

Without Peace there is No End to Hunger The contribution of the Two Degree Initiative (2DI) to Peace and Security

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This document and analysis highlight the importance of Climate Security for 2DI and its articulation in the 2DI impact pathway and the Global Themes.

This is an invitation to include Climate Security in the framing of 2DI recognizing that:

- i) Without peace, there is no end to hunger.
- ii) CGIAR and CCAFS already contribute to peace but without proper articulation.
- iii) Well-articulated CGIAR/CCAFS contributions to peace open the doors to impacts at scale and novel partnerships along the Humanitarian-Development and Peace (HDP) nexus.

The document highlights the importance of Climate for Peace and Security (I and II), summarizes past CGIAR contribution to Peace and Security (III), summarizes 2DI stakeholder consultations process (IV) and presents the untapped potential of articulating Climate Security in the 2DI (V, key Table 1).

Background

Despite global efforts, in the last decade, we have seen exponential increases in the frequency of climate variability and extreme events affecting agricultural productivity, food security, rural livelihoods and migration trends, all of which is exacerbating household's fragility and tensions. **We are definitively not on track to End Hunger by 2030** (Figure 1).

To solve these and other agriculture-related environmental challenges, we need to transform the food system by REROUTING farming and rural livelihoods to new trajectories; de-RISKING livelihoods, farms and value chains; REDUCING emissions through diets and value chains; and REALIGNING policies, finance, support to social movements, and innovation. This transformation, however cannot materialize if we do not also transform the way in which we do AR4D.

We need to transform the food system

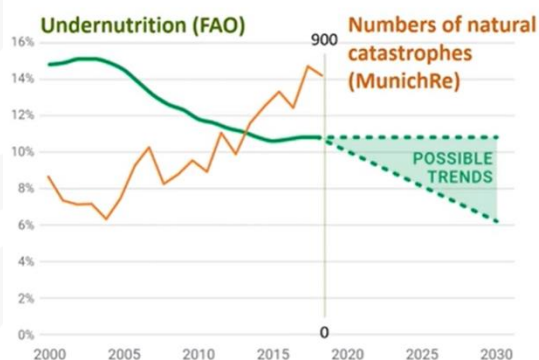


Figure 1. Past and projected trends challenging the achievement of the SDG 2 ambition to end Hunger by 2030.

Why is Climate security important?

Conflicts in the 21st century illustrate a paradigm shift. Often, violence, in its different scales, is rooted in political, geostrategic, or ideological frameworks. However, this is changing. Conflicts increasingly denote a stealth complexity in which triggers and consequences are intricately linked to climate, environmental degradation, and the struggle to control a finite pool of natural resources (Figure 2).

This raises a fundamental question: Does current peace and conflict thinking integrate climate and food security views? From a systemic perspective, the intricate linkages between climate, food security and conflict call for a dynamic integration of diverse sources of knowledge to develop new strategies that address the root causes of conflict and security.

CGIAR FOCUS Climate Security?

CGIAR and CCAFS are uniquely positioned to play a key role in understanding and leveraging land, water and food systems science under a climate crisis for peace and security. CCAFS recently launched, on behalf of the CGIAR, the [CGIAR FOCUS Climate Security](#) agenda.

This effort is charting a thematic connection between different areas of research and practice linking food systems to security and peace, while placing them under a common banner. The objective is to uncover and maximize synergies focusing not only on eliciting integrated research but to complement it with the most effective supporting role in policy development and advocacy.

As part of this new area of engagement, and to catalyze the development of integrated thinking CGIAR Climate Security has:

- ❖ Convened a [series of high-level webinars](#) with actors across the peace and security space. This led to the identification of four areas of research for the CGIAR:
 - **Unveil Evidence for Peace:** The foundation to understand the complexity of climate and conflict.
 - **Policy for Peace:** Violence, in its different scales, is rooted in political, geo-strategic, or ideological frameworks, without taking into account the underlying land, water and food systems drivers of conflict. This has to change and the CGIAR is well positioned to do so.

