

Complex Rice Systems

Uma Khumairoh^{1,2}, Egbert, A.Lantinga², Didik Suprayogo¹, Rogier, P.O. Schulte², and Jeroen, C.J. Groot²

¹Integrated Organic Farming Systems Research Centre
Faculty of Agriculture, Brawijaya University
Indonesia

²Farming Systems Ecology Group, Wageningen University and Research,
The Netherlands

Contributions to the Aichi Biodiversity Strategic Goal B

Reduce the direct pressure on biodiversity and promote sustainable use

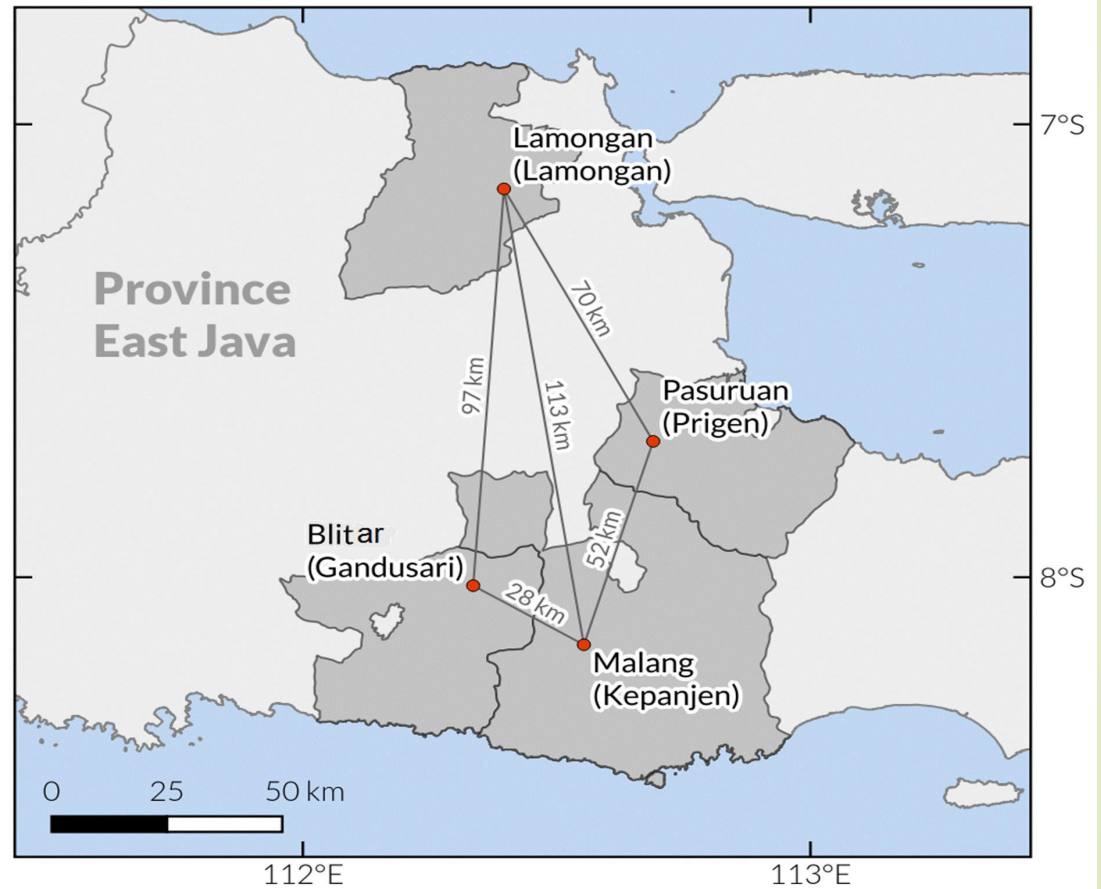
Target 7: By 2020 areas under agriculture, aquaculture, and forestry are managed sustainably, ensuring conservation of biodiversity

Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity

Study sites



- Field Sites: District (Subdistrict)
- Distances
- Districts



Contributions to the Aichi Biodiversity Target

7 & 8

Indicator 1: Species diversity and abundance of beneficial organisms

BEFORE (2014)

AFTER (2017)

District	Pattern
Lamongan	Rice-rice-fallow/corn
Pasuruan	Rice-rice-rice
Malang	Rice-rice-rice
Blitar	Rice-rice-rice



Contributions to the Aichi Biodiversity Target

7 & 8

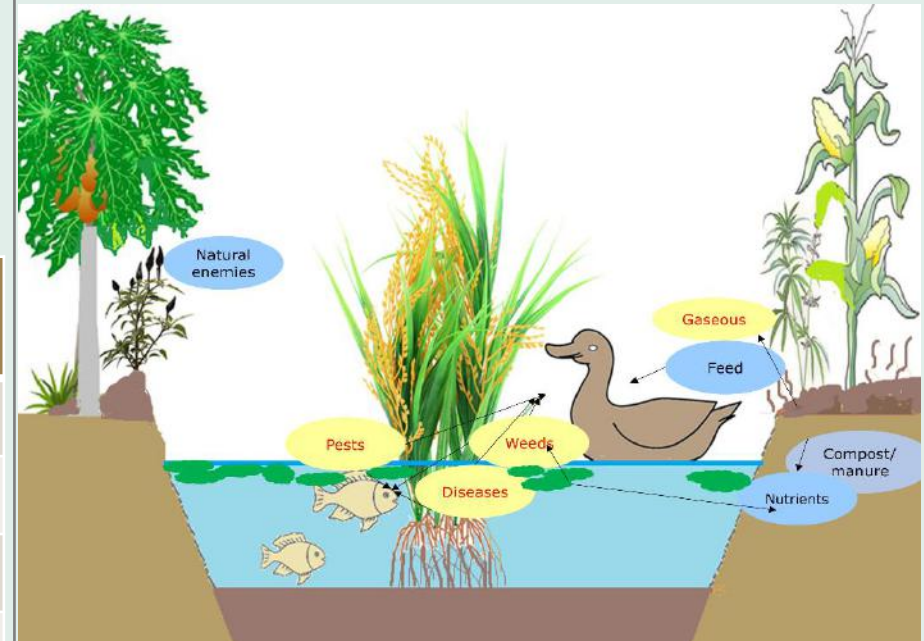
Indicator 2: Reduction of pollutants (Agrochemical inputs)

