Water saving practices

- Alternate Wetting and Drying irrigation/multiple aerations

Safe AWD — 15 cm below the soil surface

Seeding — Transplanting — Tillering — Panicle formation — Flowering — Maturity — Harvest

Reduce 48% of total CH$_4$ emissions
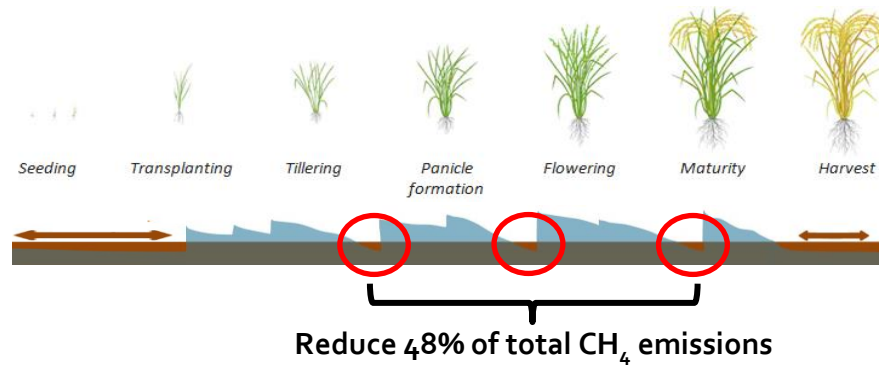
- Mid-season drainage/single aeration

Seeding — Transplanting — Tillering — Panicle formation — Flowering — Maturity — Harvest

Reduce 30% of total CH$_4$ emissions

CGIAR   IRRI
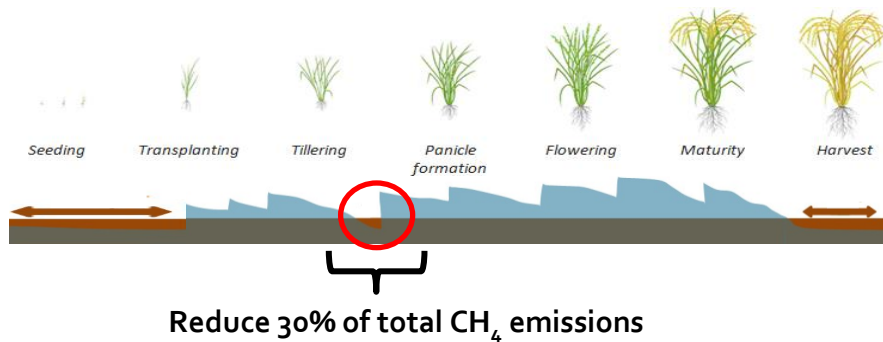
Mapping suitable area for water saving irrigation (AWD, MSD)

Jan-Apr Harvest

May-Aug Harvest

Sep-Dec Harvest

■ Highly suitable ■ Moderately suitable ■ Lowly suitable

■ Not suitable ■ Not planted
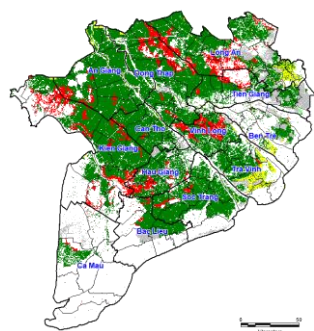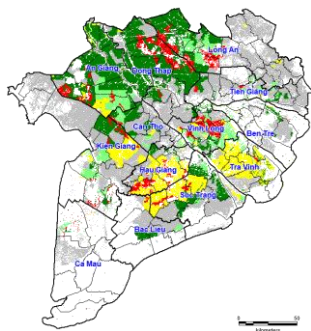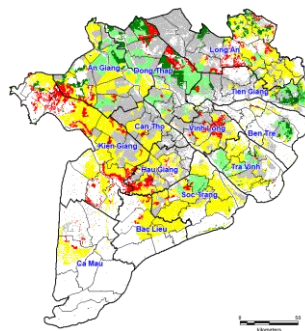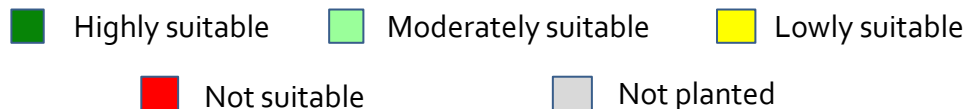
- An Excel-based tool
- Consider bio-physical conditions (climate, soil and rice seasons)
- Take into account climate-related risk (i.e. flooding and salinity intrusion)
- Support multi-season analysis
- Applicable to all rice growing areas
- Export outputs to GIS maps