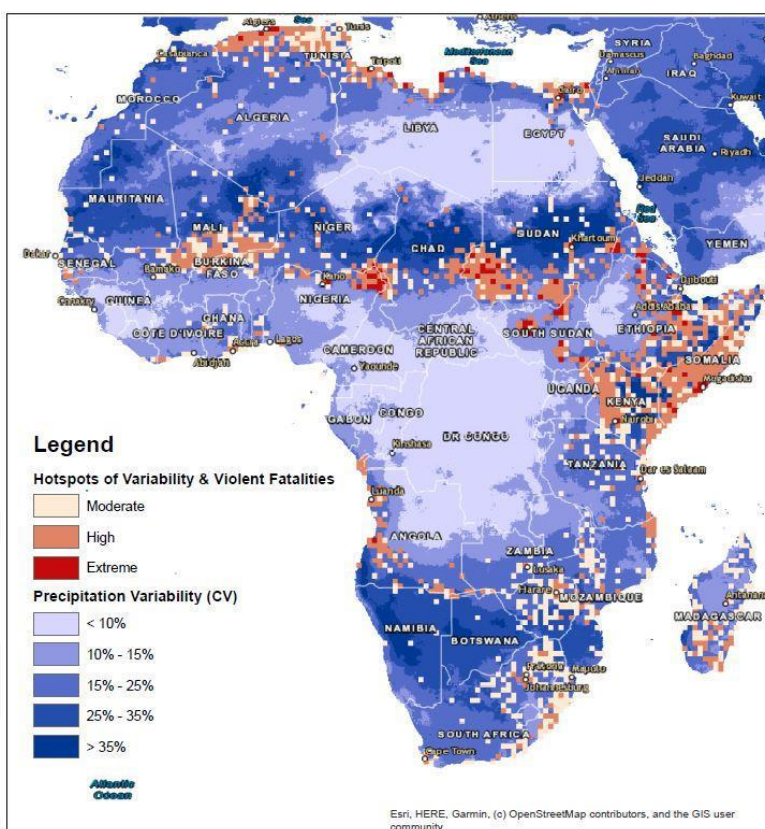


Figure 2: Violent fatalities and climate variability hotspots using precipitation (CHIRPS) and the Armed Conflict Location (ACLED) data. Hotspots: areas where fatalities coincide with precipitation variability > 15% (CCAFS/IRI/WFP)

- **Programming for Peace:** Understanding the linkages between land, water and food in a climate crisis can help to improve peace operations that benefit and stabilize rural communities, natural resources, value chains and fragile states. This also includes to make CGIAR work more peace sensitive.
- **Finance for Peace:** There is often a lack of alignment of objectives across the Humanitarian-Development and Peace nexus. Adaptation investments and development programs must benefit peace.
- ❖ Conducted a thorough literature review of a total of 197 papers, to **identify mechanisms and drivers contributing to conflicts**,
- ❖ Carried out a **review of the entire CGIAR portfolio** to reveal its contribution to Climate Security and Peace, based on the previously identified drivers and mechanisms (Figure 3).
- ❖ Build and published a [searchable database](#) to visualize the results of the portfolio review and highlight CGIAR's contribution to peace.

Key messages from the CGIAR portfolio review

- ✓ The **top ten drivers** of conflict studied were **climate change** adaptation and mitigation, **adaptive capacity, climate change and variability, rural livelihoods and poverty, food insecurity, drought, weak governance, agricultural outputs, migration and displacement and water scarcity**.
- ✓ The **top three contribution categories** were “**Research to strengthen resilience**”, “**Research to understand conflict pathways**” and “**Partnerships, Engagement and strengthening institutions**”
- ✓ The top ten countries where most research on climate security was found were: Mali, Ethiopia, Kenya, Tanzania, India, Uganda, Congo, Nigeria, Bangladesh and Sudan

Unlike the case of climate, nutrition and gender, CGIAR rarely designs its research using conflict-sensitive lenses. **However, CGIAR's work in least developed and fragile countries on water, food and land always contributes to mitigate drivers of conflicts (food security, nutrition, gender, climate, food systems, water, NRM, etc.) and thus also to improves the prospects of peace** (Figure 4).

