



Demonstrating Impact in Sustainable Rice Supply Chains

COP 23

Bonn

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Winrock International Institute for Agricultural Development

Non-profit organization that works in the U.S. and around the world to empower the disadvantaged, increase economic opportunity, and sustain natural resources

- 1985 merger of Winrock Int'l Livestock Research & Training Center, International Ag Development Service, and Ag Development Council
- Rockefeller family tradition of agricultural research and extension, yield improvement, global food security
- Seeking ways to connect farmers to new markets, enhance competitiveness, maintain/increase yields

Winrock's Rice History via American Carbon Registry (ACR)

2009 Energy Foundation Grant

Assessment of carbon market opportunities for rice growers in Arkansas

2011 USDA Conservation Innovation Grant

Develop a measurement, monitoring, reporting and verification methodology to demonstrate GHG (methane) emission reductions from rice production in the U.S.

2015 California Air Resources Board adopts

ACR's rice offset methodology as the first crop-based protocol for CA regulated carbon market

2017 ACR awards U.S. rice growers the world's first carbon offsets from sustainable rice production: substantial water savings as well!



ACR GHG Emissions Reductions in Rice Cultivation

Applicability to all U.S. rice growing regions

- Mid-South (Arkansas, Louisiana, Mississippi, Missouri, Texas)
- California

Eligible Practices

- Early drainage at end of growing season
- Alternate Wetting and Drying (AWD)
- Straw removal after harvest

First-ever rice offset credits in 2017

- Issued by ACR
- To 7 farmers in Arkansas, Missouri and California
- For practices on over 2000 acres
- Resulting in reduced inputs (energy, fertilizer) and savings of hundreds of millions of gallons of water

Rice GHG 1.0

Rigorous quantification through use of biogeochemical model

- Avoided GHG emissions are quantified at the field level through model runs of the DNDC (and associated Monte Carlo runs for uncertainty) for each field
- DNDC requires over 40 inputs, therefore the level of effort and cost is very high to provide data, undertake the model runs and to substantiate the data points as part of the verification process.

Sustainability Certification for U.S. Rice

❖ 2016 USDA Conservation Innovation Grant providing funding for a rice farmer-led initiative to develop and pilot a sustainability certification for U.S. rice.

❖ Objectives:

- 1) Maintain a common platform from which U.S. rice growers can objectively claim the sustainability of their production practices as conforming to international standards
- 2) Include relevant U.S. Federal & State programs that are fully aligned with SRP principles
- 3) Credibly quantify key impacts (GHG, water)



Review of Options for the U.S.

1) Field to Market



U.S. industry and growers engaged in the platform



Not global, not farm-level and not a certification of sustainable practices

2) Sustainable Agriculture Initiative (SAI)



In use by some buyers



Not specific to rice as a crop and not a certification

3) Sustainable Rice Platform (SRP)



Globally recognized, relevant and robust sustainability certification specific to rice production; Buyers engaged



