Ag Outlook Forum

Adapting Tools and Resources to Account for impacts on Agriculture and Trade Feb 24, 2023

Jeremy L. Adamson Jeremy.Adamson@usda.gov Foreign Agricultural Service Senior Policy Advisor, Climate Change

FAS Adaptation Plan

Mission	FAS is a trade agency that promotes U.S. agricultural exports	USDA United States, Department of Agriculture
Goal 1	Liberalize global agricultural trade by developing and enforcing agreements, policies, and addressing trade barriers	
Goal 2	Expand U.S. agricultural exports through implementation of trade-supporting initiatives	USDA Foreign Agricultural Service Climate Change Adaptation Plan _{April 2022}
Goal 3	Inform global agricultural markets and advise U.S. decision-makers by providing relevant intelligence, expertise, and analysis	
Goal 4	Operate FAS and administer its programs efficiently and effectively, with a focus on excellent customer service	
Goal 5	Promote a supportive trade environment for sustainable and climate-smart commodities, while encouraging the adoption of global agricultural climate solutions	
Goal 6	Recruit, build, and retain a well-qualified, diverse, and inclusive workforce, and ensure FAS programs are equitably promoted and available to underserved communities	

Climate Change Effects and Vulnerabilities

- Shifting global trade patterns and decreased food security
- Decreased agricultural productivity
- Increased stress on trade (including SPS) infrastructure
- Expanded and changing incidences of pests, diseases, and food safety risks
- Need for systems approaches in the agriculture and forestry sectors
- Reliable and improved data mechanisms



Action: Augmented Internal Data Collection and Analysis

- Add datasets, create new analytical tools or amend existing tools (such as GADAS) to assess impacts from extreme weather or biological events
- Implement new Global Access Information Network (GAIN) report for targeted countries to capture country climate change policies, actions, and impacts.

GADAS Global Agricultural & Disaster Assessment System

- The Global Agricultural and Disaster Assessment System (GADAS) is a web-based Geographic Information System which integrates near real-time Earth Observation data, particularly for agricultural and disaster assessments.
- GADAS has environmental data sets and geo-processing tools to enhance analysis and collaborate with colleagues.



Interactive maps and charts with over 1050 data layers. Download images, data, and share views.

https://geo.fas.usda.gov/GADAS/inde

<u>x.html</u>

Honduras – building agricultural data capabilities to support resilience under climate change



COMET-Planner

(www.comet-planner.com)

Conservation Practice Standard (CPS):

Step 1-2: Select Location and Conservation Practice Category



Step 3: Select Conservation Practice Implementation

Conservation Practice Implementation:

Step 3: Select a NRCS Conservation Practice Standard and a Practice Implementation that best describes your system. You may add multiple practices. If you would like to add a practice under a different class of practices, return to Step 2.

Combustion System Improvement (CPS 372)	 Add Legume Seasonal Cover Crop (with 50% Fertilizer N Reduction) to Irrigated Cropland
 Conservation Crop Rotation (CPS 328) 	Add Legume Seasonal Cover Crop (with 50% Fertilizer N Reduction)
Cover Crop (CPS 340)	to No-Till Irrigated Cropland
	 Add Legume Seasonal Cover Crop (with 50% Fertilizer N Reduction)
 Mulching (CPS 484) 	to No-Till Non-Irrigated Cropland
 Multiple Conservation Practices 	Add Legume Seasonal Cover Crop (with 50% Fertilizer N Reduction)
 Nutrient Management (CPS 590) 	to Non-Imgated Cropiand
Residue and Tillage Management - No- Till (CPS 329)	Add Non-Legume Seasonal Cover Crop (with 25% Fertilizer N Reduction) to Irrigated Cropland
Residue and Tillage Management - Reduced Till (CPS 345)	Add Non-Legume Seasonal Cover Crop (with 25% Fertilizer N Reduction) to No-Till Irrigated Cropland
 Stripcropping (CPS 585) 	 Add Non-Legume Seasonal Cover Crop (with 25% Fertilizer N Reduction) to No-Till Non-Irrigated Cropland

Step 4: Enter Acres of Practice, Deliver Approximate Benefits based on meta-modeling of soils, meteorology and conservation practice

