

Table S1. CSA practices undertaken by farmers in DRC as adaptation and mitigation strategies.

CSA practices	Adaptation/ mitigation	Implementation/ sponsor	Region	References
Use of crop rotation, fallow practice, biofertilizers, and bio-pesticides	Sustain soil fertility and productivity by using organic-based treatments. Use of sustainable agriculture as a response to reducing deforestation while at the same time lowering agriculture's carbon footprint and promoting a resilient and more productive farming system	The University of Kisangani implemented the study through the financial support of the European Union, the Centre for International Forestry Research (CIFOR), and the Norwegian Agency for Development Cooperation (NORAD).	Yangambi, northern DRC	Mangaza et al. (2021)
Use of different crop varieties, crop diversification, changing planting dates, strengthening nonfarm activities, and increased use of irrigation			Bukavu, eastern DRC	Bele et al. (2014)
Fallow practice, mixed cropping based on maize and peanuts; cassava, peanuts, and maize; banana, maize, and peanuts; Cucurbita, coffee, or cocoa.	Preserve biodiversity and sustain soil fertility; enhancing sustainable crop production Adjusting planting dates (new cropping calendar)	The University of Kisangani implemented the study Université Evangelique en Afrique	Kisangani, north-eastern DRC Bukavu, eastern DRC	Sabongo (2007)
Fallow practices	Sustain soil fertility by improving soil microbial organisms	The University of Kisangani	Yoko and Kindu in the north and central east of DRC	Kumba, (2007); Yuma (2016)

Agroforestry with legume trees (<i>Acacia auriculiformis</i> and <i>Albizia chinensis</i>); Succession planting, crop rotation, alley cropping, mulching, mixed cropping.	Hedgerow cropping systems legumes periodically pruned, and the modus is applied to the soil to improve physical properties (doubled productivity of cereals such as rice, maize, etc.); improve agroecosystem resilience, promoting reforestation while at the same time lowering agriculture's carbon footprint and promoting a resilient and more productive farming system.	University of Kisangani with the financial support of Lutheran World Federation (LWF)	Kubagu, North of DRC	Kavira (2016)
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Table S2. CSA practices in eastern DRC by UEA staff members

No	CSA Practices	Project name	Resource persons	Area	Funders	Beneficiaries	Documentation
1	Soil and Water Conservation	Thesis project	Espoir Bagula	Ruzizi Plain	UEA, PPM, RUFORUM	Ruzizi plain farmers	Articles available online
2	Biogas	Projet Environnement	Katcho Karume, Francine Safina, Bintu Ndusha	Bukavu	PMU	Bukavu population	Reports
3	Agroforestry		Géant Chuma Basimine	Itombwe Natural Reserve	PPM	Populations around Itombwe Natural Reserve	Articles available online
4	Crop-livestock integration	Humid Tropics	Espoir Bagula, Rodrigue Ayagirwe	South-Kivu, Mushinga	IITA	Mushinga farmers	Articles available online
5	Weather forecasting and cropping calendar	SVS	Gustave Mushagalusa, Jean Mondo Mubalama, Katcho Karume	South-Kivu	USAID	Bean, soybean, and coffee farmers	Reports
6	ISFM	-	Espoir Bagula	South-Kivu	CIALCA, N2 AFRICA, DIOBASS	South-Kivu farmers	Articles available online

