CLIMATE-SMART Agriculture 2015

Global Science Conference

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Le Corum, Montpellier France

# Poster Session 1
# Regional Dimensions

**Monday, 16 March 2015**

**15:00 – 16:30**

**EXHIBITION HALL, LEVEL 0**

# POSTER SESSION 1 - REGIONAL DIMENSIONS

## L1.1 AFRICA

**1. Is conservation agriculture a climate-smart option for smallholders in sub-Saharan Africa?**

Bruelle Guillaume[1], Naudin Krishna[2], Scopel Eric[2], Corbeels Marc[2], Torquebiau Emmanuel[2], Penot Eric[3], Rabeharisoa Lilia[4], Mapfumo Paul[5], Tittonell Pablo[6]
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*[6]Wageningen University, FSE, 6708 PB, Wageningen, the Netherlands*

**2. From time uncertainties to climate-smart agriculture in the Sudano-Sahelian zone of Cameroon**

Fofiri Nzossie Eric Joël[1], Bring[2], Temple Ludovic[3], Wakponou Anselme[4]
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**3. Feeding Ethiopia in changing context: from diagnosis to exploration of climate smart options**

Mezegebu Getnet[1,2,3], Martin van Ittersum[1], Katrien Descheemaeker[1], Huib Hengsdijk[2]
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**4. Macroalgae as biostimulants of growth and enhance tolerance to Moroccan wheat plants cultivated under salt stress**

Latique Salma, Chernane Halima, Mansouri Mounir, El Kaoua Mimoun
*Cadi Ayyad University /Department of Biology, Laboratory of Biotechnology, Valorization and Protection of Agro-Resources, Marrakech, Morocco*

**5. Improving the resilience of fishery stakeholders to the climate change effects. Case of Saint-Louis, Senegal**

Diallo Aminata[1], Sarr Benoit[2], Thiao Djiga[3], Sall Moussa[4]
*[1]Centre for Oceanographic Research Dakar,Thiaroye, Senegal (up to october 2014), Fann Résidence, Dakar, Senegal*
*[2]Agro meteorologist Engineer and Coordinator of Master Climate Change and Sustainable Development Program, Scientific Coordinator of the Global Alliance against Climate Change Project (Regional Centre AGRYMET), Niger*
*[3] Researcher and statistician at the Centre for Oceanographic Research Dakar / Thiaroye, Senegal*
*[4] Regional Coordinator of the MOLOA to the Ecological Monitoring Centre*

**6. Comparative assessment of maize, finger millet and sorghum for household food security under increasing climatic risk**

Rurinda Jairos[1,2,3], Mapfumo Paul[2,3], van Wijk T. Mark[1,4], Mtambanengwe Florence[2,3], Rufino C. Mariana[4], Chikowo Regis[2,3], Giller E. Kenneth[1]
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**7. Choice and risks of management strategies of farming calendar: application to corn production in Southern Benin**

Alle C. S. Ulrich[1], Baron Christian[2], Guibert Hervé[2], Agbossou K. Euloge[1], Afouda A. Abel[1]
[1]*Université d'Abomey - Calavi, Republic of Benin*
[2]*CIRAD, France*

**8. Land cover changes along tropical highland agroforestry systems: call for an improved climate adaptation**

Matokeo Arbogast[1], Lyimo James[1], Lelong Camille[2], Majule Amos[1], Masao Catherine[1], Mathé Pierre-Etienne[3], Vaast Philippe[4], Williamson David[4,5]
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**9. Ecological intensification for a climate smart agriculture: applications from Senegal and Burkina Faso**

Masse Dominique[1], Ndour-Badiane Ndèye Yacine[2], Hien Edmond[3], Akpo Léonard-Elie[4], Diatta Sekouna[4], Bilgo Ablassé[5], Hien Victor[5], Diédhiou Ibrahima[6], Ndiaye-Cissé Mame Farma[2], Tall Diouf Laure[2], Ndienor Moussa[2], Founoune Mboup Hassna[3], Feder Frédéric[7], Médoc Jean-Michel[7], Lardy Lydie[1], Assigbetsé Komi[1], Cournac Laurent[1]
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**10. Incorporating climate change into agricultural research and advisory services in Africa**

Lamboll Richard[1], Morton John[1], Kisauzi Dan[2], Ohiomoba Ifidon[3], Demby Dady[3], Mangheni Margaret[4], Moumouni Ismail[5], Parkinson Verona[6], Suale David[7], Nelson Valerie[1], Quan Julian[1]
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**11. Developing community-based climate smart agriculture through participatory action research in West Africa: lesson learnt**

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**12. Indigenous Climate Smart Agriculture (iCSA); local knowledge pool from urban vegetable farmers**

Kweku Oduro Koranteng
*Dept. of Public Admin and Health Services, Uni of Ghana Business Sch., Ghana*

**13. Mitigation of climate change through soil organic carbon sequestration in smallholder farming systems of Zimbabwe**

Mujuru Lizzie[1], Mureva Admore[1], Velthorst Eef, J.[2], Hoosbeek Marcel R.[2]
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*[2]Wageningen University, Dept. of Environmental Sciences, Earth System Science, P.O. Box 47, 6700 AA Wageningen, The Netherlands*

**14. Climate-smart intensification of West-Africa's cocoa systems**

van Asten Piet[1], Jassogne Laurence[1], Vaast Philippe[2] Laderach Peter[3], Schroth Götz[4], Lundy Mark[3], Asare Richard[5], Muilerman Sander[5], Ruf R.[6], Snoeck Didier[6], Koko Louis[7], Anim-Kwapong Gilbert[8], Rossing Walter[9], Gockwoski James[5], Giller Ken[9], Six Johan[10], Vanlauwe Bernard[11]
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*[8]CRIG, Kumasi, Ghana*
*[9]WUR, Wageningen, the Netherlands*
*[10]ETH, Zurich, Switzerland*
*[11]IITA, Nairobi, Kenya*

**15. Effect of oil and addition of enzymes on fibre digestion, methane production and performance of sheep**

Booyse Maruzaan, Hassen Abubeker
*Department of Animal and Wildlife Sciences, University of Pretoria, Pretoria 0002, South Africa*

**16. Drought and adaptation strategies of rural maize-legume farmers in Kenya and Tanzania**

Muricho Geoffrey[1], Tongruksawattana Songporne[1], Mutheu Judith[2]
*[1]International Maize and Wheat Improvement Center (CIMMYT), Nairobi, Kenya*
*[2]African Economic Research Consortium, Nairobi, Kenya*

**17. Biochar as an opportunity for climate-smart agriculture in small-holder farming systems in Kenya**

Sundberg Cecilia[1], Karltun Erik[1], Mahmoud Yahia[2], Nyberg Gert[1], Njenga Mary[3], Roobroeck Dries[4], Röing de Nowina Kristina[4]
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**18. Farmers' perceptions of rainfall and agronomic trends in Allada plateau in southern Benin**

Alle Cayossi S. Ulrich[1], Guibert Hervé[2], Baron Christian[2], Agbossou Euloge K.[1], Afouda Abel A.[1]
[1]*Université d'Abomey Calavi, Bénin*
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**19. Climate and maize storage losses from insect pests in East and Southern Africa**

De Groote Hugo, Gitonga Zachary, Sonder Kai, Mugo Stephen, Tefera Tadele
*CIMMYT, PO Box 1041-00621 Nairobi, Kenya*

**20. Maize-based farm household typology and vulnerability to climate shocks in Kenya**

Tongruksawattana Songporne[1], Lopez-Ridaura Santiago[2], Tesfaye Kindie[3], Frelat Romain[2], Gitonga Zachary[1]
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[3]*International Maize and Wheat Improvement Center (CIMMYT), Addis Ababa, Ethiopia*

**21. Changing crop practices to address climate related risks among rural farmers in Nyando, western Kenya**

Recha John, Kinyangi James, Radeny Maren
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**22. Establishing an operational dialogue between researchers and decision-makers for adaptation to climatic changes in Mali**

Sogoba Bougouna[1], Ba Allassane[2], Zougmore Robert[3], Samake Oumar B.[4]
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**23. Women involvement in agricultural water management: example from supplemental irrigation in the Burkinabe Sahel**

Bologo/Traoré Maïmouna[1], Fossi Sévère[2], Zougouri Sita[3], Bado Eulalie[1,3]
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**24. Assessing potential climate change impacts in smallholder systems in Burkina Faso**

Medina Hidalgo Daniela[1], Herrero Mario[1], De Voil P.[3], Douxchamps Sabine[4], Thornton Phillip[6], Van Wijk Mark[5], Rodriguez Daniel[3], Prestwidge Di[1], Henderson B.[1], Rigolot Cyrille[1,2]
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**25. Micro-level appraisal of success stories of pro-poor climate adaptation and mitigation field experiences**

Bockel Louis[1], Bernoux Martial[2], Zingg Felix[1], Grewer Uwe[1], Chotte Jean-Luc[2]
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**26. Economic analysis of effect of flood on income distribution among farmers in Edo State, Nigeria**

Osasogie Daniel Izevbuwa[1], Alabi Reuben Adeolu[2]
*Department of Agricultural Economics and Extension, Ambrose Alli University, PMB 14, Ekpoma, Edo State, Nigeria*

**27. Identifying farm-level hotspots to target greenhouse gas measurements in smallholder crop-livestock systems**

Ortiz Gonzalo Daniel[1], Rosenstock Todd S.[2], Vaast Philippe[3], Oelofse Myles[1], de Neergaard Andreas[1], Albrecht Alain[3]
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**28. Intensification test on maize production in the Sudano-Sahelian zone: techniques, soils, climate and economic conditions**

Guibert Hervé[1], Olina Bassala Jean-Paul[2], Vunyingah Michael[2]
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**29. Profile of climate smart agricultural technologies in the dry Guinea savannah and forest zones in Ghana**

Botchway V. A. [1], Karbo N.[1], Zougmore R.[2], Sam K. O.[1]
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**30. Contribution to the valorisation of forest species potentialities in promoting climate smart agriculture in Madagascar**

Andriampiolazana Manony[1], Randevoson Finaritra[1], Rajoelison Gabrielle[1], Cailleau Guillaume[2], Verrecchia Eric[2], Razakamanarivo Herintsitohaina[3]
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**31. Optimizing rhizosphere microbiology and hydrology of shrub-intercropping for buffering climate change in the Sahel**

