

## Successful 2016 Winter-Spring Season in Red River Delta, Viet Nam

Relatively low rainfall in the month of May in most of the Red River Delta provinces (with the exception of Bac Ninh) contributed to a favourable weather for rice maturity phase in the region (Table 1). A successful crop in the first season of the year is therefore expected.

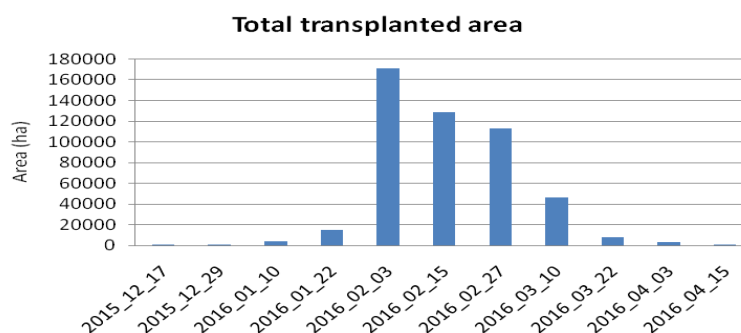
**Table 1. Maximum rainfall in May 2016**

Province	Rainfall (mm)	Date	Rainfall (mm)	Date
Ha Noi	37	5/13/2016	30	5/29/2016
Ha Nam	35	5/15/2016	30	5/29/2016
Hung Yen	37	5/13/2016	30	5/29/2016
Bac Ninh	227	5/24/2016	150	5/25/2016
Hai Duong	37	5/13/2016	30	5/29/2016
Hai Phong	37	5/13/2016	30	5/29/2016
Nam Dinh	37	5/13/2016	30	5/29/2016
Thai Binh	37	5/13/2016	30	5/29/2016

Source: National Center for Hydro-Meteorological Forecasting

Field survey data collected by the expert group from the National Institute of Agricultural Planning and Projection (NIAPP) during 9-11 May 2016 and 23-25 May 2016 indicate that in most of provinces, under sunny and dry weather, rice fields are in maturity stage, with plant height of 70-100cm, water depth of less than 20 cm and in good condition.

In 2016 Winter-Spring season, rice transplanting period was concentrated in February as monitored using satellite radar remote sensing technology of the RIICE<sup>1</sup> project (Figure 1). The monitoring system also revealed that transplanting and seeding in Ha Noi, Vinh Phuc, and Ha Nam provinces started 1-2 weeks earlier than the remaining provinces. Consequently this was translated in to the ground-based verification that rice harvest took place during the period end May to early June in Ha Noi, Vinh Phuc and Ha Nam provinces while around the same time rice crops were still in grain filling phase in other provinces and expecting harvest in 1-2 weeks later (Figure 2).



**Figure 1. Transplanting area monitoring using the RIICE monitoring system in the Red River Delta during 2016 Winter-Spring season**

<sup>1</sup> Remote sensing-based Information and Insurance for Crops in Emerging economies



**Figure 2. Rice field status in Red River Delta monitored within the RIICE project. As shown here, rice crops in field monotrining in Ha Noi and Ha Nam provinces were already harvested while the crops were still in grain filling phase in other provinces (photo taken in 6 June 2016).**

Rice harvesting in Red River Delta was largely mechanized involving modern combine harvesters. The Vietnamese RIICE team observed 18 out of 20 (90%) rice fields were harvested with combined harvested (Figure 3) whereas only in 2 fields rice crops were harvested manually involving reaping and threshing in survey conducted in Ha Noi, Ha Nam, and Hung Yen provinces with over 80 survey points Over 80 survey points in three provinces – Ha Noi, Ha Nam and Hung Yen, the RIICE team observed only 2 out of 20 cases with manual cutting. Time and labor cost saving was the



main driving of such trend of higher preference among rice farmeres in the sudty areas for mechanical versus manual labor intensive havesting method.

