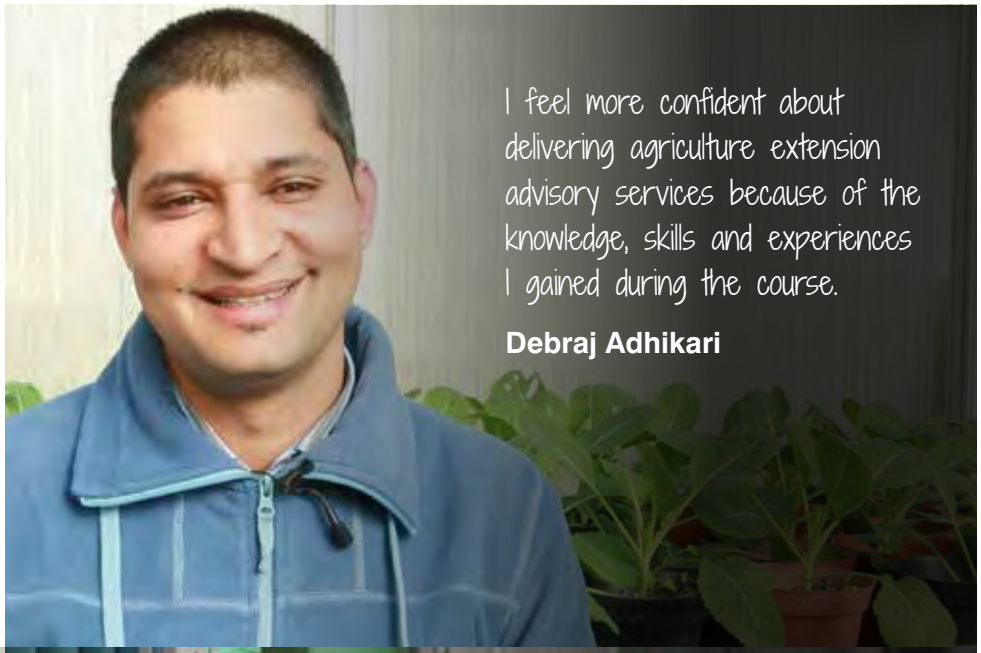
Feedback from students after the course

Soon after graduating, the students returned home to begin applying the ICM approach within their own work in a range of organizations including governments, advisory services and universities.

Although the 2016 students only completed the course around two months ago, we have already received encouraging reports that participating in the MAS in ICM course has made a difference to their work. Many have shared their thesis findings with senior management and colleagues and have created plans to integrate ICM into their daily work and future programmes within their organizations.

One year after graduating, students from the 2015 course also continue to apply their ICM knowledge to bring about positive changes to agricultural practices in their respective countries (see page 12).



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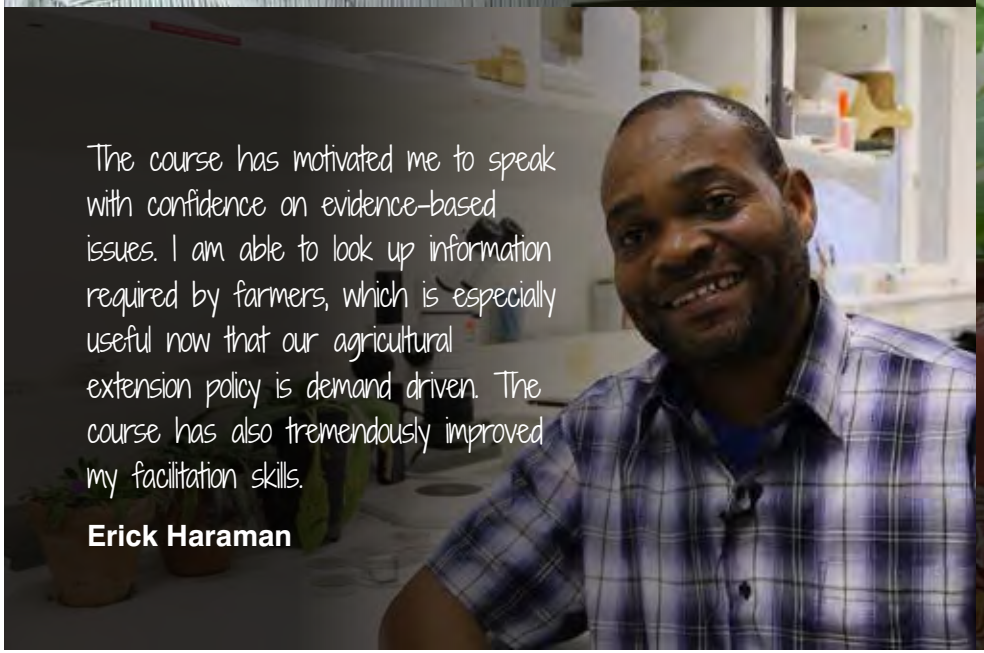
After going through the MAS in ICM programme, I now have the confidence and necessary skills to address plant health problems and can say without hesitation that I am now a key player in the field of agronomy and in production of cocoa, coffee, oil palm and cashew.