7	Biofertilizer	Thesis project	Bintu Ndusha	South-Kivu	N2 AFRICA, RUFORUM	Soybean farmers	Articles available online
8	Biopesticide	Thesis project	Janvier Mugisho, Marcellin Cokola, Parent Kulimushi	South & North-Kivu	UEA, PPM	Banana and maize farmers	Articles available online
9	Agroecology farming systems	Thesis project/Consortium for Agroecology in South-Kivu	Serge Ndjadi, Gustave Mushagalusa, Katcho Karume, Adrien Ndeko & Jean Mondo Mubalama	South-Kivu	UEA, PPM	South-Kivu farmers	Articles available online
10	Improved varieties	HarvestPlus	Jean Mondo, Gustave Mushagalusa	South & North-Kivu	HarvestPlus	South-Kivu farmers	Reports
11	Improved cultural practices	Students Research Project	Gustave Mushagalusa	South-Kivu	PPM	South-Kivu farmers	Articles available online
12	Value addition	URVC	Jean Mondo, Géant Chuma, Caroline Sibomana	South-Kivu	PPM, DIOBASS	Bakeries, mushroom producers	Articles available online
13	Watershed management	PABS	Gustave Mushagalusa	Mumoshho	SINELAC	Mumoshho dam and surrounding populations	Reports
14	Environmental resources management	Projet Environnement	Gustave Mushagalusa	South-Kivu	PMU	Schools, Churches, farmers, all the society	Reports
15	Forestation	Projet Environnement	Gustave Mushagalusa	South-Kivu	PMU	Schools, Churches, farmers, all the society	Reports
16	Waste recycling	Projet Champignon	Jean Mondo, Gustave Mushagalusa	South-Kivu	PPM, DIOBASS	South-Kivu farmers	Articles available online
17	Land restoration	FSP	Gustave Mushagalusa, Espoir Bagula, Katcho Karume	South-Kivu	Mercy Corp	South-Kivu farmers	Reports
18	Crop diversification	Neglected and Underutilized Crop Species	Jean Mondo & René Civava	South-Kivu	UEA, PPM	Kabare and Walungu farmers	Articles available online

Table S3. Organizations involved in CSA in eastern DRC

N°	Institution	Types	Status	CSA theme	CSA category	Selected practices	Action field	Main crops	Intervention Zone	Funding body	Ongoing CSA projects	Resource persons
1	DIOBASS	Local	ASBL	LRA, CR, ISFM	Agroforestry , Agronomy	Intercropping, OM, mulching, green manure, Conservation Agriculture (CA)	Humanitarian	Bean and maize, cassava, trees, forages	North and South Kivu		No	pdiobass@gmail.com
2	INERA	Local	Public	All		Crop diversity, Composting, Cropping system, Crop rotation, IPM, ISFM, cover crop, mulching	Research	All	Kabare		Yes	rene.civava@outlook.com
3	GIZ	International	Cooperation	LRA	Agroforestry	Land restoration, Forest management , parkland		Trees	All the province	Dutch Government		hwabamambo@gmail.com
4	MERCY CORPS	International	Cooperation	LRA, ISFM, CR, WHM, MVM	Agroforestry , Agronomy	Intercropping, Permagarden, SWC, ISFM, Composting, cover crop, mulching, double digging, Zai	Humanitarian	Cassava, maize, bean and vegetables	Kabare, Kelehe	USAID	Yes	

5	Harvest Plus	International	Research institute	CR	Agronomy	Intercropping, cropping system, improved and biofortified varieties	Research, Diffusion	Bean and maize	Kabare, Kalehe, Walungu	CIAT		a.k.lubobo@cgiar.org
6	World Vision	International	Cooperation	LRA, ISFM, CR, WHM, MVM	Agroforestry, Agronomy	Intercropping, Permagarden, SWC, ISFM, Composting, cover crop, mulching, double digging, Zaï	Humanitarian	Cassava, maize, bean and vegetables	Kalehe	USAID	Yes	
7	CARITAS	International	Religious	CD			Humanitarian	Vegetables	Idjwi, Kabare		No	louisciza@gmail.com
8	SARCAF	Local	ASBL	CD, PHM, MVM	Agronomy	Crop diversity, Composting, Cropping system	Humanitarian	Soybean, Vegetables	Kabare, Walungu, Fizi			
9	FH	International	Cooperation	LRA, CD, ISFM	Agroforestry, Agronomy		Humanitarian	Trees, vegetables	Walungu			
10	WOMAN for WOMAN	International	Cooperation	CD, ISFM	Agronomy		Humanitarian		Walungu,			
11	FONDATI ON PANZI	Local	ASBL	CD	Agronomy		Humanitarian, gender, sex violence	Bean, maize, vegetables	Kabare		Yes	tico812182@yahoo.fr
12	ADEPAE	Local	ASBL	LRA, LAM	Agroforestry, Agronomy			All	All the province	CORDA ID		sunzu.adepae@yahoo.fr , adepaecoord@gmail.com
13	IPEL	Local	Public	All	Agroforestry, Agronomy		Monitoring		All the province			