Dick Richard[1], Diédhiou Ibrahima[2], Dossa Ekwe[3] , Kizito Fred[4], Chapuis-Lardya Lydie[5,6], Badiane Ndourb Yacine[7], Debenport Spencer J.[1], McSpadden Gardener Brian B.[1], Assigbetsea Komi B.[5,6], Bright Matthew[1], Schreiner Paul[8], Founoune Mboupc Hassna[7], Bayala Roger[7], Diallo Ndeye Hélène[7]
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**32. Native shrub management on soil nematofauna: optimization and adaptation to climate change of Sahelian agroecosystems**

Diakhate Sidy[1,2], Mboup Hassna Founoune[2], Ndour Yacine Badiane[1,2], Chapuis-Lardy Lydie[3], Dick Richard P.[4]
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**33. Optimal rice cropping systems under uncertainty: case of West Africa Rice Sector Development Hubs**

Lokossou Jourdain[1], Arouna Aminou[2], Atacolodjou Annick[3]
[1]*University of Abomey-Calavi, Benin*
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**34. Effects of intensification of maize and rice production in Tanzania on productivity and environmental impacts**

Brentrup Frank, Mtengeti Ephraim
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**35. Small farming food versus ethanol sugarcane: global constraints and local opportunities for irrigation in Ghana**

Dumas Patrice[1], Brunelle Thierry[1], Souty François[1], Bibas Ruben[1], Méjean Aurélie[1], Lazar Attila[2], Black Emily[2], Vianna Cuadra Santiago[3], Vidale Pier Luigi[2], Verhoef Anna[2], Wade Andrew[2]
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**36. Nutritive quality of dominant forage species in response to simulated drought in sub-tropical native pasture**

Talore D.G.[1], Hassen A.[1], Tesfamariam E.H.[2]
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**37. Variability of effects of compost on nodulation, N acquisition and yield of cowpea in sub-Saharan areas of Burkina Faso**

Zongo Koulibi Fidèle[1], Clermont-Dauphin Cathy[2], Drevon Jean Jacques[3], Blavet Didier[2], Masse Domunique[2], Hien Edmond[1,2]
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**38. Potentials of medicinal plants extracts on digestibility, in vitro methane gas production of Eragrostis curvula forage**

Akanmu Abiodun Mayowa, Hassen Abubeker
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**39. Food security patterns at farm household level: key drivers and options for climate-smart agricultural interventions**

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**40. Analysis of the impact of climate changes in the last thirty years on the second generation of cocoa in Côte d'Ivoire**

Kassin Koffi Emmanuel[1], Yao Guy Fernand[1], Diedhiou Arona[2], Koko Louis Kan Anselme[3], Assiri Assiri Alexis[3], Kouamé Brou[1], Konaré Abdourahamane[4], Kouassi Koffi Nazaire[5], Yoro Gballou René[1]
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**41. Carbon footprinting of the Irish potato production systems in Zimbabwe**

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**42. Farmers' access to agrometeorological services in Ido local government area of Oyo state, Nigeria**

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**43. Impact of dry-wet cycles on carbon mineralization of tropical soils**

Yemadje Pierrot Lionel[1,2], Guibert Hervé[1], Bernoux Martial[2], Deleporte Philippe[3], Chevallier Tiphaine[2]
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**44. Impact of climate change and desertification on agriculture and food security in Côte d'Ivoire**

Kassin Koffi Emmanuel[1], Yao Guy Fernand[1], Diedhiou Arona[2], Kouamé Brou[1], Konaré Abdourahamane[3], Kouassi Koffi Nazaire[4], Yoro Gballou René[1]

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**45. Exploring institutional dimension of climate-smart agriculture in Nigeria**

Fanen Terdoo[1], Olalekan Adekola[2]
[1]*Department of Geography and Environmental Science, University of Reading, United Kingdom*
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**46. Critical reflection on knowledge and narratives of conservation agriculture in Zambia**

Whitfield Stephen, Dougill, Andrew J., Dyer Jen C., Kalaba, Felix K., Leventon Julia, Stringer Lindsay C.
*Sustainability Research Institute, University of Leeds, Leeds, LS2 9J, United Kingdom*

**47. Positive effect of climate change on cotton and rice in Africa and Madagascar**

Gerardeaux Edward[1], Krishna Naudin[1], Ramanantsoanirina Alan[4], Dusserre Julie[1], Oetli Pascal[2], Oumarou Palai[3], Sultan Benjamin[2]
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**48. Modeling potential impact of climate change on sorghum and cowpea yields in semi-arid areas of Kenya**

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**49. Gender analysis of adaptation strategies of water stress among crop farmers in Asa local government area of Kwara State**

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**50. Matching uses and functional traits of companion trees in cocoa agroforests: a win-win scheme toward resilient systems**

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**51. Water requirements for potato production under climate change**

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**52. How smart is Climate Smart Agriculture (CSA)? – Lessons from Northern Nigeria**

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**53. Integrating climate smart agriculture for food security: the role of private sector investment in Africa**

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**54. Climate variability and Impacts on the population of leaf miner, a pest of the Oil Palm in Nigeria**

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**55. The agro-potential of Western Siberia territories in a changing climate**

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**56. Ecological intensification through conservation agriculture in Cambodia: impact on SOC, N and enzymatic activities**

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**57. Net ecosystem exchange of carbon dioxide and methane in rice fields of northern Indo-Gangetic Plains**

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**58. Are tree plantations climate-smart? The case of rubber tree plantations and the natural rubber commodity chain**

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**59. Potential integrated agricultural technologies for climate-smart villages of Southeast Asia**

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**60. Enhancing productivity and livelihoods among smallholder irrigators through Biochar and fertilizer amendments**

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**61. Climate change and agriculture in India**

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**62. A suitability assessment for "alternate wetting and drying": targeting priority areas for mitigation in rice production**

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## L1.3 LATIN AMERICA

**63. Learning to face the challenges posed by climate change to Andean agriculture: teaching the farmers of the future**

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**64. Comparison between a Tier 3 and Tier 2 approach to estimate enteric methane emission in Brazilian beef cattle**

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**65. Effect of climate variability and climate change in the agricultural sector of Panama.**

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**66. Adaptation of small coffee producers to climate change in Nicaragua**

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**67. Can $CO_2$ fertilization compensate for progressive climate change impacts on coffee productivity?**

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**68. Agricultural practices, agroecological integrated farms and sustainable indigenous territorial development in Honduras**

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**69. Methane emission efficiency as a function of grazing management in Southern Brazilian grazing systems**

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**70. Technological options to increase resilience of production systems to extreme climate events**

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**71. Supporting dairy family farmers of Pernambuco state (Brazil) to develop a climate-smart agriculture**

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**72. Energy efficiency of beef cow herds with different calving season in the south-east of Buenos Aires province, Argentina**

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**73. Does diversification in smallholder coffee landscapes help to face climate change risk? Answers from Nicaragua**

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**74. Ensuring climate smart agriculture is gender-smart: lessons from Latin America**

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**75. Do local perceptions converge to climatological data? Case studies in three Brazilian biomes**

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**76. Does carbon storage of pastures contribute to a climate smart cattle farming after Amazonian deforestation?**

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**77. Socio-economic scenarios to develop and test agricultural adaptation policies in Central America and the Andes**

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**78. Future climate change impacts on maize production in the Cerrado of Brazil**

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**79. Agro-Climatic forecasting system for better decision making in Latin America**

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**80. LivestockPlus: supporting low emission development for livestock sector in Costa Rica and Colombia**

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**81. Venezuelan agriculture N management challenges and proposed alternatives**

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**82. Nitrous oxide emission factors for sheep and cattle excreta in two subtropical Brazilian grazing systems**

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**83. Sustainability of rice cultivation in an important producing area of Cuba under climatic scenarios**

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## L1.4 EUROPE

**84. Innovation for Climate Smart Agriculture in Europe**

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**85. Nitrogen and water as inputs in farm bio-economic models: creating an operational modeling framework at the EU level**

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**86. « PigChange »: a project to evaluate the consequences of climate change and mitigation options in pig production**

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**87. Assessing the economic GHG abatement potential from the EU-15 dairy sector and underlying uncertainties**

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**88. Concerted action for climate smart livestock systems: research & innovation priorities in climate changing Europe**

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**89. An observatory of aromatic and medicinal plants as a possible indicator of the climatic changing evolution conditions**

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**90. The knowledge hub FACCE MACSUR: Modelling agriculture with climate change for food security**

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**91. Can functional complementarity of plant strategies enhance drought resilience in associations of Mediterranean grasses?**

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**92. Incremental adaptation in crop management for integrated assessments of climate change impacts in Europe**

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**93. Sensitivity of maize to climate change in Denmark: an analysis using impact response surface approach**

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**94. Is it possible to reduce greenhouse gas emissions without reducing production? An assessment of 26 technical options**

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**95. Agroforestry for a climate-smart agriculture – a case study in France**

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**96. Impacts of climate and socio-economic change at farm and landscape level in the Netherlands: climate smart agriculture?**

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**97. Sustainability of agriculture: can climate change adaptations attract youth into agriculture?**

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## L1.5 NORTH AMERICA

**98. A research program to address agricultural stakeholders' concerns regarding the evolution of crop pests associated with climate change**

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**99. Bioenergy crop impacts on soil carbon sequestration, soil biophysical properties and $N_2O$ emissions in Manhattan, Kansas**

McGowan Andrew[1], Yishak Elias[2], Rice Charles[1]
[1]*Department of Agronomy: Kansas State University, 66506, Manhattan, United States*
[2]*Department of Mechanical Engineering: University of Maryland, 20742, College Park, United States*

**100. Understanding farm level $N_2O$ emissions in California systems**

Decock Charlotte[1], Verhoeven Elizabeth[1], Pereira Engil[1], Garland Gina[1], Kennedy Taryn[2], Suddick Emma[3], Burger Martin[4], Horwath Willam[4], Six Johan[1]
[1]*ETH Zurich, Department of Environmental Systems Science, 8092 Zurich, Switzerland*
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[3]*Woods Hole Research Center, 02540-1644 Falmouth, Massachusetts, USA*
[4]*University of California Davis, Department of Land, Air and Water Resources, 95616 Davis, California, USA*