Step 4: Enter the acreage associated with each conservation practice you selected

Approximate Carbon Sequestration and Greenhouse Gas Emission Reductions*

(tonnes CO₂ equivalent per year) 🕕

	NRCS Conservation Practices	Acreage	Carbon Dioxide	Nitrous Oxide	Methane	Total CO ₂ Equivalent
Û ()	Add Non-Legume Seasonal Cover Crop (with 25% Fertilizer N Reduction) to Irrigated Cropland	1000 ac	655	39	0	694
	Totals	1,000	655	39	0	694

*Negative values indicate a loss of carbon or increased emissions of greenhouse gases **Values were not estimated due to limited data on reductions of greenhouse gas emissions from this practice

Download COMET-Planner Results

https://www.nrcs.usda.gov/sites/default/files/2023-01/CSAF%20Mitigation%20Activities_2023.pdf

Foreign Agricultural Service

Additional Content: Transparent Documentation of Results





Action: Encouraging Climate-Smart Agriculture and Trade Policies

- Encourage climate-smart trade policies and practices, and to discourage policies that reduce access to climate-smart agricultural tools and/or negatively impacts minority communities.
- Staff climate literacy trainings
- Enhance and broaden public communications plan
- Increase FAS's dedicated climate staff



Action: Increased capacity building and technical exchanges related to climate change

- Funding for new programs
- Leverage existing programs
- Develop SOP with other USDA agencies
- Create/adapt a channel for Posts to direct climate programming to country(ies)

FY2022 Food for Progress: Climate Smart Agriculture

Malawi

- Adaptation efforts may include soil and water management, introduction of new cash crops and/or new varieties of current crops, managing post-harvest loss and waste, integrated pest management, and forest management.
- Project will identify, trial, test (in consultation with farmers) climate-smart techniques and technologies, and then scale up.
- Focused on commercial farmers in Rumphi, Mzuzu, Mzimba, Nkhata Bay, and Ntchisi districts growing soy, coffee, honey, chili peppers, banana, and other cash crops.
- Total award value: \$23,500,000 for five years (2022 - 2027).

Thailand

- Adaptation efforts may include soil and water management, assessing different varieties of target crops, managing postharvest loss and waste, and integrated pest management.
- Project will develop a Climate Hub that will review and collate existing and emerging climate smart innovations that will best respond to the social, economic, and environmental needs of the Thai and regional agriculture sector.
- Working in 11 regions in Thailand on rice, cassava, durian, longan, mangosteen, and coconut.
- Total award value \$22,509,521 for five years (2022 - 2027).











Vietnam and beyond – feed ration formulation software to improve productivity and reduce methane emissions

Taurus-KH-Khm-2021 ដាកម្មវិធីអ្វី និង វិភាគតម្លៃប៉ណិសម្រាប់គោសាចដាភាសាខ្មែរនៅក្នុងប្រទេសកម្ពុជា ១ ១៩ វិនិន ចាមចំណេច និង៩៩ ចិន ចាមចំណែល វិតាសារ ទេ ១៩ ចាំ ប្រទេសកម្ពុជា

ការការប្រការលរដ្ឋាជុនប្រការនការឈរលយបន់កេមដែលកោលបស់លកលេរថ្វារបយ California Davis លេរអន្ត អាមេតិកម្ម ក្រុមអ្នករៀបប័មានសមាសាកាដូចខាងក្រោម Ug្ទិត Ermias Kebreab ព្រឹទ្ធបុរសរង មហាវិទ្យាល័ កក្រតិតិតថ និងវិចាត់ការកើរ តែកាន តារក្រសាហាកែសាការកិតកណ្តាន និងសាសាភោគ និងសាសាភោ