BEFORE (2014)

AFTER (2017)

Average use of agro-chemical in rice farms at four districts of East Java. Pesticides and herbicides (a.i. kg per year). N-artificial (kg per ha). a.i., active ingredient

District	Pesticides	Herbicides	N-artificial
Lamongan	0.7	2.3	300
Pasuruan	0.6	0.6	618
Malang	1.6	3.2	618
Blitar	2.1	3.8	618



Contributions to the Aichi Biodiversity Target

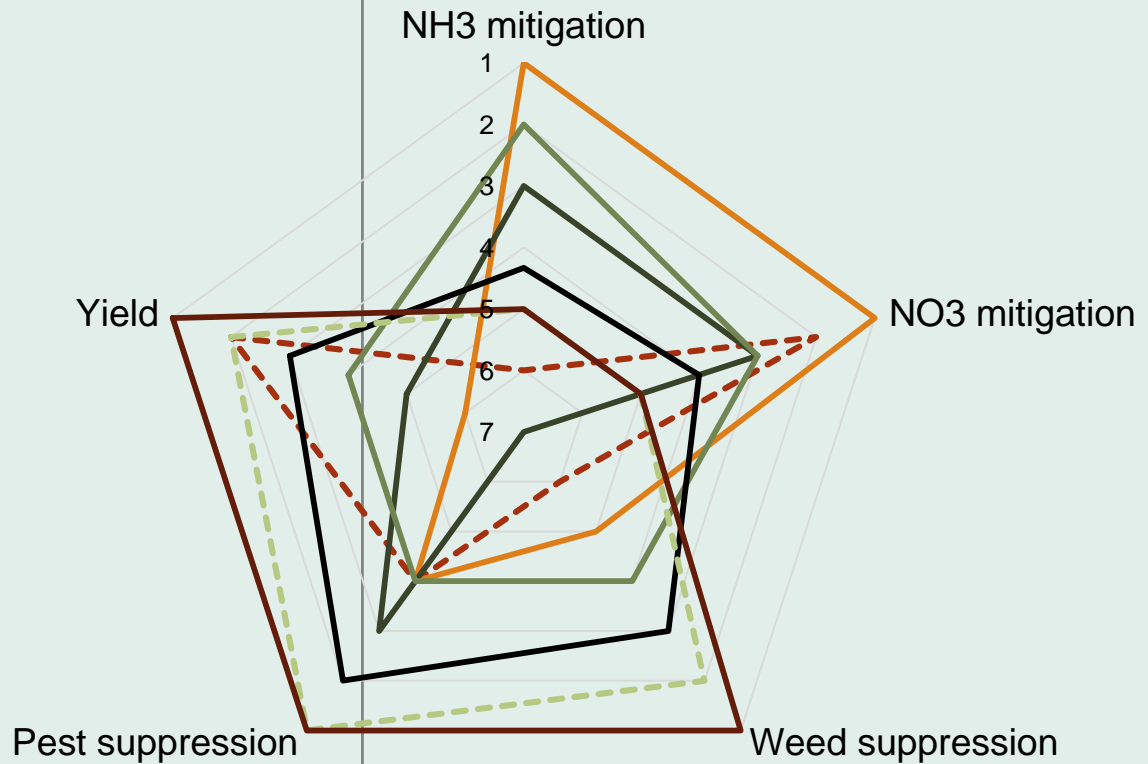
7 & 8

Indicator 3: Reduction of pollutants from nutrients (NH₃ and NO₃)

BEFORE (2014)

AFTER (2017)

- CON
- R
- ORG
- ORGA
- ORGAF
- ORGAD
- CRS



CON, conventional;
 ORG, organic;
 A, azolla; F, fish;
 D, duck; CRS,

Message to the CBD for post-2020

Target goal 7 and 8

- Target goal 8 automatically has consequence on ensuring biodiversity conservation of target goal 8, but overlooked productivity, is sustainable we want ???
- Diversification not always positive, but should consider types of elements and balance.
- In term of farming, the words of “conserving biodiversity” sound passive, add/ replace “promoting biodiversity” is more an active action.
- In term of farming, pollutants maybe better stated clearly as agrochemicals or pesticides, herbicides, fertilizer, hormones, etc

Message to the CBD for post-2020

General

- The link between agriculture & biodiversity should be given more room in the target goal.
- Emphasizing the link to the SDGs would in turn explicitly strengthen the roles of biodiversity-related farming.
- The post 2020 system must integrate a stronger focus on implementation, such as biodiversity-related farming cases.

Suggestions to IPSI for post-2020

- Excellent IPSI works need to be continued for post-2020.
 - Collaboration can make better impacts which have been promoted by IPSI, thus need to be more encouraged.
 - Adding windows for sharing information and getting helps for IPSI members.
- Supporting research facilitation (knowledge, tool/ equipment, and other cooperation) and visibility.