**101. A transdisciplinary approach for climate smart management of maize**

Wright Morton Lois, Arritt Raymond, the CSCAP Team
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CLIMATE-SMART Agriculture 2015

Global Science Conference

March 16-18, 2015
Le Corum, Montpellier France

# Poster Session 2

# Climate-smart Strategies

**Tuesday, 17 March 2015**

**15:00 – 16:30**

**EXHIBITION HALL, LEVEL 0**

# POSTER SESSION 2 - CLIMATE-SMART STRATEGIES

## L2.1 DEVELOPING AND EVALUATING CLIMATE SMART PRACTICES

**1. Climate Smart Management Options for Improving the Soil Fertility and Farm Productivity in the Middle Hills of Nepal**

Shrestha Shiva Kumlar, Shrestha A., Bishwakarma B. K., Allen R.
*Sustainable Soil Management Programme (SSMP), HELVETAS Swiss Intercooperation Nepal, GPO Box 688, Kathmandu, Nepal*

**2. Linking an ecological based system and social resilience to build Climate Smart village model in Niger**

Tougiani Abasse[1], Adamou Basso[1], Boureima Moussa[1], Jules Bayala[2] and Robert Zougmore[3]
*[1]Institut National de Recherche Agronomique du Niger, BP429, Niamey, Niger*
*[2]World Agroforestry research Centre, Sahel Node, Samanko, BP: E5118, Bamako, Mali*
*[3]Programme CCAFS Afrique de l'Ouest, ICRISAT PO Box 320 Bamako, Mali*

**3. Agriculture, climatic risks and food security in disaster-prone coastal landscape of Bangladesh**

Ronju Ahammad
*Charles Darwin University, Australia*

**4. Assessing economic benefits of the use of climate seasonal forecasts within cowpea and sesame sectors in Burkina Faso**

Ouédraogo Mathieu[1], Barry Silamana[2], Kagambega Levy[2], Somé Léopold[2], Zougmoré Robert[1]
*[1]The CGIAR Research Program on Climate Change, Agriculture and Food Security, West Africa Region, ICRISAT, BP 320, Bamako, Mali*
*[2]Institut de l'Environnement et de Recherches Agricoles (INERA), 04 BP 8645 Ouagadougou 04, Burkina Faso*

**5. Measurement of climate change and its effect: comparison between an objective method and population perceptions**

Azeufouet Alain Simplice[1], Fofiri Nzossie Eric Joël[2], Bring Christophe[2]
*[1]Ministère de l'Agriculture et du développement rural / DESA, BP. 294 issea Yaoundé, Cameroon*
*[2]Département de géographie, Université de Ngaoundéré BP 454, Cameroon*

**6. A set of indicators to evaluate policies for climate smart agriculture**

Bonati Guido, Altobelli Filiberto
*Istituto Nazionale di Economia Agraria, Via Nomentana 41, 00161 Roma, Italy*

**7. Developing and evaluating CSA practices at country level: lessons learned from Malawi**

Phiri George[1], Lipper Leslie[2], Asfaw Solomon[3], Cattaneo Andrea[4], Cavatassi Romina[5], Paolantino Adriana[3], McCarthy Nancy[6], Spairani Alessandro[7], Branca Giacomo[8], Grewer Uwe[9], Mann Wendy[10]
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[9]*Agricultural Mitigation Consultant, FAO Rome, Italy*
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**8. Developing and evaluating CSA practices at country level: lessons learned from the Zambian experience**

Kokwe Misael[1], Lipper Leslie[2], Arslan Aslihan[3], Cattaneo Andrea[4], McCarthy Nancy[5], Spairani Alessandro[6], Branca Giacomo[7], Grewer Uwe[8], Mann Wendy[9]
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[8]*Agricultural Mitigation Consultant, FAO Rome, Italy*
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**9. Millet and sorghum leaf pruning and transplantation as adaptation techniques to rainfall variability in the Sahel**

Alhassane A., Traore S.B., Sarr B., Lawali M. N., Seybou O. A. B, Chaibou B.
*Centre Régional AGRHYMET, PO Box 11011, Niamey, Niger*

**10. CSA menus of practices in the MICCA pilots**

Rioux Janie, Rosenstock Todd, Kirui Josephine, Mpanda Mathew, Massoro Erasto, Karttunen Kaisa
*Food and Agriculture Organization of the UN, Viale delle Terme di Caracalla, Rome 0015, Italy*

**11. Sustainability of broiler production in the context of climate change – Evaluation of new incubation strategies**

Nyuiadzi Dzidzo[1,10], Méda Bertrand[1], Travel Angélique[2], Berri Cécile[1], Bignon Laure[2], Leterrier Christine[3,4,5,6], Guilloteau Laurence[7], Coustham Vincent[1], Dusart Léonie[2], Mercerand Frédéric[8], Delaveau Joël[8], Grasteau Sandrine[1], Tona Kokou[9], Bouvarel Isabelle[2], Collin Anne[1]
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[10]*Institut Togolais de Recherche Agronomique (ITRA), BP 1163, Lomé, Togo*

**12. An analytical framework for Climate-Smart Agriculture at the community level**

Chandra Alvin, McNamara Karen, Dargusch Paul
*School of Geography Planning and Environmental Management, University of Queensland, St Lucia Campus, Brisbane, QLD 4072, Australia*

**13. Are cropping practices developed by Sub-Saharan farmers climate-smart? Case study of millet cropping system in Senegal**

Tall Laure[1], Mbengue Medoune[2], Ndour B. Yacine[1], Masse Dominique[2], Clermont-Dauphin Cathy[3]

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[3]*Institut de Recherche pour le Développement (IRD), UMR Eco&Sol, Montpellier, France*

**14. Namibia specific climate smart agricultural land use practices: a budding vehicle for improving ecosystem services**

Kuhn Nikolaus J., Naanda Martha Talamondjila, Bloemertz Lena
*Physical Geography and Environmental Change, Department of Environmental Sciences, University of Basel (UNIBAS), Klingelbergstrasse 27, 4056 Basel, Switzerland*

**15. A two-dimension evaluation of CSA practices. Evaluating practices by indicators and reduce non-observable variable bias**

Maldonado Jorge[1], Gómez John[1], Corner-Doloff Caitlin[2], Lizarazo Miguel[2]
[1]*Universidad de los Andes, Bogotá, Colombia*
[2]*International Center for Tropical Agriculture (CIAT), Decision and Policy Analysis, Cali, Colombia*

**16. Balancing complexity and usability when modelling farm scale production and greenhouse gas emissions**

Hutchings Nicholas, Kristensen Ib
*Dept of Agroecology, Aarhus University, Blichers Alle 1, 8830 Tjele, Denmark*

**17. An impact assessment of distinct agricultural climate protection measures for the implementation on 10 000 Swiss farms**

Prechsl Ulrich E., Alig Ceesay Martina, Wolff Veronika, Gaillard Gérard
*Agroscope, Institute for Sustainability Sciences, Reckenholzstrasse 191, CH-8046 Zurich, Switzerland*

**18. How biodiversity-agriculture integration meets environmental expectations in a changing climate: a gender perspective**

Chitakira Munyaradzi
*Department of Environmental Sciences, University of South Africa, Johannesburg 1710, South Africa*

**19. Analysing constraints to the improvement of cattle productivity via trypanosomosis treatment in West Africa**

MacLeod Michael[1], Eory Vera[1], Wint G.R.W.[2], Shaw Alexandra P.M.[3], Gerber Pierre[4], Cecchi Giuliano[5], Mattioli Raffaele C.[4], Robinson Tim P.[6]
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[6]*Livestock Systems and Environment (LSE), International Livestock Research Institute (ILRI), P.O. Box 30709, 00100 Nairobi, Kenya*

**20. Emission of $N_2O$ from soil received saline and sodic water: effects of compost and gypsum applications**

Dheri Gurmeet Singh[1], Lal Rattan[2]
[1]*Department of Soil Science, Punjab Agricultural University, Ludhiana-141004, India*

[2]*Carbon Management and sequestration Center, The Ohio State University, Columbus, USA*

**21. Climate-Smart Agriculture livelihood options for displaced population on Yap Island**

Krishnapillai Murukesan V.
*Cooperative Research and Extension, College of Micronesia-FSM, Yap Campus, Colonia, Yap, FM 96943, Federated States of Micronesia*

**22. Evaluating the cost-effectiveness of development investments**

Luedeling Eike[1], De Leeuw Jan[2], Rosenstock Todd S.[2] Lamanna Christine[2], Shepherd Keith[2]
[1]*World Agroforestry Centre and Center for Development Research (ZEF), University of Bonn, Walter-Flex-Str. 3, 53113 Bonn, Germany*
[2]*World Agroforestry Centre, PO Box 30677, 00100, Nairobi, Kenya*

**23. MAPA project: resilient agro-climatic adaptation models for livestock production systems in Boyacá, Colombia**

López-Cepeda Michael, Bolaños-Benavides Martha, García-Gómez Gustavo
*CORPOICA (Colombian Corporation of Agricultural Research), Tibaitatá Investigation Center. Postcode: P.O. Box 344300. Bogotá, Colombia*

**24. Assessing the determinants of adaptation strategies at farm level: the case of wine growers in South-East France**

Graveline Nina, Grémont Marine
*BRGM, 1039, avenue de Pinville. 34000 Montpellier, France*

**25. Determinants of adoption of climate smart agriculture in coastal Bangladesh**

Saroar Md Mustafa
*Urban and Rural Planning Discipline, Khulna University, Khulna 9208, Bangladesh*

**26. Evolution of soil functional diversity after changes in management practices and effects on $N_2O$ emissions**

Recous Sylvie[1], Léonard Joël[2], Alavoine Gonzague[1], Amossé Joël[2,3], Bertrand Michel[3], Boizard Hubert[2], Brunet Nicolas[2], Chauvat Matthieu[4], Cheviron Nathalie[5],Cluzeau Daniel[6], Coudrain Valérie[1,5], Dequiet Samuel[7], Duparque Annie[8], Duval Jérôme[2], Hedde Mickaël[5], Maron Pierre-Alain[7], Peyrard Céline[2], Philippot Laurent[7], Mary Bruno[2]
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[7]*INRA, UMR AGROECOLOGIE, Dijon, France*
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**27. Opportunities and challenges in China's irrigation water–energy nexus**