Paul Musa Lahai



The course has motivated me to speak with confidence on evidence-based issues. I am able to look up information required by farmers, which is especially useful now that our agricultural extension policy is demand driven. The course has also tremendously improved my facilitation skills.

Erick Haraman

I am using the knowledge and skills acquired from the course to develop a project proposal on conservation agriculture to help rural farmers in soil nutrient-depleted regions to conserve nature by use of Integrated Crop Management principles, especially through minimum tillage to improve the biodiversity of beneficial insects, especially pollinators. This will improve the livelihoods of the smallholder farmers, especially those who depend on apiary farming as the source of their livelihoods.

Stephen Katabaazi

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Feedback from 2015 MAS in ICM students

Since completing the MAS in ICM in 2015, I have been transferred from the Regional Office to the National Office which is a plus, and I have been assigned more activities based on my ICM background. I am also now more efficient and confident in my line of duty.

I have helped small-scale farmers reduce crop losses from pests through farmer education and awareness creation.

Fred Kofi Asante, Agricultural Officer, Quarantine Inspector, Ghana

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The skills and knowledge gained from the MAS in ICM course has enabled me to influence practice. Now the government and farmers are using more IPM and organic manure is also being used. It also greatly improved my skills in policy areas.

Raymonda Johnson, Head Crop Protection Service, Ministry of Agriculture, Sierra Leone

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My current position after doing the course, enables me to train extension staff in the Department of Agriculture (DoA) in Sri Lanka.

The course has also helped a lot with building my confidence in presenting a topic and arguing my ideas and thoughts. My career has been enhanced as a result of taking the MAS in ICM course.

Vakeesan Arulanandam, CABI Associate, Plantwise, Sri Lanka

The skills and knowledge I acquired during the course are useful in solving different problems of farmers through applying an integrated approach. My knowledge regarding plant protection has really improved.

Muhammad Rizwan Khan, Pakistan. Currently PhD Student, Huazhong Agricultural University, China

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The content of the MAS in ICM programme was comprehensive and I acquired knowledge and skills to help me in fulfilling my day-to-day job assignments.

My thesis findings have been shared with the Ministry of Agriculture of the Republic of Rwanda to guide policy formulation on pesticide regulation in the country. In addition, I shared my thesis on my ResearchGate profile.

Alexandre Rutikanga, Rwanda. Currently, Research Scientist at the Institute of Plant Protection of the Chinese Academy of Agricultural Sciences, Beijing-China

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I am now more confident as I deliver information to stakeholders, farmers and fellow colleagues, courtesy of the course. The way I conduct phytosanitary inspections and quarantine facility inspections has been enhanced by the knowledge gained. I am taking the lead in maintaining sweet potato and cassava clean planting materials by administering pest management schedules, and advising farmers growing the crops.

Maureen Mwangangi, Plant Health Inspector, Kenya

Working with us on the course

Working on the course from the University of Neuchâtel (UniNE) and CABI:

Co-Directors:
Ted Turlings, Professor, Institute of Biology, University of Neuchâtel
Ulrich Kuhlmann, Executive Director, Global Operations, CABI
Course coordination:
Manfred Grossrieder, CABI, **Ricarda Knetsch**, UniNE

CABI Switzerland:
Dirk Babendreier (modules 4, 5)
Melanie Bateman (module 2)
Erica Chernoh (module 3)
Julien Dougoud
René Eschen
Manfred Grossrieder (modules 1, 11, 13)
Julien Grunder
Luca Heeb
Keith Holmes (module 9)
Wade Jenner
Urs Schaffner (module 10)
Stefan Toepfer (module 8)
Philip Weyl

CABI UK:
Rob Reeder
Philip Taylor

UniNE:
Philip Brunner (module 6)
Daniel Hunkeler
Jean Pierre Husi

Our thanks to the following institutions and experts who worked with us on the course modules:

Peter Althaus, IP-Suisse, Switzerland
Dario Fossati, Agroscope, Switzerland
Alexandra-Maria Klein, University of Freiburg, Germany
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Romano De Vivo, Syngenta Foundation, Switzerland
Ylva Hillbur, International Institute of Tropical Agriculture (IITA), Benin