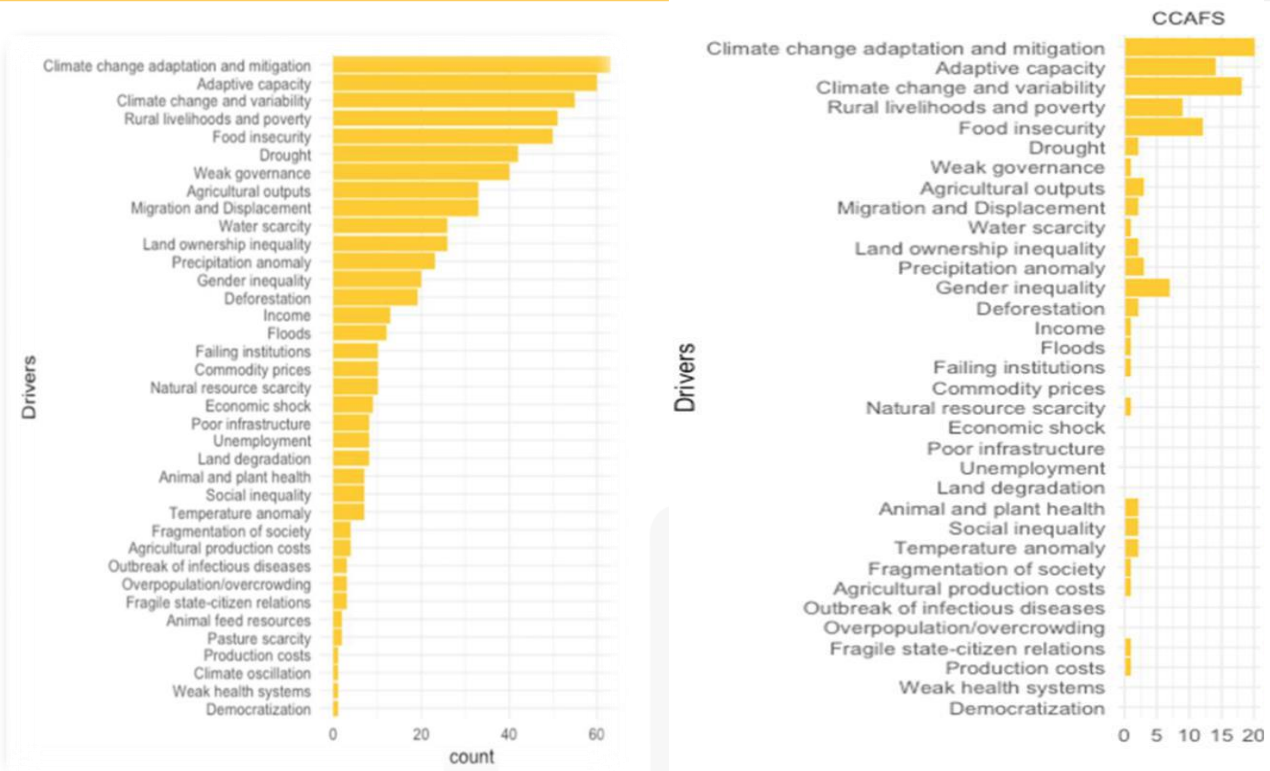


Figure 3. CGIAR portfolio (left) and CCAFS (right) contributions to the conflict drivers (in number of outputs)