Cremades Roger[1], Rothausen Sabrina G.S.A.[2], Conway Declan[3], Wang Jinxia[4], Zou Xiaoxia[5], Li Yu'e[5]
[1]*International Max Planck Research School on Earth System Modeling (IMPRS-ESM), Hamburg, Germany, and; Research Unit, Sustainability and Global Change, University of Hamburg, Germany*
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[5]*Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences, 100081 Beijing, P.R. China*

**28. A climate smart strategy to reduce risks and increase resilience of agricultural production systems in Colombia**

Ayarza Miguel Angel, Rojas Edwin, Aguilera Elizabeth, Bolaños Martha, Arce Blanca, Rodríguez Gonzalo, Martínez Juan Carlos, Bautista Luis
*Corporacion Colombiana de Investigacion Agropecuaria, Corpoica, Km 14, via Bogota- Mosquera, Bogota, Colombia*

**29. Interpretation of GHG emissions from mixed crop, grassland and ruminant systems using the FarmSim model**

Carozzi Marco[1], Martin Raphaël[2], Klumpp Katja[2], Borras David[2], Eza Ulrich[2], Rumpel Cornelia[3], Créme Alexandra[3], Le Roux Xavier[4], Poly Frank[4], Chabbi Abad[3], Massad Raia Silvia[1]
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[4]*Université de Lyon, INRA, CNRS, Université Lyon 1, Microbial Ecology Centre (UMR 5557 CNRS, USC 1364 INRA), Villeurbanne, France*

**30. DAYCENT parameterization and uncertainty assessment for modelling Swiss crops**

Necpalova Magdalena, Lee Juhwan, Six Johan
*ETH-Zurich, Sustainable Agroecosystems, Tannenstrasse 1, 8092 Zurich, Switzerland*

**31. The yield response of intercrop system to rainfall changes on the southern slopes of Mt. Kenya in Embu**

Kanampiu Fred[1], Njeru M.James[1], Kitonyo Onesmus[2], Micheni Alfred[3]
[1]*International Maize and Wheat Improvement Centre, P.O. Box 1041-00621, Nairobi, Kenya*
[2]*The University of Adelaide, Adelaide SA 5005, Australia*
[3]*Kenya Agricultural Research Institute, P.O. Box 27-60100, Embu, Kenya*

**32. Rain water harvest technology as a tool for climate smart agriculture for small holder farmer in Bangladesh**

Abdullah Hasan Muhammad, Ahamed Tofayel, Miah Md Gisahuddin, Rahman Mezanur
*Department of Agroforestry and Environment, Bangabandhu Sheikh Mujibur Rahman Agricultural University, Gazipur-1706, Bangladesh*

**33. Greenhouse gases emission efficiency of alternative tillage practices in wheat farming systems of Bangladesh**

Aravindakshan Sreejith[1], Tittonell Pablo[1], Krupnik T.J.[2], Scholberg J.M.S.[1], Groot J.C.J.[1], Rossi Frederick[2]
[1]*Farming Systems Ecology Group, Wageningen University, 6708PB, Wageningen, the Netherlands*
[2]*International Maize and Wheat Improvement Center (CIMMYT), Bangladesh Country Office, Dhaka, 1212, Bangladesh*

**34. Enabling synergies between development, climate change and conservation through land use practices portfolio approach**

Duguma Lalisa A., Minang Peter A.
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**35. Coffee agroforestry systems in Peru – a double dividend for biodiversity and small scale farmers?**

Jezeer Rosalien E.[1], Verweij Pita A.[1], Boot Rene G.A.[2]
*[1]Utrecht University, Copernicus Institute of Sustainable Development, Section of Energy and Resources, 3584 CS, Utrecht, the Netherlands*
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**36. Soil carbon input by below- and above-ground biomass in rainfed cropping systems in the highlands, Madagascar**

Laingo Irintsoa Rasolofo[1], Naudin Krishna[2], Botoela Odom[1], Razafimbelo Tantely[3]
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*[3]Laboratoire des Radio-Isotopes (LRI), Université d'Antananarivo, BP3383, Antananarivo 101, Madagascar*

**37. Climate Smart livestock development in natural and improved savannas of an extensive ranch in central Africa (RDC)**

Lecomte Phillipe[1], Duclos A.[1,2], Juanes Xaveir[1], Ndao Séga[3], De Crem Ph.[4], Vigne Mathieu[1], Blanfort Vincent[1]
*[1]CIRAD, UMR Selmet, Montpellier, France*
*[2]UMRH Clermont, France*
*[3]ISRA, CRZ Kolda, Senegal*
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**38. Targeting CSA in Southern Tanzania under multiple uncertainties**

Lamanna Christine[1], Rosenstock Todd S.[1,2], Luedeling Eike[3]
*[1]World Agroforestry Centre (ICRAF), Nairobi, Kenya*
*[2]CGIAR Research Program on Climate Change, Agriculture, and Food Security (CCAFS), Nairobi, Kenya*
*[3]World Agroforestry Centre (ICRAF), Bonn, Germany*

**39. Opportunities and limitations of emissions intensity as a metric for climate change mitigation from the livestock sector**

Schulte Rogier P.O.[1], Reisinger Andy[2], Clark Harry[2], Donnellan Trevor[1], Lanigan Gary[1]
*[1]Teagasc, Wexford, Co. Wexford, Ireland*
*[2]New Zealand Agricultural Greenhouse Gas Research Centre, Palmerston North 4442, New Zealand*

**40. Climate smart agriculture from field to farm scale: a model based approach for Southern Africa**

Berre David[1], Mutenje Munyaradzi J.[1], Corbeels Marc[2], Rusinamhodzi Leonard[3], Thierfelder Christian[1], Lopez Ridaura Santiago[4]
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**41. Mainstreaming climate smart agriculture practices through climate smart villages: scalable evidences from South Asia**

Jat M.L.[1], Ridaura S.L.[2], Stirling C.M.[3], Aryal J.P.[1], Jat R.K.[4], Sidhu H.S.[5], Mittal S.[1], Sapkota T.B.[1], Sikka A.K.[6], Aggarwal P.K.[7]
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**42. Towards a scalable framework for evaluating and prioritizing climate-smart agriculture practices and programs**

Corner-Dolloff Caitlin[1], Jarvis Andrew[1,2], Loboguerrero Ana Maria[2], Lizarazo Miguel[2], Nowak Andreea[1], Andrieu Nadine[1,3], Howland Fanny[1], Smith Cathy[4], Maldonado Jorge[5], Gomez John[5], Rosenstock Todd S.[6], Girvetz Evan H.[1]
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**43. Repeated inputs of organic matter in the long term protect soils from global changes**

Feder Frédéric[1], Diallo Falilou[2], Ntoma Rachel[2,3], Masse Dominique[2], Diome Farid[3], Akpo Léonard Elie[3]
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**44. The use of agroforestry practices by dairy farmers in Malawi**

Arakelyan Irina
*Scotland's Rural College (SRUC) and The University of Edinburgh, SRUC, Kings Buildings, West Mains Road, Edinburgh, EH9 3JG, United Kingdom*

**45. Towards climate-smart dairy value chains in Tanzania**

Notenbaert An[1], Paul B.[1], Fraval S.[2], Morris J.[4], Ran Y.[5], Herrero Mario[5], Mugatha S.[2], Lannerstad M.[2], Barron J.[4]
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**46. Adapting pest management practices in sub-Saharan horticultural cropping systems in the context of climate change**

Ratnadass Alain, Chailleux Anaïs, Martin Thibaud, Simon Serge, Vayssières Jean-François
*CIRAD, UPR HortSys, TA B-103/C, Campus international de Baillarguet, 34398 Montpellier Cedex 5, France*

**47. Promoting Climate Smart Agriculture in Nigeria: Household strategies and determinants among farmers**

Ali G.A.[1], Sanni M.M.[1], Ademiju T.A.[2], Ilevbare O.E.[1]
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**48. Climate forecast, sustainable land and practices management, useful tools for implementation a climate smart village**

Ndour Ndeye Yacine Badiane[1], Ndiaye Ousmane[2], Sall Moussa[1], Sanogo Diaminatou[1], Toure Katim[1], Thiam Djibril[3], Moussa Abdoulaye[4,5], Ouedraogo Mathieu[4,5], Bayala Jules[6], Zougmore Robert[4,5]
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*[6]ICRAF. World Agroforestry Center, West and Central Africa Region ICRAF-WCA/Sahel B.P. E5118 Bamako, Mali*

**49. Characterization of biochar properties derived from willow plant biomass for carbon sequestration and agricultural use**

Irfan Muhammad, Lin Qimei, Li Guitong
*College of Resources and Environmental Sciences, China Agricultural University, 10093 Beijing, China*

**50. Assessing mitigation potential of agricultural practices in tropical, developing country systems**

Richards Meryl[1,2], Metzel Ruth[3], Chirinda Ngonidzache[4], Ly Proyuth[5], Nyamadzawo George[6], Quynh Vuduong[7], Shi Yuefeng[8], de Neergaard Andreas[9], Oelofse Myles[9], Wollenberg Eva[1,2], Rosenstock Todd[10]
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**51. PERPHECLIM ACCAF Project - Perennial fruit crops and forest phenology evolution facing climatic changes**

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**52. Potential for biochar to mitigate $N_2O$ emissions is minimal at the field scale and in upland cropping systems**

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**53. Facilitating climate adaptation in irrigated agriculture with decision support systems: El Molino platform**

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**54. A model-based approach for adapting cropping systems to climate change**

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**55. Tweaking the system: optimization of mitigation strategies in smallholder flooded rice systems**

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**56. Effect of coated and uncoated dietary nitrate on dairy cow health and dairy product quality**

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**57. Rainwater harvesting and conservation: climate smart sustainable techniques for homestead and cropland production**

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**58. Pathways for Climate Smart Agriculture (CSA) in the drylands of Africa**

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**59. Climate-smart agriculture: panacea, propaganda or paradigm shift?**

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**60. Evaluating agricultural mitigation and scaling up climate-smart practices using the FAO EX-Ante Carbon-balance Tool**

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**61. Characterization, stability, availability of nutrients and microbial effects of kiln produced biochars**

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**62. Effect of pyrolysis temperatures on stability and priming effects of C3 and C4 biochars applied to two different soils**

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**63. Smallholders farm carbon footprint reduced by agroecological practices (Highlands & East Coast, Madagascar)**