14	IPA	Local	Public	All	Agroforestry ,Agronomy		Monitoring		All the province			
15	UEA	Local	Research institute	LRA, CD	Agronomy, Agroforestry	Land restoration, Seed production	Research	Trees, maize, bean	Kabare (Mumoshu, Kashusha)	SINELAC		rayagirwe@gmail.com
16	ZOA	International	Cooperation	LRA, WHM, ISFM	Agroforestry	Forestry, Irrigation, ISFM	IRWM	Trees, Rice, Cassava	Ruzizi valley	the Netherlands		omatumaini@louvaincooperation.Org
17	CORDAID	International	Cooperation	LAM, MVM	Agronomy	Livestock	Humanitarian					
18	FAO	International	Cooperation	LRA, CD, MVM, LAM	Agroforestry	Land restoration, Parkland, Tree management , Agro-sylvo-pastoralism		Trees	Kabare, Walungu	UN		Lebeau.NgoyMbayaWaNyenga@fao.org
19	FACAGRO/UEA	Local	Research institute	SBE	Bio-gas production (from cow dung)	Improved traditional stoves, biogas, NTP	Research			PMU		
20	OIFP/UEA	Local	Research institute	LRA	Agroforestry	Parkland, land restoration	Landscape management		South-Kivu	FAO	Yes	kkatcho@yahoo.com
21	PICAGEL	Regional	Cooperation	CR,LAM, MVM	Agronomy	Intercropping, manure, improved varieties, Forage production		Cassava	South-Kivu, Tangayika	World Bank	Yes	
22	RIKOLTO	International	Cooperation	PHM, MVM	Agronomy			Rice	Ruzizi valley	Belgium and World Bank	Yes	
23	OXFAM	International	Cooperation	MVM, LRA	Agronomy					Belgium		
24	ADA	Regional			Agroforestry , Agronomy				Uvira, Fizi			

25	IITA	International	Research institute	All	Agronomy	Fisheries, aquaculture, improved crop	Research		DRC		yes	gushmanaguy@adradrcongo.org
26	LCD	International	Cooperation				Humanitarian		Kabare, Walungu, Kalehe	Belgium	Yes	omatumaini@louvaincooperation.org
27	ADE	Local	ASBL		Agronomy		Humanitarian		Kabare		Yes	basiminejulesb@actiondespoir.org
28	CAB	Local	ASBL								No	cab_asbl@yahoo.fr
29	FONDATEUR MUDEKER EZA	Local	ASBL	LRA, LAM	Agroforestry, Agronomy					Any	Yes	
30	LAV	Local	ASBL	CD, LAM	Agroforestry, Agronomy					Any	No	
31	ASOP	Local	ASBL	LRA, SBE, ISFM, CR, WHM, MVM	Agroforestry, Agronomy	Intercropping, green manure, ISFM	Humanitarian	Cassava, bean, trees, vegetables	Kabare, Walungu, Kalonge	Bruxelles environnement, Brot für die Welt	Yes	fezo@asopcongo.org, info@asopcongo.org