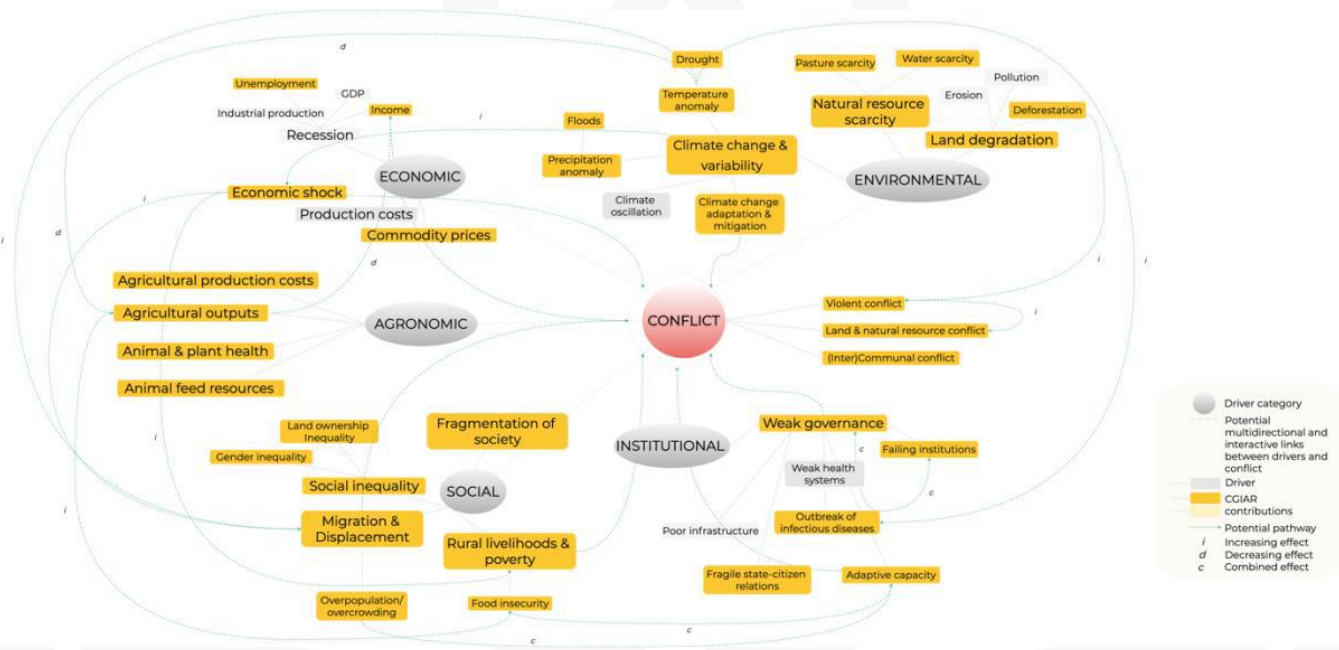


Figure 4. Conflict can be spurred by multidirectional and interactive effects including environmental, institutional/political, social, agronomic, or economic drivers (dashed grey lines). Examples for potential pathways include drivers with either positive (i.e. increasing), negative (i.e. decreasing) or additive (i.e. combined) effects on other drivers and / or conflicts (solid green arrows). Orange boxes indicate CGIAR's work on the prospects for peace.

The 2DI: a call for business as unusual

Along these lines and as CGIAR puts climate change at the center of its future research strategy, the Two-Degree Initiative emerges as an attempt to do AR4D business as unusual. Its development builds on a process to define **a bottom-up agenda** for research in a climate hotspot and **focuses on the ambition** to reach **significant climate change, poverty, nutrition and environmental targets** on low- and middle-income countries.

2DI aims to closely work with delivery and policy partners right from the beginning, co-developing the research agenda and impact pathway to become strategic knowledge providers of the public and private institutions that can support and scale the efforts of the research community towards achieving deep societal impacts.

A set of **Global 2DI Themes** that align with a theory of change for transforming the food system have been proposed (Figure 5) and they will be implemented through **eight regional/geographically focused "Challenges"** (Figure 6), strategic in terms of urgent climate action.

The World Resources Institute (WRI) and Challenge partners conducted a series of stakeholder meetings, or "listening sessions" to initiate the process of partnership building and to set-up locally-defined targets and research priorities.



Figure 5. Proposed 2DI Global Themes that align with a theory of change for transforming the food system.