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**64. Climate Smart Agriculture imperative in Nepal: prospect and challenges**

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**65. Big data from small farms: analysis of drivers of food security across farming systems in sub Saharan Africa**

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**66. Participatory action research in climate-smart villages of Tanzania: fast track for new potato resilient varieties**

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**67. Prospects of climate smart agriculture (CSA) under low-input and rain-fed conditions in southern Africa**

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**68. Climate change, promising technologies and ex ante analysis of impacts on agriculture and food security to 2050**

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**69. Strategies for developing climate resilient genotypes of rice and chickpea**

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**70. Simulation of spot blotch in wheat as strategic decision support for adaptation practice in changing scenario**

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**71. To evaluate reforestation in farms: a tool for smallholders and the sustainability of their initiatives (EvaRefo)**

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**72. Backyard potted yam cultivation in Abuja, Nigeria**

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**73. Meta-analysis of the effect of dietary nitrate on enteric methane emissions in ruminants**

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**74. Climate smart strategies to strengthened coffee farmers adaptive capacity to climate change**

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**75. Linking agricultural adaptation strategies and food security: evidence from West Africa**

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**76. Quantifying greenhouse gas emissions and carbon storage at the local scale in the U.S.**

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**77. A systemic approach to evaluate shea parklands as possible smart agriculture to be intensified in Sudanese Africa**

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**78. Participatory methodology of agricultural extension to Climate Smart Agriculture development: a case in Brazil**

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## L2.2 FACING CLIMATIC VARIABILITY AND EXTREMES

**79. Consequences of high temperatures and drought on peach fruit production strongly depend on their period of occurrence**

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**80. Reducing uncertainty in prediction of wheat performance under climate change**

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**81. Managing climate induced risks and adaptation in the agriculture sector; a case of Punjab province Pakistan**

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**82. Veille Agro Climatique (VAC): a real time monitoring tool for agroclimatic conditions**

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**83. Modelling of extreme climate events for South Africa using historical data and general circulation models**

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**84. Beyond incremental change: transformation to climate-smart agriculture in response to changing extremes**

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**85. Strengthening the capacity of local extension services to face agroclimatic risks for production systems**

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**86. Grassland manipulation experiments across climatic zones**

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**87. Building a global framework for banana resilience and adaptation under increased weather variability and uncertainty**

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**88. Gauging the effects of extreme climate events on European crop yields**

Ben-Ari Tamara[1], Adrian Juliette[1], Calanca Pierluigi[2], Klein Tommy[2], Van der Velde Marijn[3], Niemeyer Stefan[3], Bellocchi Gianni[4], Makowski David[1]
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**89. Development of district contingency plans as a coping strategy to face climate variability and extremes in agriculture**

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**90. Why role of local institution is crucial in Climate Smart Agriculture? Some evidence from rice-wheat system of Nepal**

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**91. Introducing a legume cover crop in rubber plantations is not necessarily an option for their sustainability in dry areas**

Clermont-Dauphin Cathy[1,2], Suvannang Nopmanee[2], Pongwichian Pirach[2], Cheylan Vincent[1,2], Hammecker Claude[1,2], Harmand Jean-Michel[3]
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**92. Sustainability of the Koga irrigation scheme: adaptive water management to deal with climate variability and change**

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**93. Pearl millet yields and climate evolution across the last 20 years in central Senegal. A yield gap study**

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**94. Effective adaptation strategies and risk reduction to increased climatic variability among coffee farmers in Mesoamerica**

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**95. Impact of climate change on crop production in southern Mali and the potential of adaptation strategies**

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**96. Use of regional climate model output for modelling the effects of future extremes in agriculture**

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**97. Drought resistant and resilient plant functional types can maintain production in intensively managed grassland**

Hofer Daniel[1,3], Suter Matthias[1], Hoekstra Nyncke J.[1,2], Haughey Eamon[2], Finn John A.[2], Buchmann Nina[3], Lüscher Andreas[1]
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**98. Phenotypic variation among and within thirty accessions of Onobrychis viciifolia examined under climate change scenarios**

Malisch Carsten[1,2], Suter Daniel[1], Studer Bruno[2], Salminen Juha-Pekka[3], Lüscher Andreas[1]
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**99. Participatory assessment of vulnerability to climate change for improved adaptations to climate smart agriculture**

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**100. Adaptation strategies for livestock production systems in a changing environment**

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**101. Impact of climate extreme and variability on agriculture: a case from mountain community of eastern Nepal**

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**102. Analyses of extreme weather events and its impact to agriculture smallholders in Gandaki River Basin of Nepal Himalaya**

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**103. Developmental competence and expression pattern of heat shock protein genes in buffalo oocytes during heat stress**

Ashraf Syma[1], Dhanda Suman[2], Shah Syed Mohamad[3], Saini Neha[3], Kumar Anil[1], Goud Sridhar[1], Chauhan Manmohan[3], Upadhyay Ramesh[1]
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**104. Heat tolerance in wheat identified as a key trait for increased yield potential in Europe under climate change**

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**105. Is livelihood diversification Climate-Smart Agricultural strategy? Micro-evidence from Malawi**

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**106. Prospering rural vulnerable despite climate change: implications for "Triple Win"**

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**107. Participatory climate risk management at short-term and seasonal scales – examples from South Asia**

Nidumolu Uday[1], Roth Christian[2], Howden Mark, Hochman Zvi[2], Hayman Peter[5], Raji Reddy D.[6], Lim-Camacho Lilly[3], Gaillard Estelle[4], Marambe Marambe[7]
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**108. Establishment of dynamic-transfer system for agro-climate knowledge and farmers' response**

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**109. Empirical assessment of climate change on major agricultural crops of Punjab, Pakistan**

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**110. Perceptions on climate change and impacts on ecosystem services in eastern Africa: implications for policy actions**

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**111. Irrigation management of salt water: study of potato and pea grown in intercropping with olive in southern Tunisia**

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**112. Assessment of the variability of yield of maize in Lilongwe district in relation to climate using DSSAT model**

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## L2.3 COMBINING MITIGATION, ADAPTATION AND SUSTAINABLE INTENSIFICATION

**113. Agricultural intensification trajectories and climate smart agriculture in Nicaraguan tropical systems**

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**114. Value of estimating farm GHG budgets making use of process-based modelling**

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**115. Farmer's perceptions on climate change and prospects for climate smart agriculture along the tree cover transition curve**

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**116. The Agritech Water Cluster – Promoting collaboration to manage future water needs of the agriculture sector**

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**117. Climate change mitigation and agricultural development scenarios for the high plains of Eastern Colombia**

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**118. Contributing to CSA progress through a national multidisciplinary research program on adaptation to climate change**

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**119. Could agroforestry be a way to limit soil erosion susceptibility under a temperate climate?**

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**120. Scientific and policy recommendations for climate smart arable agriculture in Europe: lessons from the past decade**

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**121. Adaptation to climate change through land-use change in France and implications for greenhouse gas emissions**

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**122. Mitigating GHG emissions from ruminant livestock systems**

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**123. Global assessment of technological innovation for climate change in developing countries: opportunities and challenges**

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**124. Synergies and trade-offs of adaptation and mitigation on dairy farms**

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**125. Land management practices as a coping mechanism to frequent and prolonged drought spells by smallholder farms**

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**126. Sustainable intensification of global maize cropping systems: balancing yield increase and nitrous oxide emissions**

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**127. Temperature impact on $CO_2$ emissions and nutrients availability in Malagasy soils under different farming practices**

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**128. The synergies of fertilization on carbon sequestration and food security in China**

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**129. Adaptation to climate variability: evaluation of adaptation tools for the agricultural sector in Guanacaste, Costa Rica**

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**130. Efficiently mitigating climate change through improved land management in smallholder agriculture of Malawi and Zambia**

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**131. Climate-Smart water and nitrogen management strategies for lowland rice**

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**132. Storing C in agricultural soils: evaluating triple-win climate-smart actions for France**

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**133. Innovative cropping systems under GHG emissions constraint: results of a long-term field trial assessment**

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**134. Contribution of agroforestry to livelihoods and climate change mitigation in Western Kenya**

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**135. Alternative water management minimizes greenhouse gas emissions from rice systems while maintaining yield**

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**136. Climate mitigation: trade-offs between agricultural product carbon footprints and land use intensity**

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**137. Integrated fertiliser microdosing and organic manure to adapt to climate variability and change in Northern Benin**

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**138. The Global Yield Gap Atlas for targeting sustainable intensification options for smallholders in Sub-Saharan Africa**

Claessens Lieven[1,2], Cassman Kenneth G.[3], van Ittersum Martin K.[2], van Bussel Lenny G.J.[2], Wolf Joost[2], van Wart Justin P.[3], Grassini Patricio[3], Yang Haishun[3], Boogaard Hendrik[2], de Groot Hugo[2], Pavuluri Kiran[3], Guilpart Nicolas[3]

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**139. Impacts of agricultural diversity on self-sufficiency for forage, feeding costs and GHG emissions in dairy systems**

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**140. Water resources transfers through southern African food trade: resource efficiency and climate adaptation**

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**141. Municipal solid waste composts as organic inputs in vegetable gardening cropping systems in Mahajanga, Madagascar**

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**142. Evaluating the impact of rising fertilizer prices on crop yields**

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**143. Agent based model analysis on the impact of agricultural land-use change adaptation in semi-arid Ghana**

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**144. The gathering of Non-Timber Forest Products as adaptation strategy to climate change in the rural community of Niaguis**

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**145. Optimisation of the nitrogen fertilisation in the context of climate change**

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**146. Climate change impacts on crops production and adaptive measures from farmers' perspective in North-East China**

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**147. Emissions mitigation by sustainable intensification in Brazilian livestock production**

De Oliveira Silva Rafael[1,2], Barioni Luis Gustavo[3], Hall Julian A. J.[1], Folegatti Matsuura Marilia[4], Albertini T. Zanetti[5], Fernandes F. A.[6], Moran Dominic[2]
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## L2.4 BREEDING AND PROTECTING CROPS AND LIVESTOCK

**148. Adaptation of tropical cattle breeds to their environment, in the perspective of climatic change**

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**149. Genetic diversity of Dactylis glomerata in the response to temperature during germination**

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**150. Globally representative C. arabica variety trial site selection in a changing climate**

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**151. "ReColAd": Collaborative network on farm animal adaptation to environmental changes**