Table S4. Most relevant documentation on CSA in DRC

N o	Authors/ac tors	Title	Practices	Region	Institution	Funder
1	Cavallito (2021)	Climate smart practices can fix Congo's agricultural crisis	Crop rotation, the use of biofertilizers and biopesticides and back to fallow. Suggestions: agricultural calendar, using tolerant and improved varieties, crop rotation, and developing crops in the lowlands.	Yangambi	RE SOIL Foundation	
2	Mangaza et al. (2021)	Building a framework towards climate-smart agriculture in the Yangambi landscape, Democratic Republic of Congo (DRC)	Crops rotation, fallow practice, fertilizers, and biopesticides	Yangambi	UNIGOM, UNIKIS, CIFOR	CIFOR
3	FANRPAN and Earth System Governance Project (2017)	Climate-Smart Agriculture in the DRC	Sustainable and secured access to land, improving women's access to technology and information by facilitating digital platforms for women and real-time agricultural data; improving women's access to funding, credit and investments; and increasing women farmers' access to markets by supporting them to form cooperatives and strengthening their capacity to meaningfully participate in the green value chain.	Lubumbashi	FANRPAN	NORAD and ACBF
4	Ulimwengu and Kibonge (2017)	Climate-Smart Agriculture Practices Based on Precision Agriculture: The Case of Maize in Western Congo	Variable-rate application of seeds and nutrients based on inherent soil properties to increase yield in high-producing areas, maintain yield in low-producing areas, and reduce the use of costly inputs. Likewise, precision nitrogen (N) management can balance soil nutrient content, preventing unwanted nitrate leaching that can impair surface water and groundwater quality	Bukanga Lonzo	IFPRI	
5	Sonwa et al. (2020)	Preliminary reflections of the potential of climate smart agriculture (CSA) in the Tshopo Province (DRC)	Strengthen value chain, reliable and sustainable seed system, the reorganization of the extension service; strengthening of the involvement of the private sector in the supply of agricultural inputs ; integrated soil fertility management and by introducing perennial crops such as coffee; avoid/reduce seasonal fluctuation in the price of products by staggering the planting and harvesting of cassava, and by irrigating cereals and legumes; enhancement of post-harvest capacities by constructing of pilot storage, processing and sales units. Use of fallow improvement plants, cultivation under plant cover, the use of biochar, composting, agroforestry and the use of natural fertilizers or pesticides.	DRC	CIFOR, UNIGOM, UNIKIN	NORAD and EU
6	Assani (2019)	Analysis of farmers' soil conservation practices in Cirhanyobwa Catment, South-Kivu Province, DR Congo	Trenches, fallow, contour ploughing, minimum tillage, agroforestry, hedges, mulching, terraces	South-Kivu	Kenyatta University	IITA (CORAF-WECD) and DAAD
7	Lambrecht et al. (2014)	Integrated soil fertility management: From concept to	Improved varieties, row planting, mineral fertilizer, organic inputs	South-Kivu	KU Leuven	FWO Vlaanderen

		practice in eastern DR Congo				
8	Malembaka (2020)	Characterization and screening of native arbuscular mycorrhizal fungi isolates from maize (<i>Zea mays</i> L.) agroecosystems in South-Kivu, Democratic Republic of Congo	Characterization and diversity of mycorrhizal fungi with potential for biofertilizer development	South-Kivu	University of Nairobi	VLIR UOS
9	Balangeliza (2014)	Uptake of technology and competitiveness of legume production in small scale farming in South Kivu, Democratic Republic of Congo	Biofertilizer, spacing, rhizobium, fertilizer	South-Kivu	Kenyatta University	N2 Africa
10	Thiombiano et al. (2012)	Structure conceptuelle de l'Agriculture Intelligente face aux défis climatiques pour une productivité accrue dans le Bassin du Congo	Sustainable soil and water management, Crop-tree-livestock integration, value addition	Congo Basin	FAO	FAO
11	Chinedum et al. (2015)	State of Knowledge on CSA in Africa: Case Studies from Nigeria, Cameroon and Democratic Republic of Congo	Soil and water conservation structures (small scale irrigation, terraces, contour bunds, etc.); Sustainable Land Management; Tree Planting and Protection, and Agroforestry; Early-Maturing Varieties; Mulching; Fertilizer and Manure Application; Livelihood Diversification and New Crops; Changing of Planting Date	Nigeria, Cameroun, DRC	FARA, NORAD, NEPAD	NORAD

Table S5. Courses referring to CSA practices at undergraduate level at the Faculty of Agriculture of UEA