From the School of Agricultural, Forest and Food Sciences (HAFL), Switzerland:
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Andreas Keiser
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Hans Meier
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Urs Scheidegger
Matthias Stettler
Bernhard Streit
André-Daniel Stucki
Christoph Studer
Pascale Wälti

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Bernard Beuret
Olivier Girardin
Beat Knobel
Bertrand Wütrich

From the Research Institute of Organic Agriculture (FiBL), Switzerland:
Dominique Barjolle (module 12)
Hélène Bougouin
Beate Huber

From the Federal Office for Agriculture (FOAG), Switzerland:
Dominique L. Kohli
Matthias Ofner
Matthieu Raemy

From the Swiss Federal Institute of Technology, Switzerland:
Johan Six

From the University of Zurich, Switzerland:
Jan Seibert

From Andermatt Biocontrol, Switzerland:
Gisela Brand
Alex Meier

Thank you to our partners

The Masters programme has added to my knowledge. I enjoyed interacting with colleagues from different parts of the world as well as interacting with our lecturers.

Paul Musa Lahai

I enjoyed every bit of the programme. The lecturers were very knowledgeable and approachable. Anytime we need support they were there to help us, especially when we were writing our thesis.

Michael Kumah

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I feel that I have more knowledge than before and I am confident with the different aspects of ICM and I can utilize this in my working situation.

Debraj Adhikari

Debraj Adhikari, Nepal

I work as a plant protection officer for Nepal's Ministry of Agriculture Development in the Department of Agriculture. I received a BSc Ag in 2006 and an MSc Ag (Horticulture) in 2009 from Tribhuwan University, Nepal. I am currently a subject matter specialist in the District Agriculture Development Office in Kavre and have an overall responsibility for crop protection and pesticide management in the district. I have been involved in some research activities such as in floriculture (the rose), and pests of citrus (the fruit fly). I have also been involved in the surveillance of pests especially fruit fly in sweet orange orchards in Sindhuli district. I am an IPM facilitator and have conducted Farmer Field Schools on IPM for various crops. I am a Plantwise plant doctor and a cluster coordinator of plant clinics in Kathmandu. I have also been involved in preparing Pest Management Decision Guides (PMDGs).

Erick Haraman, Malawi

I am the deputy programme manager for Kasungu Agriculture Development Division (ADD). My job involves delivery of extension services aimed at improving the food security and economic well-being of farmers. I hold a BSc degree in Crop Sciences from Bunda College of the Lilongwe University of Agriculture and Natural Resources. Before being promoted to my current position, I was with the Department of Crop Development within Malawi's Ministry of Agriculture, Irrigation and Water Development for 13 years as chief crop protection officer, where I was involved in surveillance, monitoring and control of migratory pests, development of technical messages and staff training in Integrated Pest Management (IPM). In 2013, I was appointed as national data manager for the Plantwise programme in Malawi.

Julius Banda, Malawi

I am currently a crop protection officer for Malawi's Ministry of Agriculture, Irrigation and Water Development within the Department of Crop Development in Mzimba District Agriculture Office. I hold a BSc degree in Agriculture (Crop Science) obtained from Bunda college of Agriculture. In my 13 years of work, I have been responsible for planning, implementing, coordinating and monitoring crop protection programmes for the district. Currently, I coordinate Plantwise activities for the district, train plant doctors and validate Plantwise national data.

BACK

Jean Pierre Kalisa, Rwanda

I am an agronomist with a BSc degree from Polytechnic Institute of Byumba. I was an extension agent and crop intensification programme coordinator for the Rwanda Agriculture Board (Southern Zone). I have also supported the implementation of Farmer Field Schools on potato and maize in collaboration with FIDA Project (PAPSTA) for the Ministry of Agriculture and Animal Resources in Rwanda. I am currently a Plantwise officer and national data manager for Plantwise at the Rwanda Agriculture Board. I am also a trainer of plant doctors and deliver other modules on monitoring plant clinics performance and preparing Pest Management Decision Guides. I have also participated in the development of green and yellow lists with Plantwise to help plant doctors and other extension agents to identify and manage plant pests in Rwanda.

Mathews Matimelo, Zambia

I am currently a principal agriculture research officer at the Zambia Agriculture Research institute (ZARI). I hold a BSc degree in Agriculture Science from the University of Zambia. Working in the Entomology Team at ZARI I develop Integrated Pest Management packages to control different field and storage pests. I also have experience in apiculture which has enabled me to work with the rural population to use beekeeping as a tool for poverty alleviation and sustainable livelihoods. In Plantwise, I am part of the team that trains plant doctors, extension staff and farmers in effective and environmentally friendly pest management practices to improve productivity. For Plantwise, I am a trainer and a national data manager.

