



Empowering smallholder farmers in Climate Field Schools: Farmer led-research in Indonesia Tropentag 2023

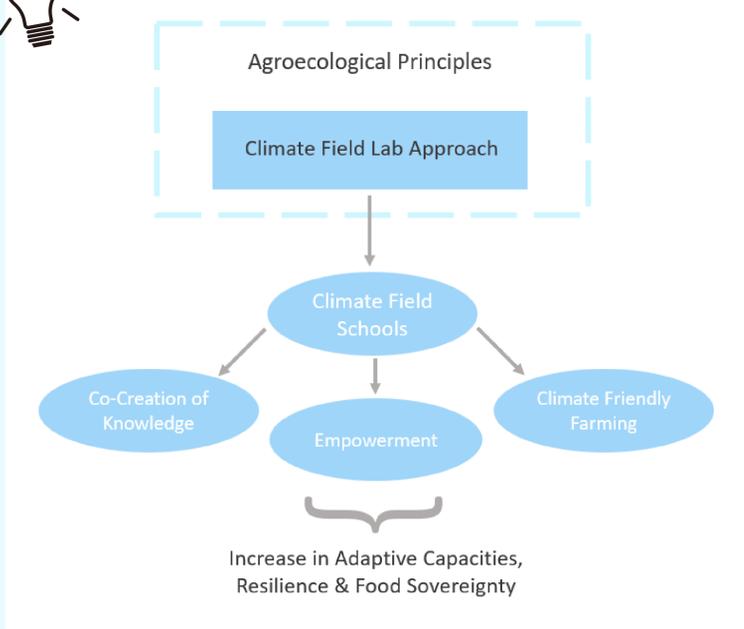


Lena Winter¹, Daniel Lesmana², Narimeh Paeplow¹, Tandu Ramba³, Kustiwa Adinata⁴, Silke Stöber¹

¹ Humboldt Universität zu Berlin, Centre for Rural Development (SLE), Germany
² Universitas Hasanuddin (UNHAS), Makassar, Indonesia
³ Yayasan Motivator Pembangunan Masyarakat (MPM), Kondoran, Indonesia
⁴ Jaringan Masyarakat Tani Indonesia (JAMTANI), Pangandaran, Indonesia



What's the idea behind the Climate Field Lab Approach?



The Climate Field Lab Approach is based on and embraces agroecological principles. Especially the principle around climate friendly farming (input reduction, soil health *inter alia*), co-creation of knowledge, empowerment and gender equality are core. The approach is realized in Climate Field Schools (CFS). It is a space which enables farmer-led research (*research farmers*) with the support of extension workers (*motivators*) and universities/ students to develop farming behaviour and innovations to adapt to changing climatic conditions. Focus is a farmer-to-farmer exchange to increase independent problem-solving skills. This is supported by agrometeorological learning and awareness rising about climate change. Lasting adaptation as well as mitigation options based on the promotion of organic farming is promoted. Aim is not only to increase adaptive capacities and resilience, but also food sovereignty of farmers. Therefore, CFS have an impact on farming behaviour of farmers, but also on socioeconomical aspects and dynamics of the individual and the community.



Activities in Climate Field Schools, Toraja:
Picture left: Farmers preparing compost using leaves of tithonia diversifolia
Picture right: Farmers collecting productivity parameters of harvested chili (number of fruits and weight)

Indonesia & Changing Climate - Time for Action

Indonesia is strongly affected by climate change. Its impacts differ regionally. Population living along the coastline are vulnerable to sea level, the salinization of soils and salt- water intrusion. The entire country faces rising temperatures, changing precipitation quantity and unpredictable rainfall patterns (delay of rainy season). This causes an increase in extreme events like droughts, floods or landslides. Changing climatic conditions also increases the risk of crop pests and diseases. Especially vulnerable to climate change are smallholder farmers due to their high dependency on natural resources and weather. The majority of Indonesia are smallholder farmers.



Goal & Methodology

With the goal to increase adaptive capacities of smallholder farmers, CFS were implemented and conducted by Jaringan Masyarakat Tani Indonesia (JAMTANI) in Java and Yayasan Motivator Pembangunan Masyarakat (MPM) in Sulawesi. Since several years the organizations collaborate with farmers of different villages and local universities (UNHAS Makassar, UNPAD Padjadjaran). This study investigates whether the Climate Field Lab approach, realized through CFS, is a success story of farmer- led climate change adaptation and in how far CFS contributed to incremental as well as transformational adaptation on individual and community level. To answer this question, four focus group discussions and online/ paper surveys were conducted in August and September 2023. Participants (n=48) were farmers who finalized the CFS process and farmers who just started CFS.

Inclusive empowerment of farmers To' Pao, Sulawesi

Climate- friendly farming methods developed in CFS were disseminated within the village and are still applied three years after the end of CFS. Farmers became producers of chemical free vegetables which -due to higherselling prices- increased income. An indirect impact is that more farmers can afford that their children go to university. The stunting rate of children decreased. Also, the sense of community, trust and bonding within the village has increased. Female participants reported to feel (1) more respected by their spouses and (2) more independent and empowered due to an increased own income.



Innovations in labour saving technologies & value addition Ciganjeng, West Java

Innovations in floating paddy fields technology could be successfully implemented to overcome yield losses due to floods. Organic rice products are PGS PAMOR* certified. Fishery is combined with the floating fields which diversifies income sources. The use of flood resistant rice varieties increased food security and income as well. Due to home industries based on postharvest treatment income for mothers can be increased and secured. New job opportunities could be created and increase employment. Ciganjeng farmers are first ProKlim** winner in the regency. The achievements are rewarded by increased governmental support (funding, harvest machines) for Ciganjeng farmers.

* Participatory guarantee system which assures the compliance with organic standards
**Climate Village Program (ProKlim) award assigned to villages which show great commitment to climate adaptation and mitigation by the Ministry of Environment and Forestry Indonesia



Picture left: Farmers presenting their research at Universitas Hasanudin Makassar, picture middle: Farmers enjoy their free time together on a hike (Toraja), picture right: Farmers preparing floating rice fields (Java)

Sources:
Ministry of Foreign Affairs of the Netherlands (2018): Climate Change Profile: Indonesia. The Hague, Netherlands.
Simarmata, T.; Proyoga, M. K.; Herdiyantoro, D. et al. (2021): Climate Resilient Sustainable Agriculture for Restoring the Soil Health and Increasing Rice Productivity as Adaptation Strategy to Climate Change in Indonesia. IOP Conference Series: Earth and Environmental Science 748. Doi: 10.1088/1755-1315/748/1/012039 .
Stöber, S.; Adinata, K.; Ramba, T. (2022): Between heavy rain and sea level rise. Co-research with smallholder farmers in Indonesia. A manual for the Climate Field Lab approach. Humboldt-Universität zu Berlin, Centre for Rural Development (SLE), Berlin, JAMTANI, Pangandaran and MPM Toraja, Kondoran.

Pictures: Rein Syauta, Lena Winter & JAMTANI
Shapefile: GADM
For more info:
Tandu Ramba, tanduramba@gmail.com
Lena Winter, lena.winter@sepit.com



Tropentag 2023
Competing pathways for equitable food systems transformation: trade-offs and synergies
hybrid conference
Berlin, Germany
September 20-22