No	Department	Level	Units	Hours	CSA contents	CSA practices
1	Agronomie generale	G1	CLIMATOLOGIE ET METEOROLOGIE	45	Weather forecasting	
2	Environment	G1	CLIMATOLOGIE ET METEOROLOGIE	45	Weather forecasting	
3	Environment	G1	AGROMETEOROLOGIE	15	Weather forecasting	
4	Environment	G1	INTRODUCTION A L'ENVIRONNEMENT ET AUX RESSOURCES NATURELLES	30	Natural resources management and GHGs minimization	
5	Agronomie generale	G1	GÉOLOGIE, MINÉRALOGIE ET GÉOMORPHOLOGIE	45	Natural resources dynamics, anthropic environmental changes, and natural disaster prevention	Elaboration of geomorphological maps
6	Agronomie generale	G1	ECOLOGIE GENERALE	45	Natural resources management, organisms interactions, coexistence theories, competition and evolution	
7	Agronomie generale	G1	HYGIENE ET ASSAINISSEMENT	30	Management of solid and liquid waste, development of drinking water, vector control	Waste mapping
8	Agronomie generale	G2	MORPHOLOGIE ET SYSTEMATIQUE DES PLANTES	45	Elaborate a database of agroforestry, ornmental and weed species	
9	Agronomie generale	G2	TOPOGRAPHIE ET CARTOGRAPHIE	75	Introduction spatio-mapping and GIS	Construction of surveys (levée) and development of maps using ArcGIS software
10	Agronomie generale	G2	MOTEURS ET MACHINES AGRICOLES	75	Different sources of energy on a farm, understanding the economy of mechanized agriculture, motorized operation of ploughing, sowing and weed control, spreading fertilizer and harvesting	
11	Agronomie generale	G2	PÉDOLOGIE GÉNÉRALE ET TROPICALE	90	Soil diversity and its implications for soil management, soil classification and mapping (LULC), relationship between pedogenesis and physical and meteorological factors	Examination of soil profiles, sampling and laboratory analysis
12	Agronomie generale	G2	LIMNOLOGIE, ICTHYOLOGIE ET PISCICULTURE	60	Biological processes involved in aquatic ecosystems, rules for the construction, development and management of ponds and artificial basins in open or closed circuits, mapping of appropriate areas by species, agriculture-livestock-aquaculture integration	Crop-livestock-aquaculture integration
13	Agronomie generale	G2	PHYSIOLOGIE VÉGÉTALE	45	Growth process, development and adaptability of the plant to the environment	Microdosing
14	Agronomie generale	G2	PHYTOTECHNIE GENERALE ET SYSTEMATIQUE DE PLANTES CULTIVEES	60	Understanding the interaction of climate and weather with agricultural production systems, agroecological bases of agricultural production, pest and pest management techniques, integrated soil fertility management, resilient agriculture and permaculture in the highlands of the Kivu	Determination of sowing density; plant water needs, fertilizer dose calculation, crop evaluation; composting, vertical

						farming practices, permagarden, nursery development
15	Agronomie generale	G3	MECANIQUES DES FLUIDES ET HYDRAULIQUES	45	Principles of water flow under atmospheric pressure (canals, rivers, dams, etc.), analysis, design and/or operation of systems designed in different environments such as installations, networks of irrigation, dams, wells, etc. ; hydraulic and hydrostatic systems.	
16	Agronomie generale	G3	AMELIORATION ET CONSERVATION DES SOLS	45	Erosion management; GIS-based erosion risk assessment at plot or watershed scale; principles of soil conservation and improvement and resilient agriculture; LULC	
17	Agronomie generale	G3	SYLVICULTURE ET AGROFORESTERIE	45	Development and management of an afforestation and an agroforestry site	Evaluation of silvicultural productivity, development of silvicultural nurseries,
18	Agronomie generale	G3	PHYTOTECHNIE SPÉCIALE	90	Typical systematization of the environmental aspects of the major plant classes in the tropics: climatology, pedology, phytogeography and consequences on production.	
19	Agronomie generale	G3	AGROSTOLOGIE I ET CULTURES FOURRAGERES	45	Ecology, conservation, restoration of forage species; sustainable management of meadows and pastures	Inventory of silvopastoral species
20	Agronomie generale	G3	PHYTOPATHOLOGIE GÉNÉRALE	45	Plant-pathogen-environment interaction; biological control and integrated management of diseases and pests	
21	Agronomie generale	G3	ZOOLOGIE AGRICOLE GÉNÉRALE	45	Appropriate control methods for pests and exploitation of the positive effects of beneficial insects	
22	Agronomie generale	G3	USINAGE DES PRODUITS AGRICOLAS	45	Post-harvest preservation and value addition of agricultural products	
23	Agronomie generale	G3	ZOOTECHNIE GÉNÉRALE	45	Livestock-human-environment interaction, agropastoralism	
24	Agronomie generale	G3	ZOOTECHNIE SPECIALE	90	Management of the animal production environment	
25	Phytotechnie	Ir1	NUTRITION DES PLANTES ET FERTILISATION DES SOLS	75	ISFM, prevention of fertilizer losses and pollution	Calculation and formulation of fertilizers and lime; fertilizer management, application methods, rate and schedule, diagnosis of nutrient deficiencies in the field (soil and plants) and their analyzes in the laboratories
26	Phytotechnie	Ir1	MALHERBOLOGIE	30	Integrated weed management methods; fundamental and applied knowledge for the safe and rational use of herbicides	