អាមេរក។ ក្រុមអ្នករបូលជមានសមាសការឡើបសារក្រោម បច្ចេកេ Ermias Kebreab (អង្គបុរសរធ មហរេង) យកសិកម្ម និងវិទ្យាសាស្ត្របរិស្ថាន នាយកមង្គមណ្ឌលអាហារកិតាវលោក និងជាសាស្ត្រាបារ្យ និងជាប្រភា យកសេកាម្ត ផងរាស្វាសេត្រ្ត្របក្សេខេ ដោយកាមស្លាមផ្លូវលេកលោកសេកាសលោក កាត់តែសេសស្រ្តាសេវី គោម ឧ Sesnon Endowed ផៅជាភាកលវិទ្យាល័យ California Davis, CA សហរដ្ឋអាមេរិក « សេកាន formation សេកាម្តាស់ សេកាសេខន៍៖ នើលាសេកាសេកាម្តីអាមេរិក (ekebreab@u ន Sesnon Endowed នៅសាការបរឡាលេយ calmornia, Davis, C4 លេបអ្នករទេស។ (Keureauwukuavisku) ។ បញ្ជិត James W. Oltjen អ្នកឯកវទសម្នែកសហប្រតិបត្តិការផ្លេញស្លាយនៃប្រព័ន្ធគ្រប់គ្រងស្លា វបស់ស កាលក្លាយនេះ កាលក្លាយនេះ កាលក្លាយនេះ កាលក្លាយនេះ កាលក្លាយនេះ កាលក្លាយនេះ កាលក្លាយនេះ កាលក្លាយនេះ កាលក្លាយនេះ កាល

យកធ្លាធារប្បសេស្ត្រមហ្វា ការលោកលេរប្បសេស California, Davis, CA លេបក្ខេតា ការថា (Jwojeneoucoavis) ។ បញ្ជាក់ Abbas Ahmadi ម៉ុកបង្កើត Software បែសការីយកល័យថនាក់ទំនងសកល នៅសាកលវិទ្យាល័ ការក្រាមក្លាយ California California California California California California California California California ។ បណ្ណាក Abbas Anmadi ម្នាកបង្ក្នេត somware របស់ការឃោយយង នោក មន់របស់បែប នោសាការបៀបបេ យ California, Davis CA សហរដ្ឋអាវេទាក (abahmadi@ucdavis.edu)។ បណ្ឌិត កែវ សាជ ម្នកបកម្មប្រកាសាវ

រ ជាព្រំរដ្ឋបុរសរងរងសាកាលវទ្យាលយកូមខ្លួកសកម្ម ជុំពេញ ប្រទេសកម្ពដា (keosth@gmail.com)។ លោ ក សឱ ស៊ិយហ៊ាង ដូកបកកប្រែកាសាខ្មែរ ជាព្រឹទ្ធិបុរសរងនៃសាកលវិច្យាល័យភូមិខ្លួកសិកម្ម ជុំពេញ ប្រទេសកម្ព ជា (comorbeann@nmail.com)។

- Feed ration software for cattle developed by UC Davis includes database of feeds
- Building on work in Vietnam, this year trainings will be held on software for Cambodia, Laos, and Nigeria



U.S. DEPARTMENT OF AGRICULTURE



Past training in Vietnam

Food for Progress: Colombia Cacao and Complementary Crops for Development

Food for Progress (FFPr) project valued at \$25.3M over 4 years (2021-2025) operating in 52 districts across Colombia, is implemented by Partners of the Americas.

FFPr will conduct the first comprehensive Carbon study in Colombia and develop the database of cacao farmers:

- Location, Farm size, Number of producers, Land tenure.
- 82% of the farmers are under agro- forestry systems.
- Of the 1,700 farmers profiled, 50% have a bank account and can receive traceable payments.
- 24% of the hectares verified (so far)
- Preliminary estimate is US\$120/Ha per year of additional carbon income.



- Food for Progress will facilitate farmers from the database to carbon credit markets.
- An example of a carbon credit market: <u>https://www.compensave.co/en/</u>
- Each buyer can select the farm they want to Support.





Sharing research, lessons learned, best practices, and tools through synthesis and codevelopment

Amplifying the breadth and depth of USDA climate activities through coordination and capacity building



Enhancing awareness of climate information and services to support climate literacy

USDA International Climate Hub



U.S. DEPARTMENT OF AGRICULTURE

International Climate Hub



Synthesizing Climate Hub and other resources by climate, soil, production type, and commodity for global adaptation and use



Translating adaptation and resilience resources into other languages



Sharing the Climate Hub framework to support similar efforts globally



Supporting training on climate information and tools for both internal and external audiences



Facilitating technical exchanges to scale and apply Climate Hub products

