Climate Resilient Agriculture & Food Systems

Goals: This learning journey has the following goals:

1. Learn and share experience and evidence-based knowledge about key elements of Climate Resilient Agriculture in order to reach a concrete and shared practical understanding of the concept.

2. Co-Develop quality criteria and system boundaries for effective programmes, projects and activities aiming to promote Climate Resilient Agriculture & Food Systems;

3. Coordinate and guide action (e.g. by developing a factsheet, guidelines and other measures) to do our work better, i.e. to optimize productivity, resilience/adaptation, mitigation of greenhouse gas emissions and the achievement of other development goals under changing and challenging weather conditions.

Format & Participants: These goals will be achieved through an intense dialogue between a maximum number of people, institutions and networks (RésEAU, DRR, e+i, CCE and A+FS) in the form of a series of online discussions and webinars. The interdisciplinary nature of the topic will be addressed by engaging participants from diverse topical backgrounds including policy, planning, practice, funding, evaluation and research, knowledge management and communication from across different networks – involving experts and new-comers in the topic of Climate Resilient Agriculture & Food Systems.

Steps of the Learning Journey

Activity/Event

September 2018 - Planning
Goal: Ensuring maximal buy-in of further key-stakeholders and networks for concept, timing and sequencing of process of the learning journey through online consultation in order to increase maximal availability, common understanding & awareness on mutual interests as well as commitment to outcomes and follow up of the dialog:
Key questions for consultation (participate in survey !)
    1: What are the key interests of prospective participants?
    2: What are conceptual and goal- and outcome-related suggestions for the improvement of the journey?
    3: What are relevant expert inputs for the webinars?

November 2018 - Learning Journey Launch: **Webinars and online dialogues** **Week 1: Scoping and evidence base** --- **Webinar 1** (Kick-off / short introduction to / overview of learning journey; **Topical webinar key question**: What is the evidence base of Climate Resilient Agriculture? **Online dialogue** – **Key question:** "Which of the key-elements of Climate Resilient Agriculture programmes, projects and activities did you experience and how? (compare box) **Week 2: Best practices and quality criteria** --- **Webinar 2** (Country-Cases from Switzerland, Latin America, Africa and Asia including the water perspective) - **Topical webinar key question**: What are experiences from different continents? **Online dialogue** – **Key question:** "What are the most important quality criteria and system boundaries you identified for effective programmes, projects and activities aiming at Climate Resilient Agriculture & Food Systems?" **Week 3: Agricultural market programs & stakeholder engagement** -------------- **Webinar 3** (Climate resilient agriculture practices in agricultural market programs in different continents) **Topical webinar key question**: How climate resilient are value chain and market system approaches? **Online dialogue** – **Key question:** "Which are the best practices to include all public and private stakeholders that lead the way? What needs to be done to speed up processes?"
2019: Follow-up with the results of the Learning Journey

Criteria for participation – Your role

You should be

1. Concerned about the topic through your activities related to agricultural policy, planning, practice, funding, evaluation and research; and

2. Curious to learn more about the topic for you and your institution and/or to contribute with your own personal and/or institutional questions and experience (lessons learnt/best practice).

Relevance of CRA and challenges: If by 2050 world food production is to meet the demand of the world population it has to increase by 60%. However, climate change related challenges are expected to exceed regular coping capacities of smallholder farmers - through their characteristics, their magnitude and their frequency. Whereas scenarios forecast regional average annual harvest reductions of up to minus 25% by the year 2050, some farmers in the sub-regions might even lose their complete harvest in 1 of 10 years on average due to extreme and unexpected events like droughts, heavy rains, heat or cold waves.

Agriculture accounts for an estimated 70 percent of global water withdrawals and up to 95 percent in developing countries, while competition with other sectors for water is increasing[1]. FAO projects that irrigated food production will increase by more than 50 percent by 2050, but the amount of water withdrawn by agriculture can increase by only 10 percent, provided that irrigation practices are improved and yields increase[2]. Agriculture is both a cause and a victim of water scarcity. More frequent and severe droughts impact agricultural production, while rising temperatures translate into increased water demand in agriculture sectors[3]. Improving water productivity and sustainable water resources management is critical for ensuring food, nutritional and livelihood security in the long-term. 80 and 89 % of Low and Middle Income countries, respectively, include adaptation and mitigation measures in agriculture in the Intended Nationally Determined Contributions - INDCs[4] - to the Paris Declaration ratified by 170 of 197 countries.