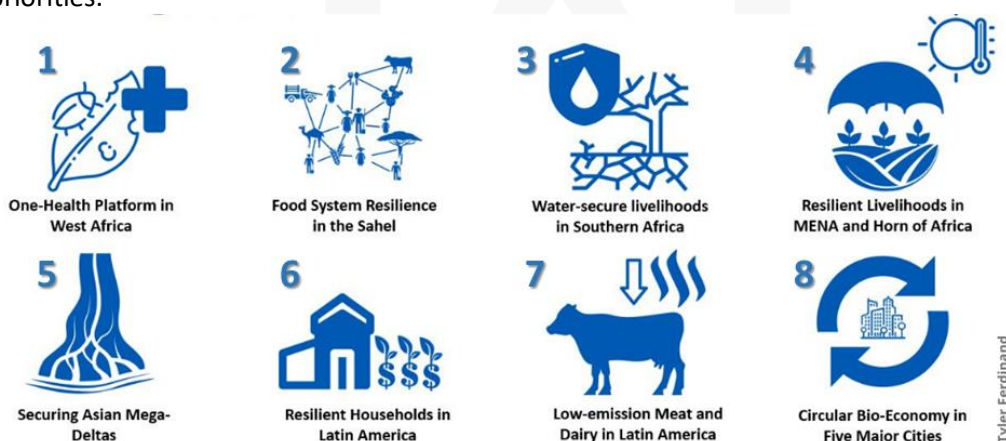


Figure 6. Eight Regional, geographically focused Challenges, strategic in terms of climate action.

The synthesis of these "listening consultations" to be produced by WRI will:

- i. Highlight the key priorities identified for the eight regional Challenges
- ii. Help confirming the initial set of proposed Global 2DI Themes and,
- iii. Inform the Global Commission on Adaptation Report that should shape a 10-year roadmap for action towards climate resilience.

2DI Challenges Consultations and its linkage to the untapped potential of CGIAR science for Peace and Security.

As an additional input to the 2DI bottom-up process, the CGIAR Climate Security team reviewed the reports coming out from the 7 of the 8 regional 2DI Challenges¹ consultations to assess to which extent the identified priorities overlap with the key drivers of conflict (Table 1).

The 8 regional 2DI Challenges include:

- One-health Platform for Climate-driven Pests and Disease in West Africa
- Building Food System Resilience to Climate Shocks in the Sahel
- Climate-resilient and Water-secure Livelihoods for Southern African Drylands
- Sustainable Livelihoods to Counter Fragility in the MENA/Horn of Africa Regions
- Securing the Asian Mega Deltas against Seawater Rise, Flooding, and Salinisation
- Enhancing the Resilience of Climate Vulnerable Households in Latin America
- Transitioning to Low-emissions Sustainable Meat and Dairy Production Landscapes in Latin America
- Facilitating a Climate-resilient and Nutritious Circular Bio-Economy for 5 Major City-regions

The drivers of conflict, reported in peer-reviewed literature, evaluated against the 2DI regional Challenges include:

- Climate change variability/adaptation and mitigation
- Land degradation/water scarcity/resource scarcity
- Migration and Displacement
- Rural livelihoods and Poverty
- Weak Governance
- Commodity Prices
- Social Inequality

Table 1 illustrates how the drivers of climate security are tightly linked to the key research priorities identified by the height 2DI Regional Challenges. This table aims to visualize the overlaps and linkages between the priorities and themes that emerged out of the listening sessions conducted within each challenge framework, and known climate conflict drivers in an effort to demonstrate how much of the challenges' priorities include a climate security dimension. Along the Y-axis is labelled each challenge, followed by the document from which data was used and the lead institution(s) responsible for the consultation process. Along the X-axis are key drivers of conflict that emerged from CGIAR's portfolio review. Within the boxes are key outcomes, objectives, and themes that emerged from the stakeholder listening sessions within each challenge, cross-referenced with the conflict driver, which it would impact. Where available, the color coding represents the link between a particular outcome, objective or theme and a specific stakeholder listening session. Written in italics are outcomes which the documentation does not directly reference, but which nonetheless can be seen to have an implicit or feedback effect upon a known conflict driver.