27	Phytotechnie	Ir1	PHYTIATRIE	30	Overview of the principles of reasoned plant protection and crop protection strategies: quarantine measures, cultural practices, varietal resistance, chemical control (with the problems of resistance, residues, the effect on the environment), biological control , integrated protection and production.	Diagnosis of diseases, suggestion of integrated control measures
28	Phytotechnie	Ir1	PHYTOPHARMACIE	30	Fate of pesticides in the environment and ecotoxicology; Legislation and regulations governing the approval and use of phytosanitary products; Good phytosanitary practices and integrated crop protection systems	Integrate and optimize the use of phytosanitary products in integrated crop protection; objective analysis of the main risk factors linked to the use of pesticides in agriculture, as well as that of their potential side effects.
29	Phytotechnie	Ir1	SYSTEME D'INFORMATION GEOGRAPHIQUE ET TELEDETECTION	75	Model spatial data to derive essential information; Analyze spectral and RADAR images	Analysis and modeling of spatial data, basic remote sensing, thematic classification of multispectral and Radar (Topographic) data.
30	Phytotechnie	Ir1	ENTOMOLOGIE SPÉCIALE	30	Identification of pests, assessment of damage and development of means of effective control against the pest of crops and stocks	Integrated control management
31	Phytotechnie	Ir1	PHYTOPATHOLOGIE SPÉCIALE	30	Diagnosis of crop diseases and means of effective management	Integrated control management
32	Phytotechnie	Ir1	BIOLOGIE DES SOLS	60	Soil microbial diversity; interaction between microorganisms and between soil and microorganisms; symbiotic and non-symbiotic relationships between plants and microorganisms; biogeochemical cycles and effect of pesticides on soil microorganisms	
33	Phytotechnie	Ir2	LEGISLATION AGRICOLE ET ENVIRONNEMENTALE	30	Land, agricultural and environmental law; legal standards for intensive agricultural and forestry production; preservation of the environment	
34	Phytotechnie	Ir2	QUESTION SPECIALE DE FERTILITE DES SOLS	30	Improved soil fertility without affecting the environment; ISFM; environmental effects of soil management, biofertilizers	
35	Phytotechnie	Ir2	HYDROLOGIE ET GESTION DES HYDRIQUES EN AGRICULTURE	60	Use and development of water resources, irrigation and drainage	Drop by drop, assess the need for irrigation water and design irrigation networks
36	Phytotechnie	Ir2	MECANISATION AGRICOLE	45	Determination of the energy requirements of various agricultural tools; analysis of field machine operation for optimum performance; environmental aspects of machine operation	
37	Phytotechnie	Ir2	QUESTIONS SPECIALES CHANGEMENT CLIMATIQUES	30	Weather and climate forecasts; mitigation measures, mitigations and adaptation to climate change; methods and tools for assessing climate	

					impacts on ecosystems, species and people's livelihoods; policy options to reduce greenhouse gas emissions.	
38	Phytotechnie	Ir2	HORTICULTURE	60	Analysis of crop needs based on its ecological, physiological and market requirements; sustainable production in horticulture; permaculture (Permagarden), Vertical Agriculture, etc.	Dr. Serge Ndjadi
39	Phytotechnie	Ir2	QUESTION SPECIALE DE PROTECTION DES CULTURES	30	Genetic manipulations of plants to form transgenic species; biological control; selection of resistant varieties; application of phytosanitary products and environment; plant protection reasoning systems; evolution of plant protection legislation	
40	Phytotechnie	Ir2	PROBLÉMATIQUE DE L'ENVIRONNEMENT	45	Environmental diagnosis in order to prevent environmental risks and to make an adequate development; environmental protection measures; development of a development plan for specific environments	Mapping of environmental problems in the city, elaboration of a development plan for sites with high environmental risks in the city
41	Phytotechnie	Ir2	TRANSFORMATION DES PRODUITS AGRICOLES	75	Food added value, food spoilage factors, conservation of agricultural products	
42	Phytotechnie	Ir2	AMELIORATION SPECIALE DES PLANTES CULTIVEES	45	Plant and varietal diversity; varietal development; quality seed and the seed system; improvement for yield, resistance/tolerance to stress, nutritional quality.	