Approaches to CRA: Climate Resilient Agriculture (CRA is the term the learning journey will work with), Climate Wise or Climate Smart Agriculture have become buzzwords in the current decade. SDC is interested in converging aspects of the different terms and definitions. The concepts covered under the terms give the ideal of a multifunctional agriculture - encompassing food production and income generation, soil and water protection, biodiversity conservation, landscaping and amenity (recreation)

Key elements of Climate Resilient Agriculture: 1. Capacity (vulnerability assessment) and enabling policy and institutions; 2. Strong farmer organisations and networking; 3. Climate-informed advisories and early warning; 4. Digital agriculture; 5. Climate Resilient and low-emission practices and technologies (incl. smart water management interventions and modern irrigation technologies to address scarcity and enhance water productivity by adopting a multi-stakeholder approach to improve sustainable water resources management at basin level (water stewardship), 6. Prioritisation and pathways of change (vulnerability integration); 7. Credit and insurance; 8. Expanded private sector activity and Public Private Partnerships. (Source : CGIAR CCAFS). But experts highlight also the importance of a landscape approach to climate and disaster resilience.

Quality criteria for CRA: In a first round of consultation, professionals from NGOs, research and donors highlighted that effective CRA approaches should contribute to 1. Productivity & ecologic resilience, 2. Adaptive capacity of stakeholders (including SDC), 3. Mitigation of greenhouse gases 4. National commitments/policies in reference to UNFCCC process (National Adaptation Plans and Nationally Determined Commitments) 5. Contributions of CRA and Food Systems to other SDGs

services for an increasingly urbanized society - a new importance. The most commonly used definition is provided by the Food and Agricultural Organization (FAO) of the United Nations[5]. It explains the concept as "agriculture that sustainably increases productivity, enhances resilience (adaptation), reduces/removes GHGs (mitigation), where possible, and enhances achievement of national food security and development goals". Another definition explains it as "an approach for transforming and reorienting agricultural systems to support food security under the new realities of climate change".

Both concepts encompass on the adaptation side early warning systems for extreme events, risk and vulnerability assessments (i.e. also for value chain and market approaches), concrete adaptation measures including for instance insurance schemes as well as agricultural practices and techniques to increase productivity. But it also aims at improving the capacity of soils and agricultural systems to mitigate greenhouse gas emissions and to absorb carbon, respectively – according to optimists up to a third of global annual greenhouse gas emissions. Carbon retention in agro-food systems might also contribute to rendering them more climate resilient, i.e. resistant to climatic shocks like droughts, heat waves or floods.

Contradictions of CRA: Some stakeholders are skeptical and see the components of CRA as stated in the first definition as partly conflicting goals. For them, trade-offs between resilience, sustainability and productivity are unavoidable. They claim that development cooperation under the new paradigm of a CRA will need to contribute also to 1. fairer access to food production assets for producers like land, biodiversity, water and services (i.e. inputs like seed, fertilizers and pesticides and other pest control measures, logistics & marketing, research, innovation systems & rural advisory services, financial services, insurances) and fairer access to food for consumers (i.e. price, quality and nutritional values); 2. shifts to more sustainable consumption patterns; 3. ecological intensification based on biological processes, diversification, reliance on renewable resources, minimization of agrochemicals and inorganic fertilizers, environmentally more sound, sustainable land and water management, soil conserving mechanization or more human labor as well as a reinvestment in (agro-) biodiversity and landscape diversity; 4. a production, distribution and consumption of food that is as local as possible; 5. a general change in the power balance in the agricultural investment agenda (a broader stakeholder participation and better prioritization of smallholder interests in structural programming and research and more transparence).

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[1] FAO. Water at a Glance: the relationship between water, agriculture, food security and poverty.(see: http://www.fao.org/nr/water/docs/waterataglance.pdf)
[2] FAO (2017) Water for Sustainable Food and Agriculture (see: http://www.fao.org/3/a-i7959e.pdf)
[3] FAO. Water at a Glance: the relationship between water, agriculture, food security and poverty.(see: http://www.fao.org/nr/water/docs/waterataglance.pdf)
[4] see https://klimalog.die-gdi.de/ndc and www.ndcpartnership.org
[5] see http://www.fao.org/climate-smart-agriculture/en/; or
FAO: CLIMATE-SMART AGRICULTURE (2013) Sourcebook http://www.fao.org/docrep/018/i3325e/i3325e.pdf