¹ Reports from the 8th Challenge consultations were not available at the time of this review



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Third Stakeholder Session within Challenge Initiative
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Table 1. Linkages between priorities emerging from the listening sessions conducted within each 2DI Challenge framework, and known climate conflict drivers

		Climate change variability/adaptation and mitigation	Land degradation/ water scarcity/resource scarcity	Migration and Displacement	Rural livelihoods and Poverty	Weak Governance	Commodity Prices	Social Inequality
Challenge Initiatives	Challenge 1: One-Health Platform for Climate-driven Pests and Disease in West Africa 2DI Listening Reporting Template IITA	Consultation Discussion/Breakout Sessions Key Priorities: Ensuring sustainable finance mechanisms to support adaptation to climate change, including more private sector involvement	Consultation Discussion/Breakout Sessions Key Priorities: Ensuring the integrity and sustainability of the natural resource, particularly given ongoing land degradation/high spatial heterogeneity	<i>Facilitating adaptation to climate change and variability and improving the sustainability of natural resources will reduce the incentive for producers to adopt coping strategies such as migrating to urban centres, thereby improving overall system resilience and reducing the risk of conflict</i>	Consultation Discussion/Breakout Session Key Priorities: Improving access/engagement in markets, especially for climate smart products. Particular challenge in dryland systems where physical/financial access limited due to remoteness Development of business models for climate smart products	Consultation Discussion/Breakout Sessions Key Priorities: Improving institutional capacity to plan for climate change, especially at local levels, where there is relatively low awareness of climate change and its impacts Advisories still need to be better tailored to local situations/needs Harmonization across some of the climate information platforms	<i>Improving access/engagement with markets (especially for climate smart products), and the development of climate smart business models, will help sustain affordable and fair commodity prices during transition to climate smart practices/products and thereby both ensuring fair income for producers and maintaining stability of commodity prices, a known pathway to conflict</i>	Consultation Discussion/Breakout Sessions Key Priorities: Deliberate action required to empower women/youth to transform their roles to increase equity in access to information, engagement in markets, capacity to adapt to shocks/climate variability
	Challenge 2: Building Food System Resilience to Climate Shocks in the Sahel Building Food System Resilience to Climate Shocks in the Sahel ICRISAT and WB	Improve the sustainability and adaptive capacity of the food systems productive base	Enhanced governance of land and water resources to prevent and manage conflicts around natural resources	<i>Improved sustainability/resilience of food system, alongside improved natural resource management, reduces the risk of conflict and thereby reduces the risk of displacement/migration, which could feed back into the system and in turn cause more conflict due to socio-economic and cultural tensions</i>	Improved market integration and trade by facilitating trade across key corridors and supporting development of strategic value chains	Digital advisory services for agricultural/ food crisis prevention and management	<i>Improved market integration/development of strategic value chains will contribute towards sustainable livelihoods for producers, in turn reducing incentives to turn to conflict to ensure income</i>	