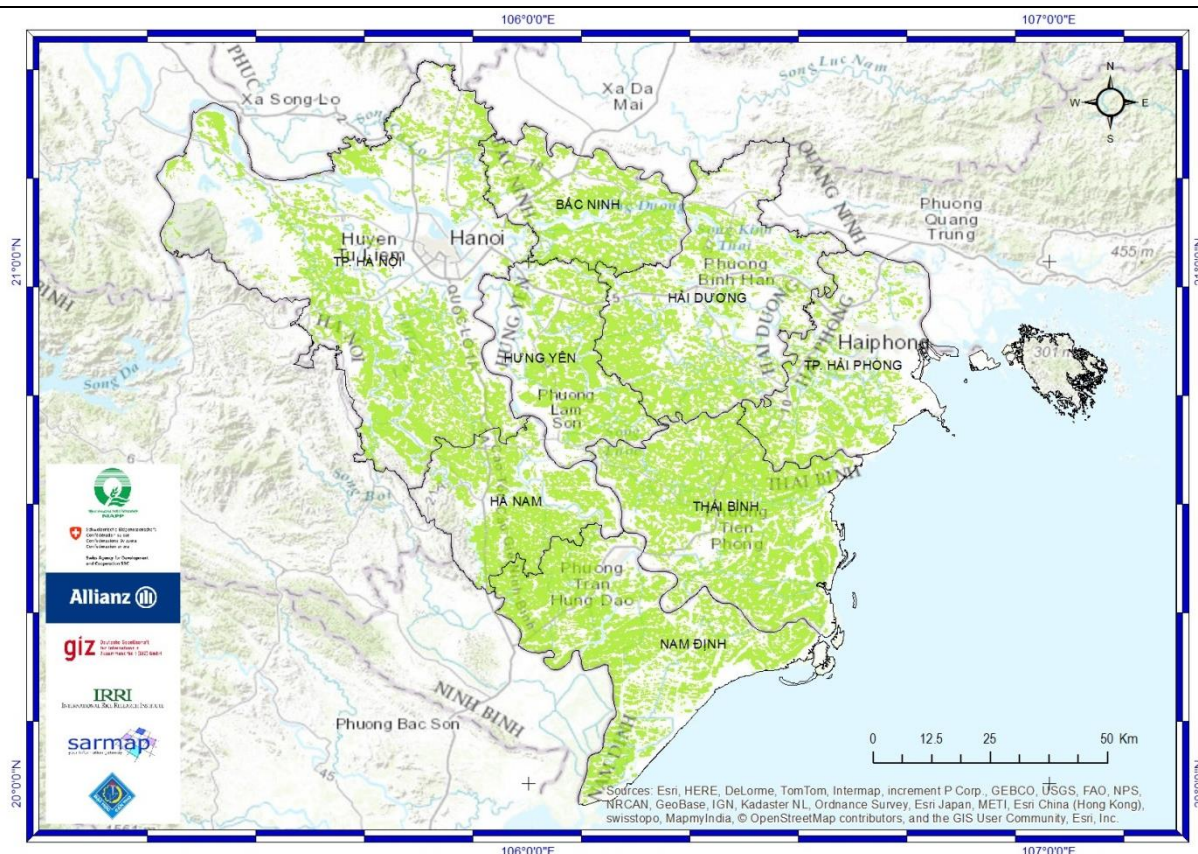


**Figure 3. A combine harvesting in progress in Red River Delta, Viet Nam.**

Taking advantage of favourable weather condition, farmers have started land preparation and seeding works for the next season right after the harvest of the current season. The transplanting of the summer season is expected to take place during the last week of June and first week of July in the majority of the 8 monitored provinces and in the Red River Delta more generally. As an exception, a few communes have applied direct seeding practice that took place immediately after crop cutting, around the first week of June 2016. The last surveys of the Spring-Winter season were done by the Vietnamese RIICE team in the second week of June 2016.

From 17 December 2015 to 21 May 2016, RIICE project in Viet Nam has acquired 14 Sentinel-1A scenes at 20 m spatial resolution and 12-day temporal resolution. Daily weather data since January 2016 were provided by the National Center for Hydro-Meteorological Forecasting and were used as inputs for RIICE yield estimation system along with remote-sensing information generated from Syntetic Aperture Radar (SAR) data from Sentinel-1A using MapScape-RICE. The products generated from processing of SAR data within the RIICE project in Viet Nam included 2016 Winter-Spring 2016 rice area (Figure 4) and start of season (SoS) maps for Red River Delta whereas RIICe yield estimation system deploy ORYZA crop growth model with assimilated SAR remote sensing data provided mid season yield forecasts and end of season yield estimates. Yield information was also made available as aggregated yield at commune level.

The applications of radar remote sensing images with 12-day temporal resolution and ORYZA crop growth model have allowed the RIICE team to update rice area maps and compute mid-season yield forecasts. Starting in this 2016 Winter-Spring season, RIICE provided regularly updates of rice extent maps for 8 provinces in the Red River Delta, fostering rice monitoring activities in the region.



**Figure 4. Rice area map for 2016 Winter-Spring season in Red River Delta, Vietn Nam generated by the RIICE project.**

At regional level, 2016 Winter-Spring season data are summarized in Table 2 whereas detailed district and commune level aggregation results are provided in the appendix.

**Table 2. Rice minotoring information generated in RIICE project for 2016 Winter-Spring season in Red River Delta, Viet Nam**

Province	Province Code	N-Area (ha)*	Rice Area (ha)**	Ratio (%)	Yield (kg/ha)***	Production (ton)
Bac Ninh	27	81,580.32	39,863.97	48.86	6,225.96	248,191.26
Hai Duong	30	166,865.23	60,391.14	36.19	6,045.01	365,064.96
Hung Yen	33	92,511.06	39,221.26	42.40	6,156.32	241,458.67
Thai Binh	34	156,669.56	93,209.66	59.49	5,905.90	550,486.98
Ha Nam	35	85,486.57	40,867.07	47.81	6,384.87	260,930.94
Nam Dinh	36	157,102.36	82,059.80	52.23	6,055.19	496,887.89
Ha Noi city	01	333,877.36	99,580.72	29.83	6,462.01	643,491.40
Hai Phong city	31	118,023.28	34,303.91	29.07	5,729.41	196,541.17
<b>Overall</b>		<b>1,192,115.73</b>	<b>489,497.53</b>	<b>41.06</b>	<b>6,120.58</b>	<b>3,003,053.26</b>

\*N-area = Total area according to official statistics; \*\*Rice area= Rice area detected by RIICE; \*\*\*Yield = End of sesason yield estimates generated by RIICE

Information reported in this bulletin has been generated using MAPscape-RICE and ORYZA within the Rice Yield Estimation System (Rice-YES) software and with data acquired by Sentinel-1A (owned by EU and developed & operated by ESA). Background map ©OpenStreetMap contributors.

This RIICE Bulletin was produced through collaborative work between the Vietnamese RIICE team, sarmap, International Rice Research Institute (IRRI), and Swiss Agency for Development and Cooperation (SDC). The Vietnamese RIICE team consists of the National Institute of Agricultural Planning and Projection (NIAPP) and Can Tho University (CTU).