Does not reflect growing conditions and practices in U.S. rice production

Sustainable Rice Platform

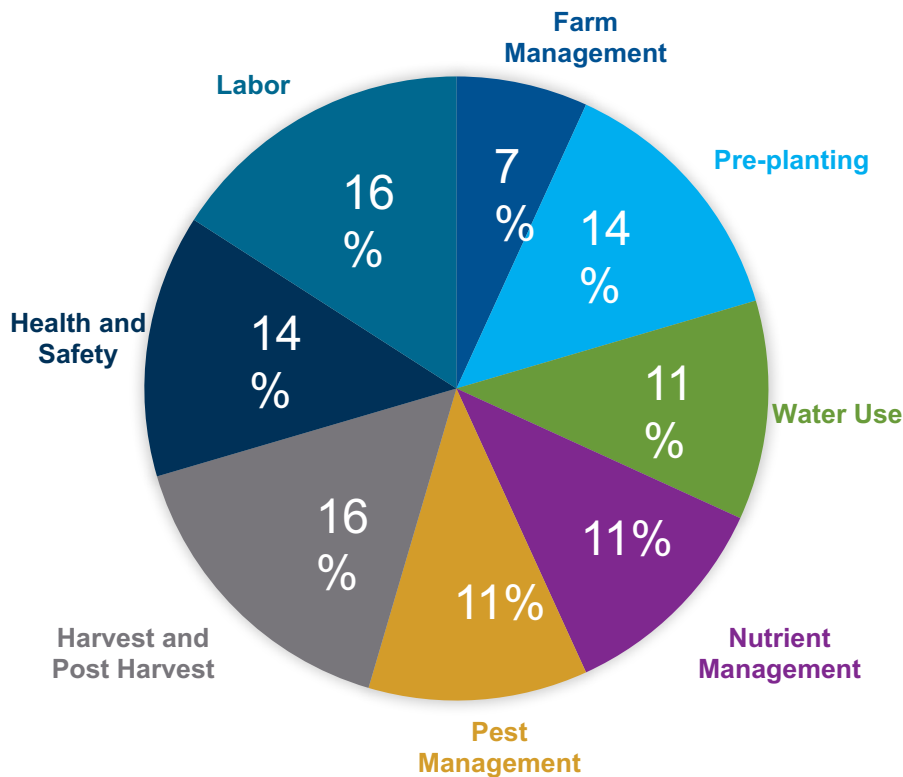
- ❖ Co-convened by UNEP and IRRI
- ❖ Small holder farms in Asia
- ❖ Self-reported, questionnaire format
- ❖ Establishes essential principles for defining sustainability
- ❖ Establishes guiding principles, action areas and performance indicators



<http://www.sustainablerice.org/Resources/#srp-standard>

Sustainable Rice Platform

8 Activity Areas



12 Performance Indicators

- Profitability
- Yield
- Labor Rights
- **Water Quality**
- Food Safety
- Nutrients
- Pesticides
- **GHG Emissions**
- Biodiversity
- Health and Safety
- Community
- Child Labor

Adaptation of the SRP

- ❖ SRP-U.S. has been developed to be fully embedded within the Global SRP: All Guiding Principles, Activity Areas, Performance Indicators, Questions, Scoring and Essential Performance levels remain in place
- ❖ To reflect U.S. production practices, six (6) new performance indicators were added (*Air Quality, Soil Quality, Habitat Preservation, Habitat Enhancement and Carbon Sequestration*)
- ❖ References U.S. practices to align with the USDA NRCS Conservation Practice Standard: Environmental Quality Incentives Program (EQIP) and Conservation Stewardship Program (CSP) practices
- ❖ Incorporate quantification for GHG emissions & water use

Rice GHG 2.0

Objective: To simplify the quantification of avoided methane (CH₄) emissions by removing the need to run the DNDC model for every field and consequently, to verify all model inputs at the field level.

- Meta-analysis of available measurement and modeling data in published and not yet published scientific literature
- Sensitivity analysis based on the DNDC input and output data from the first projects to understand what inputs impact emissions reductions
- Development of regional and practice specific emissions factors through bulk DNDC model runs (44,790!) based on combinations of soil types, climate conditions and management practices in each of the rice regions
- The various combinations of emissions factors will be embedded in an easy-to-use tool with minimum inputs or evidence that will provide GHG quantification sufficiently rigorous to make a supply chain GHG emissions reduction claim

Future Steps

1. Evidence requirements and assurance program (*in process in coordination with SRP*)
2. Public stakeholder consultation process (*Q4 2017*)
3. Publication of Rice 2.0 tool for rigorous, evidence-based quantification of GHG emissions reductions (*Q4 2017 & Q1 2018*)
4. Pilot testing of SRP + GHG (*Q1 & Q2 2018*)
5. Development of water quantification methods (*Q1 & Q2 2018*)
6. Overall refinements and enhancements (*Q3 2018*)
7. Launch of online portal for SRP certification and GHG quantification (*Q4 2018*)



THANK YOU

Mary Grady

mgrady@winrock.org



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