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<p>Challenge 3: Climate-resilient and Water-secure Livelihoods for Southern African Drylands</p> <p>Climate-resilient and Water Secure Livelihoods for Southern African Drylands: Findings from Stakeholder Conversations</p> <p>IWMI and USAID Resilient Waters Program</p>	<p>Climate resilient farming/water use</p> <p>Early warning systems</p> <p>An appraised body of relevant knowledge</p> <p>Improved technological literacy</p> <p>Scalable Agricultural solutions adapted to withstand better the new norms of climate variability</p> <p>Thematic Work Session 1 (18th June)</p>	<p>Water resource management across boundaries and sectors designed to be flexible and robust (Session 1)</p> <p>Provision of a broad range of data through climate advisory services that supports farming and water management (Session 1)</p> <p>Model suitability of climate resilient crops for the Southern Africa region (Session 1)</p>	<p><i>Climate resilient farming/water use, combined with early warning systems and climate advisory services, all contribute to the maintenance and sustainability of livelihoods. As such, there is less incentive for producers to migrate to other areas, reducing the risk of socio-economic or cultural tensions and therefore the risk of conflict</i></p>	<p>Climate-resilient supply chains populated by businesses that accomplish development impact, that are efficient and secure bottom-line financial/development returns</p> <p>Evidence based Environmental, Social, and Governance frameworks aligned with Paris Agreement and SDGs for investors to use in investment vehicles measuring climate-resilience, greenhouse gas emissions and water security (sustainable finance)</p> <p>Thematic Work Session 3 (3rd July)</p>	<p>Successful coordination mechanisms/ policies to actualise change amongst stakeholders</p> <p>More understanding of climate risks, stakeholders' incentive structures, and constraints for improved cooperation between institutions</p> <p>Thematic Work Session 2 (19th June) Key Outputs/Outcomes</p>	<p><i>Climate-resilient supply chains, combined with the development of investment vehicle frameworks in line with the Paris Agreement and the SDGs, will contribute to the sustainability and stability of commodity prices in the face of changing environmental circumstances, thereby reducing the risk of a known conflict pathway</i></p>	<p>Co-created and co-owned vision, impact pathways, and initiatives with community, including women and youth</p> <p>Safe space for dialogue, networking and sharing</p> <p>Develop suitable incentive structures at community level to engage groups such as women, youth and private sector</p> <p>Thematic Work Session 4 (5th July)</p>
<p>Challenge 4: Sustainable Livelihoods to Counter Fragility in the MENA/ Horn of Africa Regions</p> <p>The MENA Grand Challenge: A Synthesis of the Regional Stakeholder Consultations</p> <p>ICARDA, APRP,</p>	<p>Develop early warning tools for pests/diseases, drought, etc. including e-extension</p> <p>Build on the development of climate smart/abiotic and biotic stress tolerant crops and build a context specific, integrated seed deliver system (Webinar 2)</p> <p>Develop pluralistic, competitive and context specific integrated seed delivery system responsive to diversity of MENA agroecology, farming systems, crops and farmers (Webinar 2)</p> <p>Design digital seed information tools with information on released crop varieties and their key traits relevant to climate change bundled to advisory services (Webinar 2)</p> <p>Thematic Webinar 3, Digital Advisories and Early Warning Systems (22-24 June)</p>	<p>Framework to understand hydrological processes, manage water fluxes, and inform multi-scale agro-food system policy dialogue with water governance/resource planning</p> <p>Thematic Webinar 4, Water Accounting Assessment and Management (22-24 June)</p>	<p><i>Development of climate resilient crops, combined with early warning systems, contribute to the maintenance and sustainability of livelihoods. As such, there is less incentive for producers to migrate to other areas, reducing the risk of socio-economic or cultural tensions and therefore the risk of conflict</i></p>	<p>Sustainable intensification and integrated farming systems</p> <p>Develop efficient, inclusive and profitable value chains around fish and vegetables</p> <p>Digital Advisories and Early Warning Systems to be developed with a value-chain perspective so that smallholders can link with big market dynamics (Webinar 3)</p> <p>Thematic Webinar 1, Climate Smart Value Chains (22-24 June)</p>	<p>Support policy/regulatory reforms to harmonise movement of varieties/seeds across national borders, recognising the increase role of public-private partnerships</p> <p>Support partner engagement in new technologies/services for water management at multi-scalar levels by deepening and expanding models for resolving tensions on water (Webinar 4)</p> <p>Thematic Webinar 2, Integrated Seed Systems (22-24 June)</p>	<p><i>Development of inclusive/profitable value chains around fish and vegetables will ensure diversification of income and ensure both stability of income for producers and consumers</i></p>	