CGIAR

IRRI

Graphic User Interface

1. Identify input data files
2. Define periods of climate-related risks
3. Select output format

Inputs

Input	Description
Land characteristics	Soil percolation, unfavorable soil conditions (i.e. flood, saline, acid sulphate soil)
Climatic data	Dekadal rainfall and potential evapotranspiration
Crop data	Start and end dekad of rice seasons

```
Land.txt - Notepad                                                        —    □    ×
File  Edit  Format  View  Help
Cell_ID Col_ID  Row_ID  X           Y           Percolation  SalineRisk  FloodRisk  ASSRisk
1       698     19      534011.102  2585082.605  0            0           0          0
2       700     21      535011.102  2584082.605  0            0           1          0
3       690     23      530011.102  2583082.605  0            0           1          0
4       694     24      532011.102  2582582.605  9            0           1          0
5       697     25      533511.102  2582082.605  9            0           1          0
6       695     26      532511.102  2581582.605  9            0           1          0
7       690     27      530011.102  2581082.605  0            0           1          0
8       696     30      533011.102  2579582.605  9            0           1          0
9       702     30      536011.102  2579582.605  9            0           1          0
10      685     31      527511.102  2579082.605  9            0           1          1
11      700     31      535011.102  2579082.605  9            0           1          0
12      683     32      526511.102  2578582.605  9            0           0          1
13      683     33      526511.102  2578082.605  9            0           0          1
14      701     34      535511.102  2577582.605  9            0           0          1
15      706     34      538011.102  2577582.605  9            0           0          1
16      695     35      532511.102  2577082.605  9            0           0          1
17      705     35      537511.102  2577082.605  9            1           0          1
18      690     36      530011.102  2576582.605  9            1           0          1
19      690     37      530011.102  2576082.605  9            1           0          1
20      708     38      539011.102  2575582.605  9            1           0          1
21      720     38      545011.102  2575582.605  9            1           0          1
22      708     39      539011.102  2575082.605  9            1           0          1
23      716     40      543011.102  2574582.605  9            1           0          1
24      684     42      527011.102  2573582.605  0            0           0          0
```
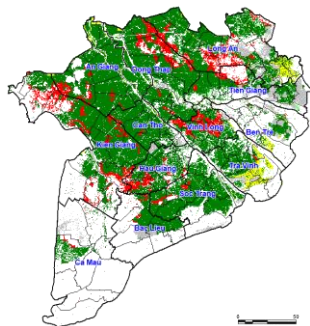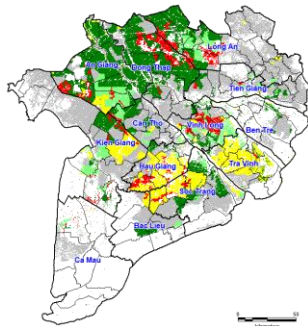
Example:
Input data file for land characteristics
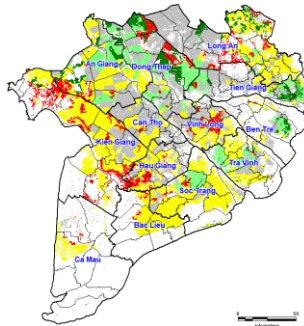
Outputs

Winter-spring

- 🟩 Highly suitable (AWD/MSD)

- 🟥 Not suitable (CF)

Summer-Autumn

- 🟩 Moderately suitable (MSD)

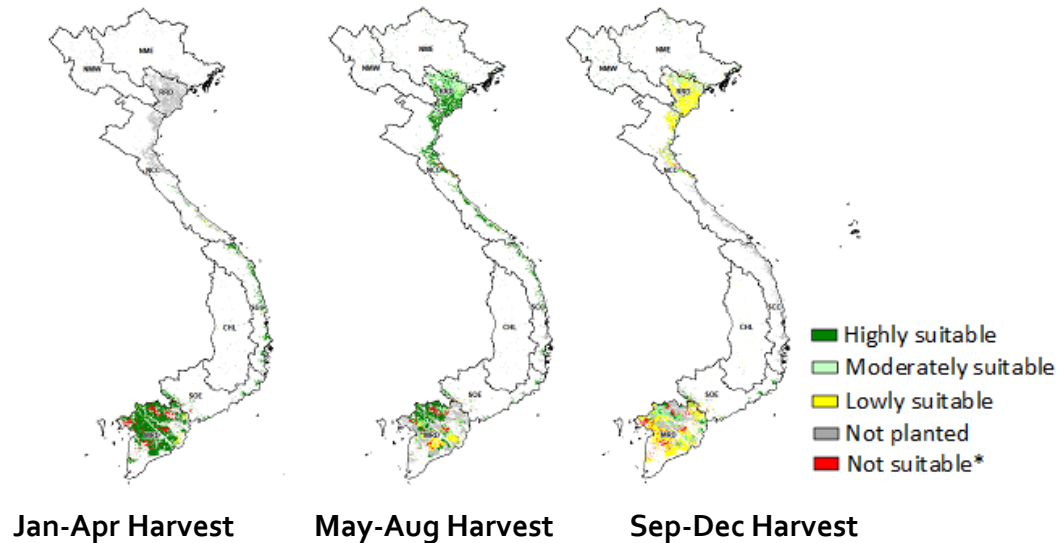- ⬜ Not planted

Autumn-Winter

- 🟨 Lowly suitable (CF)