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**152. Crop diversity as an adaptation strategy to climate change in West Africa**

Piquet J.[1,2,3], Barnaud Adeline[1,2,3],. Barry M.B [4], Berthouly-Salazar C.[1,2,3], Diallo M.A.T.[4], Deu M.[5], Kané N.A.[3], Leclerc C.[5], Noyer J.L.[5], Pham J.L.[1,6], Vigouroux Y.[1], Billot C.[5]
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**153. Genetic variability and phenotypic characterization of thermotolerance in rainbow trout**

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**154. NGS for identifying wild-to-cultivated gene flow for African crops adaptation**

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**155. Impact of pea genetic variability on the control of $N_2O$ reduction by soil-microorganisms-plant systems**

Bourion V.[1], Revellin C.[1], Bizouard F.[1], De Larambergue H.[1], Aubert V.[1], Duc G.[1], Hénault C.[2]
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**156. Using crop-climate models for designing climate-smart breeding strategies**

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**157. Genetics of tolerance of extra-early Quality Protein Maize inbreds under contrasting environments**

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**158. Adaptation of alfalfa ecotypes to climate change**

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**159. Improvement of yield and related characters of temperate maize (Zea mays L.) under three water regimes**

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**160. Breeding for sunflower hybrids adapted to climate change: the SUNRISE collaborative and multi-disciplinary project**

Debaeke Philippe[1], Coque M.[2], Muños S.[3], Mangin B.[4], Gouzy J.[3], Kephaliacos C.[5], Piquemal J.[6], Pinochet X.[7], Vincourt P.[3], Langlade N.[3]
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**161. Climate change in tropical environment: what impact on agricultural pests and diseases? What crop protection strategies?**

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**162. Understanding the genetic diversity of Ethiopian oilseed Noug (Guizotia abissinica) for its improvement and conservation**

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**163. Proteomics in the drive for climate smart livestock production**

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**164. Bridging landscape genomics and quantitative genetics for a regional adaptation of European grasslands to climate-change**

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**165. Ecological niche of R. fistulosa in climate change context: what future for lowland rice production in West-Africa?**

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**166. Effects of heat stress and sulfur restriction during seed filling on grain characteristics in rapeseed**

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**167. Selection of families new of rice for their adaptability of lowland in West Africa**

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**168. Evaluation of triticale genotypes for food and feed security in Egypt**

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**169. Improving Bambara groundnut for global food security: MAGIC populations for ideotype development and genomic analysis**

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**170. Genetics in controlling small ruminant's internal nematodes infestation in the era of climate change**

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**171. Climate change impact on incidence of mite (Tetranychus urticae Koch) infesting ladysfinger in sub-Himalayan India**

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# L2.5 OVERCOMING BARRIERS: POLICIES AND INSTITUTIONAL ARRANGEMENTS TO SUPPORT CSA

**172. Cross-scale policy dynamics and climate smart agriculture**

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**173. Theory and criteria for improved understanding of Climate Smart Territories (CST)**

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**174. Scenario-guided policy development and investment for Climate Smart Agriculture in Cambodia**

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**175. Effects of the Jordanian rainfed barley-livestock producer perceptions and values on their adaptation to climate change**

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**176. Climate Smart Agriculture in the Northeast: assessing stakeholders' belief-action gaps and research/extension capacity**

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**177. Barriers to the adoption and diffusion of CSA technological innovations in Europe**

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**178. Necessity of clear concepts and convergence of discourse for a climate-smart agriculture (Costa Rica)**

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**179. A rights-based approach to realizing socially equitable development outcomes from climate smart agriculture**

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**180. Implications of alternative GHG emission metrics for emission trends and targets**

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**181. Climate smart agriculture without climate smart spatial planning?**

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**182. Forestry and agriculture in the climate change governance: Non-UNFCCC venues for enhancing action**

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**183. Barriers to uptake of conservation agriculture in Malawi: multi-level analyses & development planning implications**

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**184. Policies for climate-smart agriculture: contribution of agroforestry literature**

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**185. Learning and sharing for action: experiences of Ghana climate change and food security platform**

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**186. Linking climate change adaptation and mitigation: Implications for Central America**

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**187. Social learning in support of CSA: getting to outcomes and impact**

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**188. Policy instruments for Climate Smart Agriculture: toward a specific integrated analytical framework**

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**189. Building local capacity in agricultural carbon projects in Kenya and Uganda through participatory action research**

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**190. What does it take to see transformative adaptation? Evidence from sub-Saharan Africa**

Bernier Quinn[1], Kristjanson Patti[2], Meinzen-Dick Ruth[1]
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**191. Is technical information what policy makers need to take action on the climate change adaptation of smallholder farmers?**

Donatti Camila I.[1], Martínez-Rodríguez M.R.[1], Harvey Celia A.[1], Vignola R.[2], Rodríguez C.M.[3]
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**192. Drip irrigation works: drip irrigation kits do not**

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CLIMATE-SMART Agriculture 2015

Global Science Conference

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Le Corum, Montpellier France

# Poster Session 3

# Towards Climate-smart Solutions

**Wednesday, 18 March 2015**

**09:30 – 11:00**

**EXHIBITION HALL, LEVEL 0**

# POSTER SESSION 3 - TOWARDS CLIMATE-SMART SOLUTIONS

## L3.1 CLIMATE ADAPTATION AND MITIGATION SERVICES

**1. Scaling up climate information services within climate smart agriculture**

Jay Alexa[1], Tall Arame[2]
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*[2]International Food Policy Research Institute, 2033 K Street, NW Washington, DC 20006-1002, USA*

**2. Upscaling climate smart agriculture for food security in the Sahel region**

*Bilgo Ablasse[1], Subsol Sébastien[1], Botoni Yaro Edwige[2], Sarr Benoit[1]*
*[1]Centre Régional AGRHYMET, BP 11011 Niamey, Niger*
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**3. Index-based insurance for income stabilization for smallholder farms in Central Asia**

Bobojonov Ihtiyor[1], Aw-Hassan Aden[2], Biradar Chandrashekar[2], Nurbekov Aziz[3]
*[1]Leibniz Institute of Agricultural Development in Transition Economies (IAMO), Germany*
*[2]ICARDA, Abdoun Al-Shamalie, Khalid Abu Dalbouh Str., Amman 11195, Jordan*
*[3]ICARD, Tashkent, Uzbekistan*

**4. Preliminary results obtained in the CLIF Project on climate change impact on fungal pathosystems**

Huber Laurent[1], Bancal Marie-Odile[1], Zurfluh Olivier[1], Huard Frédéric[2], Launay Marie[2], Andrivon Didier[3], Androdias Annabelle[3], Corbière Roselyne[3], Mariette Nicolas[3], Belaid Yosra[4], de Vallavieille-Pope Claude[4]
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*[4]INRA, UR 1290 Bioger, F-78850 Thiverval-Grignon, France*

**5. Modelling greenhouse gas emission under extensive livestock production systems in Kalahari South Africa**

Tesfamariam Eyob H.[1], Hassen Abubeker[2], Booyse Maruzaan[2], Hutchings Nicholas J.[3], Stienezen Marcia[4]
*[1]Department of Plant Production and Soil Science, University of Pretoria, South Africa*
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**6. Institutionalizing crop yield forecasting for early warning in Nepal**

Gyawali Dhiraj Raj[1], Kanel Damodar[1], Burja Kurstin Vance[1], Arun Khatri-Chhetri[2]
*[1]United Nations World Food Programme, Nepal Food Security Monitoring System (NeKSAP), Vulnerability Analysis and Mapping (VAM), Lalitpur, Nepal*
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**7. Analysis of extreme climate events and their impact on maize and wheat**

Diriba Tadele Akeba[1], Debusho Legesse Kassa[1], Botai Joel [2], Hassen Abubeker [3]

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**8. Farmer rice field adaptation technology for rice-wheat cropping system in Punjab, Pakistan under future changing climate**

Ahmad Ashfaq[1], Wajid Aftab[1], Khaliq Tasneem[1], Habib-ur-Rehman M.[1], Rasul Fahd[1], Saeed Umer[1], Hussain Jamshad[1], Hoogenboom Gerrit[2]
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**9. Are autonomous adaptation help to improve resilience of farmers? Insights from local scale analysis from South India**

Dhanya Praveen, Ramachandran Andimuthu, Palanivelu Kandasamy
*Centre for Climate Change and Adaptation Research, College of Engineering, Guindy Campus, Anna University, Sardar Patel Road, Chennai – 600 025, India*

**10. Developing web services to foster the adaptation of agriculture, forestry and water management to climate change**

Bréda Nathalie[1], Caquet Thierry[2], Gascuel-Odoux Chantal[3], Soussana Jean-François[4]
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**11. Evaluation of GHGs, C stocks and yields from European cropping and pasture systems under two climate change scenarios**

Carozzi Marco[1], Massad Raia Silvia[1], Klumpp Katja[2], Eza Ulrich[2], Shtiliyanova Anastasiya[2], Drouet Jean-Louis[1], Martin Raphaël[2]
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**12. Food security and climate change: a vulnerability analysis of agricultural livelihoods in Central America**

Imbach Pablo[1], Bouroncle Claudia[1], Läderach Peter[2], Medellin Claudia[1], Beatriz Rodríguez[2], Armando Martínez[2]
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**13. Impact of climate change on household income and poverty levels: empirical evidence from South Asia**

Rahut Dil Bahadur[1], Aryal Jeetendra[2], Ali Akhter[3], Behera Bhagirath[4]
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**14. Irrigated rice practices changes in the Senegal River Valley according to climate and constraints evolutions**

Baldé Alpha Bocar[1], Muller Bertrand[1,2], Van Oort Pepijn[3], Ndiaye Ousmane[4], Stuerz Sabine[5], Sow Abdoulaye[1], Diack Salif[6], Ndour Maimouna[1], Dingkuhn Michael[7]
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**15. Towards high resolution adaptation strategies to climate variability and change**

Neethling Etienne[1,2], Le Roux Renan[1], Barbeau Gérard[2], Quénol Hervé[1], Rouan Mathias[3], Tissot Cyril[3]
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**16. AgMIP's transdisciplinary approach to regional integrated assessment of climate impact, vulnerability & adaptation**