Michael Kumah, Ghana

I have been working with the Ministry of Food and Agriculture since 2011 as an assistant regional officer for the Plant Protection and Regulatory Services Directorate. I currently hold a BSc degree in Agriculture from Kwame Nkrumah University of Science and Technology (KNUST), Ghana. Some of the major activities I undertake in the Ministry are: coordination of Plantwise plant clinic activities; crop pest and disease surveillance and management; training farmers and agricultural extension officers in Integrated Pest Management (IPM) and food safety; providing technical backstopping on plant protection and regulatory services activities; monitoring and regulating the activities in the pesticide/fertiliser industry as well as providing training on good agricultural practices to pesticide/fertiliser and seed dealers and users. For Plantwise, I am a province data manager, plant clinic coordinator, plant doctor and trainer.

BACK

Mooya Nzila, Zambia

I hold a Bachelor of Arts in Development Studies from the Zambian Open University, and a Diploma in Export Horticulture from NRDC/ZEGA Training Trust. I recently completed my Master of Arts in Trade, Development and International Relations from the Zambian Open University. I have been working for Zambia's Ministry of Agriculture for 13 years as a technical research assistant and plant health inspector. I work for the Plant Quarantine and Phytosanitary Service (PQPS) which is a specialized unit under the Zambia Agriculture Research Institute (ZARI). I also lecture part-time at the Natural Resources Development College (NRDC) in the Horticulture Department. For Plantwise, I am a national trainer assisting in training plant doctors and supporting plant clinic data management processes. I am also a member of the Plantwise validation team.

Paul Musa Lahai, Sierra Leone

I work for the Sierra Leone Agricultural Research Institute (SLARI) attached to the Kenema Forestry and Tree Crops Research Centre (KFTCRC) as a research officer. I hold a BSc degree in Biological Sciences (Fourah Bay College – University of Sierra Leone) and a Master of Philosophy in Entomology from the University of Ghana, Legon. My work at SLARI-KFTCRC includes recording the pests of tree crops (cocoa, coffee and oil palm) and developing research proposals for the biology, host range and control of pests. I am a member of the master trainer group and have on several occasions been involved with training plant doctors for Plantwise in Sierra Leone.

BACK

Rukmali Gunapala, Sri Lanka

I work on rice pathology research with a special emphasis on disease management at the Rice Research & Development Institute in Sri Lanka. My responsibilities include fungicide testing, developing fungicide recommendations for rice diseases, conducting crop clinics and sample testing. I also assist in coordinating the International Network for Genetic Evaluation of Rice (INGER) programme which is a collaborative programme with the International Rice Research Institute (IRRI) in the Philippines. I am a master trainer in the permanent crop clinic programme (PCCP) of Sri Lanka, in collaboration with Plantwise, and a member of the mNutrition (Govinet) programme of Sri Lanka in collaboration with CABI in South Asia (India). I train plant doctors for the permanent crop clinic programme and prepare fact sheets and voice messages on rice for the mNutrition programme.

Saul Hernandez, Honduras

I hold a BSc degree in Agricultural Engineering from the University National of Honduras-UNAH and a MSc degree in Environmental Management from CIPSEM (Dresden Universitat, in Germany). I am currently a lecturer at the Universidad National of Honduras-UNAH where I teach food safety topics. I work for the Ministry of Agriculture and Livestock in Honduras. My duties include organic agriculture, food safety (Good Agricultural Practices and Good Manufacture Practices), plant health activities (exportations of plants for planting, fruits and vegetables) as well as pesticides inspection.

Stephen Katabaazi, Uganda

I hold a BSc degree in Agriculture from Makerere University, Uganda. I am the head of the virology section of laboratories in Uganda's Ministry of Agriculture where I am involved in training farmers on Integrated Pest Management (IPM) practices, diagnosis of diseases and pests on plant/ plant products and imports, safe disposal of disease infected plants, disease and pest surveillance and the forecasting and cataloguing of major plant pests and diseases affecting crops in Uganda. I was trained as a plant doctor for the Plantwise programme in 2012. I have worked with rural farmers in diagnosing plant problems and finding appropriate solutions.

BACK

Tamrat Tsegaye, Ethiopia

I hold a BSc degree in Horticulture from Jimma University College of Agriculture and Veterinary Medicine, Ethiopia and an MSc student working on a similar discipline at the same university since 2015. I am currently working for Ethiopia's Ministry of Agriculture and Natural Resources as an agronomist within the Department of Extension. I am responsible for developing production packages consisting of technical procedures for certain economically important crops and implementing training activities.

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