- Text output — Seasonal AWD suitability of individual grid in text format

- Gridmap output — Seasonal AWD suitability of individual grid in ESRI ASCII raster format

* Suitability analysis is mainly based on bio-physical factors. The actual implementing area will be reduced depending on local adoption capacity

MapAWD in use: Planning tool for national level

Suitable areas by level and season (1000 ha)

Suitability level/ Practice	Highly suitable (AWD/MSD)	Moderately suitable (MSD)
Jan-Apr Harvest	**1,991.85**	30.20
May-Aug Harvest	**1,809.33**	479.89
Sep-Dec Harvest	**339.82**	380.79
Annual	**4,141.00**	890.88

Jan-Apr Harvest   May-Aug Harvest   Sep-Dec Harvest

Legend:
- Highly suitable
- Moderately suitable
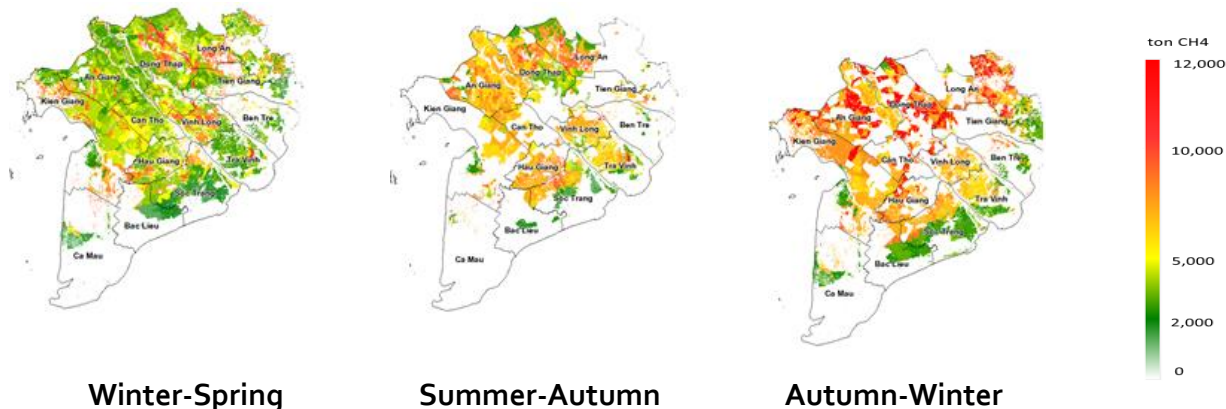- Lowly suitable
- Not planted
- Not suitable*

GHG mitigation potential of AWD to inform Vietnam NDC revision

MapAWD in use: Guiding the prioritization of mitigation actions at regional and provincial levels

Legend:
- Highly suitable
- Moderately suitable
- Lowly suitable
- Not planted
- Not suitable
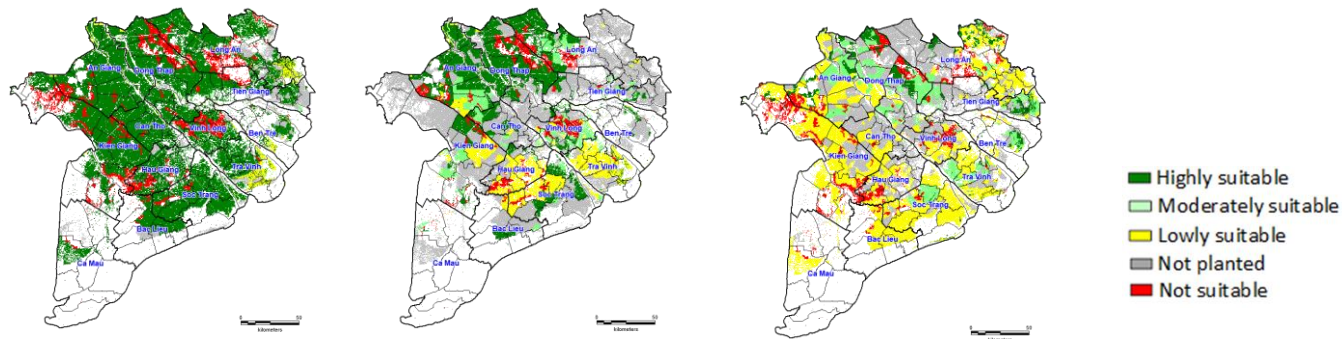
1. Determining suitable area for water saving practices

2. Calculating potential GHG mitigation using SECTOR

ton CH4
12,000
10,000
5,000
2,000
0

Winter-Spring   **Summer-Autumn**   **Autumn-Winter**

Thank you for your attention!