Antle John[1], Valdivia Roberto[1], Boote Ken[2], Hatfield Jerry[3], Janssen Sander[4], Jones Jim[2], Porter Cheryl[2], Rosenzweig Cynthia[5], Ruane Alex[5], Thorburn Peter[6]
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**17. Representative agricultural pathways for integrated assessment of climate change, vulnerability & adaptation impacts**

Valdivia Roberto O.[1], Antle John M.[1], Rosenzweig Cynthia[2], Ruane Alex[2], Vervoort Joost[3], Ashfaq Muhammad[4], Hattie Ibrahima[5], Homman-Kee Tui Sabine[6], Mulwa Richard[7], Nhemachena Charles[8], Ponnusamy Paramasivam[9], Herath Dumindu[10], Singh Harbir[11]
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**18. Trends in dry spell and extreme rainfall events and significance for alternative and sustainable agriculture in Malawi**

Mloza-Banda Medrina L.[1], Mloza-Banda H. R.[2], De Pue Jan[1], Cornelis Wim[1]
[1]*University of Gent, Department of Soil Management and Care, Research Unit Soil Physics, Coupure links 653, 9000-Gent, Belgium*
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**19. Analysing the quality and reconstructing daily weather data for crop growth simulation models**

Mkuhlani Siyabusa[1], Berre David[1], Corbeels Marc[2], Romain Frelat[3], Rusinamhodzi Leonard[4], Lopez-Ridaura Santiago[3]
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**20. Gender assessment of climate change adaptation strategies in south-western Nigeria**

Odebode Stella O.
*Department of Agricultural Extension & Rural development, University of Ibadan, Oyo State, Nigeria*

**21. Sensitivity analysis for climate change impacts, adaptation and mitigation projection with pasture models**

Bellocchi Gianni[1], Ehrhardt Fiona[2], Soussana Jean-François[2], Conant Rich[3], Fitton Nuala[4], Harrison Matthew[5], Lieffering Mark[6], Minet Julien[7], Martin Raphaël[1], Moore Andrew[8], Myrgiotis Vasileios[9], Rolinski Susanne[10], Ruget Françoise[11], Snow Val[12], Wang Hong[13], Wu Lianhai[14]
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[13]*Agriculture and Agri-Food Canada, Saskatoon, Canada*
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**22. Biochar: an environment friendly approach to mitigate climate change**

Arshad Muhammad Naveed[1], Ahmad Ashfaq[1], Wajid Afta[1], Rasul Fahd[1], Khaliq Tasneem[1], Fatima Hafiza Naheed[2]
[1]*Agro-Climatology Laboratory, Department of Agronomy, University of Agriculture, Faisalabad, Pakistan*
[2]*Department of Life Sciences, Islamia University, Bahawalpur, Pakistan*

**23. Response of fine rice cultivars to various transplanting dates under climate change scenario of Pakistan**

Arshad Muhammad Naveed[1], Ahmad Ashfaq[1], Wajid Aftab[1], Rasul Fahd[1], Khaliq Tasneem[1], Fatima Hafiza Naheed[2]
[1]*Agro-Climatology Laboratory, Department of Agronomy, University of Agriculture, Faisalabad, Pakistan*
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**24. Climate smart services: case studies in Senegal, Burkina, and Colombia**

Andrieu Nadine[1,2], Howland Fanny[2], Ndiaye Ousmane[3], Munoz Armando[2], Molina Carlos[4], Faure Guy[1]
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**25. Climate-smart cropping patterns on exposed coasts and near-coastal uplands, central Vietnam**

Phan Huong Lien[1], Le Dinh Hoa[1], Dam Viet Bac[2], Simelton Elisabeth[2]
[1]*Farmers Association, Ha Tinh, Vietnam*
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**26. Adoption of climatic challenges mitigating strategies at farm level: empirical evidence from South Asia**

Ali Akhter[1], Rahut Dil Bahadur[2], Behera Bhagirath[3]
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**27. Can ecosystem-based adaptation help smallholder farmers adapt to climate change?**

Harvey Celia[1], Alpizar Francisco[2], Avelino Jacques[3,4], Bautista Pavel[2], Cardenas Jose Mario[2], Donatti Camila[1], Rodríguez-Martínez Ruth[1], Rapidel Bruno[3], Saborio Milagro[2], Vignola Rafaelle[2], Viguera Barbara[2]
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**28. ITK Vigne, a decision-support tool to adapt wine production to climate change, with or without irrigation**

Stoop Philippe[1], Bsaibes Aline[1], Gelly Marc[1], Ojeda Hernan[2], Lebon Eric[3], Jourdan Christophe[4], Trambouze William[5], Laget Frédéric[6], Ruetsch Gabriel[7], Debiolles Loïc[8]
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**29. QUICKScan: A decision support tool for a participatory exploration of land use mitigation and adaptation options**

Winograd Manuel, Verweij Peter, Perez-Soba Marta, van Eupen Michiel
*ALTERRA - Team Earth Informatics, Wageningen University and Research Centre, P.O. Box 47, 6700 AA Wageningen, The Netherlands*

**30. Gender specific perceptions and adoption of the climate-smart Push-pull technology in eastern Africa**

Khan Zeyaur R.[1], Murage A. W.[1], Pittchar Jimmy O.[1], Midega Charles A. O.[1], Ooko Charles O.[1], Pickett John A.[2]
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**31. Critical issues for the design and operation of business models for technological CSA innovations**

Long Thomas B., Blok Vincent
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**32. Building resilience to climate change: the role of robust methods**

Dittrich Ruth, Wreford Anita, Moran Dominic
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**33. Co-design of scenarios and adaptation strategies to climate change in the highlands of Madagascar**

Maureaud Clémentine[1], Prigent Cybill[1], Delmotte Sylvestre[1,2], Raboanarielina Cara M.[3], Penot Eric[4], Barbier Jean-Marc[1]
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**34. Climate change adaptation in the dry zone of Honduras: learning by doing**

Sanders Arie, Tenorio Erika.
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**35. From plot to regional scale, spatial modelling of crop systems using interaction graphs**

Jahel Camille[1], Baron Christian[1], Vall Eric[2], Bégué Agnès[1], Dupuy Stéphane[1], Lo Seen Danny[1]
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**36. Climate Smart Agriculture, mitigation and adaptation, agro biodiversity conservation in Georgia**

Nadiradze Kakha[1], Phirosmanashvili Nana[2]
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**37. Sensor-aided conservation agriculture: climate smart nitrogen and weed management in maize-wheat system**

Oyeogbe Anthony I.[1], Das Tapas K.[1], Bhatia Arti[2], Bandyopadhyay Kalikinkar[3]
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**38. Climate Change from the lens of a smallholders and their landscapes**

Solis Juan Pablo[1], Clemens Harry[2], Douma Willy[2]
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**39. Assessing the vulnerability of sorghum to changing climate conditions in West Africa semi-arid tropics**

Akinseye Folorunso M.[1,2], Diancoumba Madina[1], Adam Myriam[3], Traore Pierre C. Sibiry[1], Agele Samuel O.[4], Whitbread Anthony M.[5]
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**40. Network of experiments to phenotype contrasted sorghum and to model its adaptability in West African environments**

Adam Myriam[1,2,3], Muller Bertrand[1,4], Traore Pierre C. Sibiry[2], Folorunso Akinseye[2], Ndiaye Malick[4]
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**41. e-Agro Climate Initiatives - Ghana**

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**42. Climate-smart, site-specific agriculture: reducing uncertainty on when, where and how to grow rice in Colombia**

Jimenez Daniel[1], Delerce Sylvain[1], Dorado Hugo Andres[1], Garces Gabriel[2], Castilla Luis Armando[2], Torres Edgar[3], Rebolledo Maria Camila[3], Barrios Camilo[4], Jarvis Andy[5]

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**43. Microclimate drives pests in complex agricultural landscapes: how to monitor and analyse fine-scale climate data?**

Faye Émile[1,2,4], Rebaudo François[1], Herrera Mario[3], Dangles Olivier[1,4]
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**44. Enhancing women farmers' access to climate smart technologies through participatory approach in rice farming households**

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**45. Assessment of community based biodiversity management for adaptation to climate change in Kaski district, Nepal**

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**46. Degradation of forest and agricultural resources and adaptation strategies in Middle Casamance (Senegal)**

Toure Labaly, Sy Boubou Aldiouma, Cormier Salem Marie Christine
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**47. Climate change and adaptation strategies of households as threats to food security in rural Southwest Nigeria**

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**48. Analysis of the adaptive capacity of rural farm households to climate change risks In Nigeria**

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## L3.2 CLIMATE-SMART CROPPING SYSTEMS

**49. Climate smart village model for climate change adaptation and mitigation: implications for smallholder farmers in Ghana**

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**50. Agro Climate Calendar, a simple methodology to identify local adaptation for farm objectives**

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**51. Drip system and climate change adaptation**

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**52. Comparison of methodological approaches for durum wheat in-field monitoring and early-yield prediction**

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**53. Increasing vegetable research investments in South Africa for climate-smart vegetable research**

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**54. Improving farmers' innovation capacity for climate-smart forest and agricultural practices in Bangladesh**

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**55. Finding niches for neglected crops in the semi-arid to better manage climate risk under smallholder farm conditions**

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**56. Reducing the use of nitrogen fertilizers: how and what potential impact on N2O emissions from French agriculture?**

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**57. Climate Smart agriculture: farmers' perception and practices in Nepal**

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**58. The FACCE-ERA-NET+ project Climate–CAFÉ: climate change adaptability of cropping and farming systems for Europe**

Justes Eric[1*], Rossing Walter A.H.[2*], Bachinger Johann[3], Carlsson Georg[4], Charles Raphaël[5], Constantin Julie[1], Gomez-Macpherson Helena[6], Hanegraaf Marjoleine[7], Hauggaard-Nielsen Henrik[8], Jensen Erik S.[4], Koopmans Chris J.[9], Mary Bruno[10], Palmborg Cecilia[11],Raynal Hélène[1], Reckling Moritz[3], Rees Robert M.[12], Scholberg Johannes M.S.[2], Six Johan[13], Stoddard Fred[14], Topp Kairsty[12], Watson Christine A.[12], Willaume Magali[1], Zander Peter[3], Tittonell Pablo[2]
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**59. Climate smart agriculture: Towards a concerted definition of national priorities in Mali**