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<p>Challenge 5: Securing the Asian Mega-Deltas Against Sea-Level Rise, Flooding and Salinisation</p> <p>Securing the Asian Mega Deltas Against Sea-Level Rise, Flooding and Salinisation</p> <p>IRRI and </p>	<p>Online Stakeholder Workshops (August), Key Priorities: Development of climate-informed Digital Advisory/Support Service resulting in accessible, qualitative, timely, relevant and comprehensible information for improved coping strategies and community resilience</p> <p>Development of complete climate change adaptation packages for sustainable livelihoods out-scaled for regional heterogeneity</p>	<p>Online Stakeholder Workshops (August), Key Priorities: Climate advisory services leading to informed decision-making regarding resource management</p>	<p><i>Development of complete climate change adaptation packages, underpinned by digital support services, will improve the sustainability of producer livelihoods, ensuring sufficient income to disincentive climate migration and ensure system resilience</i></p>	<p>Online Stakeholder Workshops (August), Key Priorities: Initiative aims to build relevant capacity throughout communities, including women and youth, in areas such as technological literacy</p>	<p><i>Development of digital advisory/support services in providing accessible and comprehensible information for improved coping strategies contributes to a <u>safety net producers</u> have in the absence of adequate protection/support from government</i></p>		<p>Online Stakeholder Workshops (August), Key Priorities: Initiative aims to provide equitable access to safe/nutritious food and equal opportunities in access to resources to pursue a dignified life for women, men and youth through participatory processes and the identification of barriers/opportunities for increasing inclusivity and empowerment</p>



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<p>Challenge 6: Enhancing the Resilience of Climate-vulnerable Households in Latin America</p> <p>2DI Central and Tropical Andes and Central America Listening Report</p> <p>Alliance-Biodiversity-CIAT, CIP</p>	<p>Develop agrobiodiversity for climate resilience by developing diversified systems for income generation, food security, and conservation (Session 2)</p> <p>Incorporate traditional local resilience/adaptation practices and develop extension systems which strengthen resilience/food security (Session 2)</p> <p>Extension systems that strengthen resilience and adaptation practices (Session 2)</p> <p>Promote the use of sustainable agroecological production systems</p> <p>Develop/strengthen capacities to scale out with methods such as FFS, knowledge dialogues, and armer to farmer exchanges</p> <p>Understand and support informal risk management systems and strengthen capacities to support climate resilience</p> <p><i>Thematic Dialogue Session 3, Extension, Climate Services and Integral Risk Management for Increasing Climate Resilience (August)</i></p>	<p>Invest in and develop sustainable water use and efficient water management (e.g. through investment in water harvesting, irrigation and adapted technology)</p> <p>Promote water knowledge systems, capacity building and social innovation hubs</p> <p>Watershed, landscape and territorial approaches for water conservation/management</p> <p><i>Thematic Dialogue Session 2, Agrobiodiversity, Water and Nexus with Energy in Agriculture (August)</i></p>	<p><i>Improving agrobiodiversity, risk management processes, and facilitating knowledge exchange, and thereby increasing food system resilience, ensures a sustainable income/livelihood and disincentivises under-supported farmers from migrating to urban centres, preventing socio-economic/cultural tension.</i></p>	<p>Facilitate sustainable finance through development of affordable, accessible and equitable financial mechanisms benefiting poor rural households. Also link markets to consumers and establish market mechanisms (Session 3)</p> <p>Link markets to consumers by understanding market mechanisms (Session 3)</p>	<p>Promote knowledge sharing with local innovation hubs through working with multi-actor, multi-level and multi-sector platforms with a systemic perspective</p> <p>Research, development/innovation to create effective and demand-driven low carbon and climate resilient innovation portfolios Support and compensation mechanisms (PES, government, benefit sharing etc.) (Session 2)</p> <p>Deepen quality and continuity of support services and deepen understanding of horizontal extension methods (Session 3)</p> <p>Institutionalisation of climate services (Session 3)</p> <p><i>Thematic Dialogue Session 1, Policies, Institutions and Sustainable Finance (August)</i></p>	<p><i>Development of sustainable financial mechanisms benefitting poor rural households, support and compensation mechanisms, as well as efforts to link markets to consumers, all contribute to ensuring both a fair price for the producer as well as reducing the cost of the consumer, thereby contributing to food security, a key pathway to conflict</i></p>	<p>Understand climate and non-climate threats on rural women and youth livelihoods through generational lenses</p> <p>Understand agriculture-climate dynamics nexus and how it affects women/s and youth's role in the community and food system resilience building</p> <p>Understand youth's role in supporting innovative extension services and go-generation of knowledge</p> <p><i>Thematic Dialogue Session 4, Participatory Research, Gender, Youth and Social Inclusion for Increasing Climate Resilience (August)</i></p>

