

## ***Sustainable Development Goals (SDGs) and Research Areas of CCCS Network***

<b>Sustainable Development Goals (SDGs)</b>	<b>Research Areas</b>	<b>Participation of CCCS Member Institutions</b>
<p><b>SDG 2: Zero Hunger</b> <i>End hunger and ensure safe, nutritious and sufficient food for all</i></p>	<ul style="list-style-type: none"> <li>• Agriculture productivity/ Food Security</li> <li>• Malnutrition</li> <li>• Resilient Agricultural Practices</li> <li>• Genetic Diversity of Seeds</li> <li>• Agricultural Waste Management</li> <li>• Improving Agricultural Land</li> <li>• Climate Smart Agriculture</li> <li>• Climate Smart Agriculture</li> <li>• Food safety/Food quality</li> <li>• Value added food</li> <li>• Post-harvest losses reduction and management</li> <li>• Genetic improvement of livestock</li> <li>• Tree crops for household food security</li> </ul>	<ul style="list-style-type: none"> <li>• CIF, Colombia</li> <li>• CCC&amp;SD, NRC, Egypt</li> <li>• University of The Gambia</li> <li>• CSIR, Ghana</li> <li>• West Africa Science Service Centre on Climate Change &amp; Adapted Land Use (WASCAL),Ghana</li> <li>• University of Tehran, Iran</li> <li>• RSS, Jordan</li> <li>• CCCS, KazNu</li> <li>• CCCS, Nigeria</li> <li>• CCRD, Pakistan</li> <li>• Al-Quds University, Palestine</li> <li>• ITI, Sri Lanka</li> <li>• CCCS-IRCC, Agricultural Research Center-Sudan</li> <li>• TIRDO, Tanzania</li> </ul>
<p><b>SDG 3: Good Health &amp; well Being</b> <i>Ensure healthy lives and promote well-being for all at all ages</i></p>	<ul style="list-style-type: none"> <li>• Health &amp; Nutrition</li> <li>• Impacts of Environmental Toxicology on Health</li> <li>• Monitoring and Dispersal of Vectors of Infectious Diseases</li> <li>• Supplementary food for specific patients.</li> <li>• Safe drinking water / Functional food formulation.</li> <li>• Traditional herbal based food</li> </ul>	<ul style="list-style-type: none"> <li>• CCC&amp;SD,NRC, Egypt</li> <li>• ICENS, Jamaica</li> <li>• RSS, Jordan</li> <li>• ICCBS, Pakistan</li> <li>• CCRD, Pakistan</li> <li>• Al-Quds University, Palestine</li> <li>• ITI, Srilanka</li> <li>• CCCS-IRCC, FMOH- food research Center-Sudan</li> </ul>
<p><b>SDG 4: Quality Education</b> <i>Foster International Collaboration in ensuring education</i></p>	<ul style="list-style-type: none"> <li>• Sustainable Community Development and Education</li> <li>• Community Capacity building for Sustainable Development</li> </ul>	<ul style="list-style-type: none"> <li>• CCCS, KazNu</li> </ul>
<p><b>SDG 6: Clean Water and Sanitation</b> <i>Ensure access to water and sanitation for all</i></p>	<ul style="list-style-type: none"> <li>• Water Resources Management</li> <li>• Water Quality</li> <li>• Hydrology</li> <li>• Water Recycling</li> </ul>	<ul style="list-style-type: none"> <li>• IFRD,BCSIR,Bangladesh</li> <li>• ICCES, China</li> <li>• CIF, Colombia</li> <li>• CCC&amp;SD,NRC, Egypt</li> <li>• University of The Gambia</li> </ul>

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	<ul style="list-style-type: none"> <li>• Wastewater Treatment</li> <li>• Water Metering and Pricing</li> <li>• Groundwater Management</li> <li>• Agriculture Runoff Pollution</li> <li>• Salt Water Intrusion</li> </ul>	<ul style="list-style-type: none"> <li>• CSIR, Ghana (Water Research Institute)</li> <li>• University of Tehran, Iran</li> <li>• RSS, Jordan</li> <li>• ICENS, Jamaica</li> <li>• CCRD, Pakistan</li> <li>• Al-Quds University, Palestine</li> <li>• ITI, Sri Lanka</li> <li>• NCPC and CCCS at IRCC, Higher Council for Natural Resources-Sudan</li> <li>• TIRDO, Tanzania</li> <li>• CERTE, Tunisia</li> <li>• Environment and Cleaner Production Institute (ECPI),TUBITAK MRC, Turkey</li> </ul>
<p><b>SDG 7: Affordable and Clean Energy</b> <i>Ensure access to affordable, reliable, sustainable and modern energy</i></p>	<ul style="list-style-type: none"> <li>• Renewable Energy (Solar, Wind and Biofuel)</li> <li>• Energy Efficiency</li> <li>• Biotechnology Applications for production of Biogas and Biofuel</li> </ul>	<ul style="list-style-type: none"> <li>• IFRD,BCSIR, Bangladesh</li> <li>• University of The Gambia</li> <li>• RSS, Jordan</li> <li>• Al-Quds University, Palestine</li> <li>• ITI, Sri Lanka</li> <li>• NCPC, CCCS and UNESCO chair on Technology transfer at IRCC, General Directorate of Renewable Energy</li> <li>• TIRDO, Tanzania</li> <li>• Environment and Cleaner Production Institute (ECPI),TUBITAK MRC, Turkey</li> </ul>

