RELATIONSHIP BETWEEN THE SRP STANDARD AND REDUCTION OF GREENHOUSE GAS EMISSIONS

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Abstract

The Loc Troi Group, a leading provider of agricultural services and products in Vietnam, has been organizing annual rice production on hundreds of thousands of hectares in Vietnam. It believes that sustainable agricultural practices, reducing greenhouse gas emissions, and mitigating the effects of climate change, are key factors in building Vietnam's rice brand. Since becoming a member of the Sustainable Rice Platform (SRP) in 2015, the company conducted SRP standard pilot testing with 150 farmers in the Mekong Delta from 2016 to 2018. The pilot testing produced important results, particularly on the use of pesticides. According to reports of the Loc Troi Group on each pilot testing from the four seasons, this helped 150 farmers reduce their pesticide input by 25%, resulting in 17% higher profits and 10% lower production costs compared with non-SRP farmers.

According to a report from the SRP, there are 160 million hectares of agricultural land used for rice cultivation worldwide. This rice cultivation uses 30% to 40% of clean water and 15% of fertilizers, contributing 10% of global greenhouse gas emissions by humans. The main source of emissions in traditional wet rice cultivation is the abuse of chemical fertilizers, resulting in a high rate of fertilizer loss, causing soil pollution and nitrogen oxide (N2O) emissions. Regular water retention in the field causes methane (CH4) emissions. The habit of burning by-products and straw after each harvest takes place across the country has caused carbon dioxide (CO2) to be released into the environment. The total amount of CO2, CH4, N2O emissions is increasing, causing the greenhouse gas effect and that is one of the causes leading to climate change.

Particularly in Vietnam, according to the results of greenhouse gas inventory results, the total emissions in Vietnam are 150.9 Tg CO2 (million tons), of which the amount of greenhouse gas emissions in the agricultural sector is 65.09 Tg CO2, accounting for the highest proportion up to 43.1% of the total national greenhouse gas emissions. As for the agricultural sector, the wet rice cultivation area accounts for the highest proportion

(57.5%). However, there are no standards and certifications related to greenhouse gas emissions or climate change in the rice sector in Vietnam, currently.

The SRP standard provides the following recommendations that are directly related to the reduction of greenhouse gas emissions from rice cultivation:

1. Applying the alternate wetting and drying (AWD) technique for water use, researched and deployed by IRRI worldwide. Applying this method can save up to 30% of water in rice cultivation compared to continuous water retention in the field, and is estimated to reduce nearly 50% of greenhouse gas emissions.

2. Using fertilizer effectively (fertilize appropriately, do not leave excess nitrogen, partially or completely replace inorganic fertilizers with organic fertilizers). This helps to avoid excess nitrogen in the soil, leading to N2O in the soil and CH4 in the water on submerged fields.

3. Not burning rice straw and stubble as well as not plowing them in flooded condition after harvest. This helps to limit the creation of gases in the group of greenhouse gases (CO2, CH4, ...).

The application of SRP standards in Vietnam's agricultural production could be seen as a practical solution contributing to reduce greenhouse gas emissions under the direction of the government and has opened up a new direction for Vietnam's agriculture in general.

Key words: SRP standard, greenhouse gas emissions, Mekong Delta, rice production