Dembele Celestin[1], Sogoba Bougouna[2], Coulibaly Amoro[3], Traore Kalifa[4], Samake Oumar B.[2], Dembele Fadiala[5], Andrieu Nadine[6], Howland Fanny[7], Bonilla Osana[8], Ba Allassane[9], Zougmore Robert[10], Corner Caitlin[11], Lizarazo Miguel[11], Novak Andreea[11]
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**60. New crops for a new climate: understanding farmers' behavior towards sesame and cowpea crops in Sahel**

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**61. Climate change and rainfed agriculture: how to extend the campaign and improve the Burkinabe agricultural production?**

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**62. Evolution of the rainy season and peasant adaptation in the Northeast of Benin (West Africa)**

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**63. Fitting sweet potato into low input cropping systems within contrasting agro-ecologies of KwaZulu-Natal, South Africa**

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**64. Study of sequestration of soil organic carbon under conservation agriculture and choice of simulation model**

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**65. Integrated approaches to adaptation to climate change and food security in Maradi (Southern Niger)**

Moussa Na Abou Mamouda, Sambou Bienvenu, Seck Moussa
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**66. Can woody plants management provide soil amendments to enhance agroecosystem productivity and resilience in West Africa?**

Felix Georges[1], Hien Edmond[2], Lahmar Rabah[3,4], Douzet Jean-Marie[3], Founoune-Mboup Hassna[5], Ndour Yacine[5], Niang Dial[4], Séguis Lus[6], Gautier Denis[7], Zongo Edmond[8], Manlay Raphael[9], Barthes Bernard[9], Clermont-Dauphin Cathy[9], Masse Dominique[9], Belem Mahamadou[10], Groot Jeroen[1], Scholberg Johannes[1], Tittonell Pablo[1], Cournac Laurent[9]
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**67. Dynamic capacity of the adaptability of steppe sheep breeding systems in response to the challenge of climate change**

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**68. Do practices of Sahelian smallholder farmers impact native agroforestry shrubs functioning?**

Issoufou Hassane Bil-Assanou[1], Demarty Jérôme[3], Velluet Cécile[3], Mahamane Ali[1,2], Saadou Mahamane[1,2], Cappelaere Bernard[3], Seghieri Josiane[3]
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**69. STICS: a generic and robust soil-crop model for modelling agrosystems response in various climatic conditions**

Beaudoin Nicolas[1], Buis Samuel[2], Ripoche Dominique[3], Justes Eric[4], Bertuzzi Patrick3, Casellas Eri[5], Constantin Julie[4], Dumont Benjamin[6], Durand Jean Louis[7], Garcia de Cortazar-Atauri Iñaki[3], Jégo Guillaume[8], Launay Marie[3], Le Bas Christine[9], Lecharpentier Patrice[2], Leonard Joël[1], Mar Bruno[1], Poupa Jean Claude[10], Ruget Françoise[2], Louarn Gaetan[7], Coucheney Elsa[11]
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**70. A model assessment of the adaptation of Mediterranean agroforestry systems to climate change**

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**71. The effect of organic amendments and water pulses on GHG emissions from rice production systems using δ13C isotope**

Tariq Azeem, Stoumann Jensen Lars, Faiz-Ul Islam Syed, de Neergaard Andreas
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**72. Nurse plant effect on mycorrhizal soil infectivity and soil fertility restoration in Madagascar upland rice farming**

Baohanta Rondro[1], Randriambanona Herizo[1], Andrianandrasana M. Doret[3], Razakatiana Adamson T.[3], Razananirina Jefferson[3], Rajaonarimamy Elinarindra[3], Ducousso Marc[2], Duponnois Robin[2], Ramanankierana Heriniaina[1]
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**73. Extension of oil palm in altitude under global change in North Sumatra: ecophysiological responses and yield**

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**74. Impact of climate on major cereal crops production in Sokoto State, Nigeria**

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**75. Resource-conserving agriculture for restoring soil productivity and climate change mitigation in northern Ethiopia**

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**76. Millet (Pennisetum glaucum)-acacia association for sustainable improvements in agricultural productivity in Niger**

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**77. Collection of farming address climate changes in the department Kaolack / Senegal**

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**78. Mitigating methane emission in rice ecosystem by drip irrigation**

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**79. Eating more grain legumes and less meat promotes climate smart cropping systems**

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**80. Acacia catechu trees in rice fields: a climate smart traditional agricultural system of Northern Bangladesh**

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**81. Soil carbon sequestration under traditional management of smallholder's oil palm plantations in Sudano-Guinean context**

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**82. Impact of climatic variables on rice yield in Bangladesh: a spatio-temporal analysis**

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## L3.3 CLIMATE-SMART LIVESTOCK

**83. Productivity and mitigation effects of alternative feeding practices in smallholder dairy farms in the north of Vietnam**

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**84. Building climate smart pastoralism in the Sahel: ways forward**

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**85. Climate and animal diseases: the case of 2009/2010 rift valley fever outbreaks in South Africa**

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**86. Cattle ranching in the Amazon: quantifying synergies between intensification, mitigation and profitability**

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**87. Potential multi-dimensional impacts and tradeoffs of improved livestock feeding scenarios in Babati, Tanzania**

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**88. Towards climate smart dairy cattle in Rwanda: mapping feed resource potential under climate and land use scenarios**

Kagabo Desire Mbarushimana, Musana Bernard Segatagara, Manzi Maximillian, Mutimura Mupenzi, Hirwa Claire D' Andre, Nyiransengimana Eugenie, Shumbusho Felicien, Bagirubwira Aphrodis, Ebong Cyprian
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**89. Protein supplementation improves saline water utilization in lambs**

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**90. An optimal live-weight gain in winter improves growing performance and reduces $CH_4$ in tropical beef cattle systems**

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**91. Global farm platforms for sustainable ruminant livestock production**

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**92. Climate change, livestock productivity and poverty: empirical evidence from south Asian countries**

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**93. Solutions for greenhouse gases mitigation in ruminant farming: how to favor their adoption?**

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**94. Perception of climate change and adaptation of herd conduct mode in Burkina Faso during rainy season**

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**95. Mini-livestock ranching – raising climate-smart insects for nutrition and livelihoods**

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**96. Evaluating animal mobility in relation to climate change mitigation: Combining models to face methodological challenges**

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**97. Substitution of maize silage with barley silage in dairy cow diet as mitigation strategy: effect on milk quality**

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**98. Towards climate smart livestock systems in Tanzania: assessing opportunities to meet the triple win**

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**99. Predicting effects of cattle growth promoting technologies on methane emissions using TAURUS ration formulation software**

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**100. Farm scale greenhouse gas budget; grazing is smart**

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**101. Effect of ambient temperature on lactating sows, a meta-analysis and modeling approach**

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**102. Greenhouse gas and ammonia emissions from ceramsite covered compared with uncovered during dairy slurry storage**

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**103. Grass-legume mixtures enhance nitrogen yield over a wide range of legume proportions and environmental conditions**

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**104. Classifying livestock systems for public policy guidance: the example of Colombia's livestock sector**

Amy M. Lerner[1], Cesar Solano[2], Jesus David Martinez[3], Julian Esteban Rivera[4], Julian Chara[4], Michael Peters[3], Timothy Searchinger[1], Mario Herrero[5]
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**105. Influence of xylanase enzyme on in vitro methane production and rumen fermentation of tikiya (Eleocharis dulcis)**

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**106. The effect of sunflower oil and the phenolic essential oils on methane emission in dairy cattle**

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**107. Utilization of saline water by Barbarine lambs in the dry areas under climate change**

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**108. Impact of feeding and breeding interventions towards climate resilient dairying system in India**

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## L3.4 CLIMATE-SMART LANDSCAPES, WATERSHEDS AND TERRITORIES

**109. Large-scale land restoration – creating the conditions for success**

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**110. Regional impacts of climate change and adaptation through crop systems spatial distribution: the VIGIE-MED project**

Chanzy André[1], Davy Hendrick[2], Géniaux Ghislain[3], Rigolot Eric[2], Debolini Marta[1], Garrigues Sébastien[1], Guérif Martine[1], Clastre Philippe[1], Lecharpentier Patrice[1]
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**111. Interdisciplinary approach to climate change in an intensely-managed agricultural landscape in California, USA**

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**112. Building a shared representation of the landscape as a socio-ecological system and visualizing the challenges of CSA**

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**113. Climate-smart territory approach: for an effective address of Climate Smart Agriculture**

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**114. Landscape scale assessments for strategic targeting of climate smart agriculture practices in East Africa**

Winowiecki Leigh[1], Vagen Tor-Gunnar[2], Laderach Peter[3], Twyman Jennifer[3], Eitzinger Anton[3], Mashisia Kelvin[1], Mwongera Caroline[1], Okolo Wendy[1], Rodriguez Beatriz[3]
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**115. The FACCE-ERA-Net Plus project "Climate smart Agriculture on Organic Soils" (CAOS)**

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**116. The potential of fish as a climate smart adaptation and mitigation strategy**

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**117. Water uptake in deep soil layers by tropical eucalypt plantations: consequences for water resources under climate change**

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**118. Land use practices among pastoralists as potential climate smart options for dry land ecosystems.**

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**119. Spatial models of farms territories, policy instrument and climate change: application in Chorotega (Costa Rica)**

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**120. Landscape management to develop agroforestry in Central-Africa**

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**121. Governance for climate smart landscapes: a case from Makueni County, Kenya**

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**122. A landscape approach to co-designing climate change adaptation and mitigation strategies with farming communities**

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**123. Adapting landscape mosaics within Mediterranean rainfed agrosystems for managing crop production, water & soil resources**

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**124. Watershed and biodiversity restoration in the Western highlands of Cameroon under climate change**

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## L3.5 INVESTMENT OPPORTUNITIES AND FUNDING INSTRUMENTS

**125. Livestock farmers' investment toward climate-smart production: impact of an incentive program in Chorotega, Costa Rica**

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**126. 25 million African farming families by 2025: science-development partnerships for scaling climate-smart agriculture**

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**127. Microfinance and Climate Smart Agriculture: integrated farming system and social business**

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**128. The CLIFF Network: breaking knowledge barriers for climate change mitigation research in developing countries**

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**129. Adaptation strategies for floodplain agriculture in Amazonia**

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**130. Afforestation and the unemployment nexus in the West African forest reserves localities: case study of Nigeria**

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