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<p><b>SDG 11: Sustainable Cities and Communities</b>  <i>Make cities inclusive, safe, resilient and sustainable</i></p>	<ul style="list-style-type: none"> <li>• Mitigation of GHG Emissions</li> <li>• Air Quality</li> <li>• Solid Waste Management</li> <li>• Wastewater Management</li> <li>• Environmental Impacts of Urbanization</li> <li>• Environmental Toxicology</li> <li>• Adaptation Measures Against Climate Risks</li> <li>• Impacts of Urbanization on Regional Climate Change</li> <li>• Urban Weathers and Climate Extremes (urban flooding and Urban Heat Island)</li> <li>• Noise levels</li> <li>• Safe disposal of wastewater</li> <li>• impact of climate change on critical infrastructure</li> <li>• Natural Disasters and Economy</li> <li>• Land use change and physical planning imperatives</li> </ul>	<ul style="list-style-type: none"> <li>• ICCES, China</li> <li>• CCC&amp;SD,NRC, Egypt</li> <li>• University of The Gambia</li> <li>• University of Iran, Tehran</li> <li>• ICENS, Jamaica</li> <li>• RSS, Jordan</li> <li>• CCCS, KazNu</li> <li>• CCRD, Pakistan</li> <li>• ITI, Sri Lanka</li> <li>• NCPC- NLTC, CCCS at IRCC and University of Khartoum (U of K)- Sudan</li> <li>• TIRDO, Tanzania</li> <li>• Environment and Cleaner Production Institute (ECPI),TUBITAK MRC, Turkey</li> </ul>
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<p><b>SDG 13 : Climate Action</b> <i>Take urgent action to combat climate change and its impacts</i></p>	<p>Mitigation for Climate Change</p> <ul style="list-style-type: none"> <li>• Impacts and vulnerability assessment on major socioeconomic sectors</li> </ul>	<ul style="list-style-type: none"> <li>• ICCES, China</li> <li>• CIF, Colombia</li> <li>• CSIR, Ghana</li> <li>• University of The Gambia</li> <li>• University of Ghana Centre for Climate Change and Sustainability Studies (C3SS)</li> <li>• ICENS, Jamaica</li> <li>• CCCS, KazNu</li> <li>• CCCS, Nigeria</li> <li>• CCRD, Pakistan</li> <li>• ICCBS, Pakistan</li> <li>• Al-Quds University, Palestine</li> <li>• ITI, SriLanka</li> <li>• UNCST, Uganda</li> <li>• FHENR, IRCC-Sudan</li> <li>• TIRDO, Tanzania</li> <li>• CERTE, Tunisia</li> <li>• Environment and Cleaner Production Institute (ECPI), TUBITAK MRC, Turkey</li> </ul>
	<p>Adaptation to Climate Change</p>	<ul style="list-style-type: none"> <li>• CCC&amp;SD, NRC, Egypt</li> <li>• CSIR, Ghana / University of Ghana Centre for Climate Change and Sustainability Studies (C3SS) / West Africa Science Service Centre on Climate Change &amp; Adapted Land Use (WASCAL), Ghana</li> <li>• University of Tehran, Iran</li> <li>• RSS, Jordan</li> <li>• CCRD, Pakistan</li> <li>• ITI, Sri Lanka</li> <li>• NCPC , CCCs at IRCC and FHCENR -Sudan</li> <li>• TIRDO, Tanzania</li> <li>• CERTE, Tunisia</li> <li>• Environment and Cleaner Production Institute (ECPI), TUBITAK MRC, Turkey</li> </ul>
	<ul style="list-style-type: none"> <li>• Multi-scale characteristics</li> </ul>	<ul style="list-style-type: none"> <li>• CIF, Colombia</li> </ul>

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	<p>of regional climate change, with focus on weather and climate extremes</p> <ul style="list-style-type: none"> <li>• Quantitative evaluation of climate change impact on water resources, agriculture, energy, etc</li> <li>• Enhancement of Prediction capability for multi-scale hydro-meteorological disasters</li> <li>• Projection of future climate change and its uncertainty analysis</li> <li>• Geographic Information System/ Remote Sensing</li> <li>• Meteorological Modeling</li> </ul>	<ul style="list-style-type: none"> <li>•</li> <li>• ICCES, China</li> <li>• University of Tehran, Iran</li> <li>• U of K and IRCC-Sudan</li> <li>• CCRD, Pakistan</li> <li>• TIRDO, Tanzania</li> <li>• CERTE, Tunisia</li> </ul>
<p><b>SDG 15: Life on Land</b> <i>Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss</i></p>	<ul style="list-style-type: none"> <li>• Biodiversity conservation /Ecosystem</li> <li>• Land Degradation and Desertification</li> <li>• Environmental Policy</li> <li>• Sustainable Land Use</li> <li>• Land Use and Land Cover Changes</li> <li>• Analysis of the impact of climate change on the biodiversity (climate models)</li> </ul>	<ul style="list-style-type: none"> <li>• CIF, Colombia</li> <li>• ICCES, China</li> <li>• CCC&amp;SD,NRC, Egypt</li> <li>• University of The Gambia</li> <li>• CSIR, Ghana</li> <li>• CSIR, Ghana / West Africa Science Service Centre on Climate Change &amp; Adapted Land Use (WASCAL)</li> <li>• University of Tehran, Iran</li> <li>• ICENS, Jamaica</li> <li>• CCCS, KazNu</li> <li>• CCCS, Nigeria</li> <li>• CCCS-IRCC and ENDRI, CCCS-NRC at IRCC and UNESCO chair on Desertification –Sudan</li> <li>• CERTE, Tunisia</li> </ul>