Table S6. Training gaps on CSA and CIS in DRC

Training theme	Description	Priority level
Climate information service and real-time agricultural data	Given the increasing number of disasters and weather extremes in DRC, the climate information service needs improvement and different stakeholders need more awareness on how it works and how it can be effectively implemented in DRC.	High
Agriculture-livestock aquaculture integration	Previous initiatives have not inserted aquaculture in the crop-livestock integration projects. With an increasing expansion of aquaculture in DRC, training is necessary to support effective integration of aquaculture to already adopted integrated farming systems	High
Capacity building on the elaboration of effective CSA and CIS-specific policies	Policies are lacking mainly due to the inability of stakeholders on how to elaborate one. Adding this knowledge to the university curricula will help get effective CSA policy frameworks in the near future.	Medium
Principles of agro-ecology farming system	Agroecology teaching is lacking in DRC curricula and thus the knowledge of staff and students is superficial. There is a need to strength this aspect in training of future lecturers and students.	Medium
Assessment of carbon sequestration and greenhouse gas emission (carbon footprint) potential by different agro-ecologies, farming systems and land-uses	The knowledge on how the carbon footprint can be estimated needs to be added to the university curricula and more practical work included. This will be useful for adequate decision-making.	High
Effective seed delivery systems of resilient crop varieties	The crop productivity in a climate-stress scenario is dependent on the resilience of varieties used. However, these varieties are lacking in DRC and the training on how to develop a functional seed delivery system for such resilient varieties is crucial.	High
CSA and CIS-oriented extension strategies	Staff and students need to be equipped on the most appropriate extension strategies to increase chance of CSA and CIS practices' uptake by farmers	High
Digital-based platforms for plant and animal disease monitoring and control	With the increasing volume of data being generated across the country and the opportunities provided by the communication technologies, it is important to equip staff and students on how digital platforms could help for timely monitoring and information sharing on emerging animal and plant diseases.	Medium
Gender issues and CSA in DRC	Staff and students need more awareness on how women can be sustainably supported through a community-centered approach to adopting and adapting livelihood strategies in innovative ways, based on current and future climate change scenarios.	Medium
Information and Communications Technology (ICT) and CSA practices dissemination	These technologies have been instrumental in disseminating CSA practices and climate information in other African countries. Yet, these are still unknown in DRC and lack in the university curricula.	Medium
Agricultural and agroforestry land suitability analyses using GIS and remote sensing tools	Due to high cost of field assessment, the use of GIS and remote sensing tools in data-scarce context such as DRC could help rapidly identify and quantify suitable lands for agricultural activities at low cost. Yet, very few human resources exist in DRC.	Medium
Biofertilizer and biopesticide development	DRC is among countries with lowest external farm inputs worldwide because of poverty among farmers and cultural (belief system) resistance. Equipping staff	Medium

	and students on alternative approaches could help boost adoption and farm productivity in DRC.	
Agricultural waste recycling options	Adequate options for waste recycling could help reduce pollution and increase farmers' food and income security in DRC. Adding economic and eco-friendly recycling options (such as mushroom production, animal feed processing, etc.) in the curricula is important.	Medium
Cost-effective renewable energy and biogas production	The use of renewable energy like the biogas is an effective mean of reducing pressure on forests and other natural resources in rural DRC. Experiments were conducted at institutional levels but awareness of their opportunity and implementation is still low among students as the curricula seldom include it.	High
Permagarden farming approaches	Crop mixing is among climate change resilience strategies. Better understanding on how the permagarden can be economically practiced in DRC is crucial since the country agriculture is mainly conducted on small plots by resource-poor smallholder farmers.	Medium
Microdosing and micro-irrigation systems	The application of fertilizer and water is often inefficient due to misuse of products and the dosage is not well mastered by farmers. Training students on microdosing and micro-irrigation systems would help fix the situation in the near future.	Medium
Crop diversification and climate-resilience potential of neglected and underutilized crop species	Neglected and underutilized crops, as the most adapted to local agricultural systems and climates, are now perceived as a mean to minimize adverse effects of climate changes. Yet, their knowledge is poor among staff and students.	Medium
Conservation and enhancement of biodiversity and ecosystem services	Mismanagement of biodiversity is often due to lack of information on ecosystem services they provide. Increasing awareness on the topic will help student make reasonable decisions in their carrier vis-à-vis the conservation and enhancement of biodiversity and ecosystem services in DRC.	Medium