# Report of the WHO South-East Asia Regional meeting on nutrition and climate change

## 14–16 May 2024

## Kathmandu, Nepal


World Health Organization
REGIONAL OFFICE FOR South-East Asia

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# I. Background

Climate change and nutrition have a bidirectional relationship. Climate change will have a marked impact on many aspects of health, including nutrition and food security. Climate related events will impact global crop productivity, reduce nutritional quality of crops as well as impact availability of foods. The resulting rise in food prices and hunger will mainly impact populations in Sub-Saharan Africa, South and South-East Asia where 80% of the global poor live. Conversely, food systems contribute to climate change through the release of greenhouse gases (GHG) and through land degradation, biodiversity loss, and pollution of air, land, and water including through the extensive use of food packaging. Biodiversity, climate change and nutrition are closely interconnected at every level (genetic, species and ecosystem) and is a foundational pillar for food security, nutrition and dietary quality and variety. The global goal of the Paris Agreement (the legally binding international treaty on climate change signed by 196 Parties at the 21st Conference of Parties (COP21) in 2015) involves halving GHG emissions and keeping the global temperature rise to <1.5 °C.

Climate change exacerbates malnutrition by decreasing food availability and access and negatively impacting various aspects of life such as work, health, and living conditions. This affects people of all ages, with women and young children being particularly vulnerable. The consequences include increased rates of undernutrition, micronutrient deficiencies, and noncommunicable diseases. Malnutrition further weakens the health and resilience of vulnerable populations, perpetuating a cycle of poverty, ill health, and decreased ability to adapt to climate change.

Changing environmental conditions also facilitate the transmission of many water-borne, air-borne, food-borne and vector-borne pathogens, with potential knock-on effects on food safety and nutrition. The financial and human capacity of health systems will be stretched further owing to the climate change-related rising incidence of infectious and chronic diseases. This added strain on already fragile health systems can lead to huge disruptions and disparities in access to care, and delay in achievement of universal health coverage and global targets for improved nutrition and health.

The 27th Conference of the Parties of the UNFCCC (COP27) for the first time placed nutrition at the centre of climate negotiations. Since then, WHO has been advocating and providing technical guidance for actions on nutrition and climate change through the establishment of the I-CAN (Initiative on Climate Change and Nutrition) and other measures. The 2023 I-CAN Baseline Assessment Report assessed the integration of climate change and nutrition, revealing untapped opportunities for joint action. Globally, only a small fraction of Nationally Determined Contributions (NDCs) and Green Climate Fund grants include plans to address nutrition or malnutrition. Similarly, very few governments have concrete strategies for incorporating climate considerations into food purchasing for schools and social protection programs, or into government and business nutrition commitments.

In the South-East Asia Region, 30 million children under 5 years are stunted, 24 million are wasted, and a significant portion of older children are overweight or thin. Additionally, over a third of women of reproductive age suffer from anemia. Despite efforts to combat undernutrition and address obesity and unhealthy diets, climate change will negatively impact the global burden of undernutrition, anaemia, obesity, diabetes, and other NCDs. Without adaptive measures, achieving global nutrition targets and Sustainable Development Goals related to nutrition and health may become unattainable.

Urgent implementation of transformative policies that address the intersection of nutrition and climate change are a must. Coordinated efforts are needed to enhance the adaptability of health/nutrition systems to climate change impacts. Raising awareness of the reciprocal relationship between nutrition and climate action, fostering policy coherence among nutrition, health, and climate change agendas, and integrating nutrition interventions into climate change adaptation and mitigation strategies are crucial. Strengthening both intra and intersectoral coordination is essential for these efforts.

While the South-East Asia Region's Strategic Action Plan aims to address the double burden of malnutrition and urges governments to prioritize adaptation measures for climate change, progress remains limited. Strengthening linkages between nutrition and climate change requires multi-sectoral adaptation actions across sectors and systems: health, agriculture and food systems, social protection, water and sanitation systems, industry and others. This workshop offered an opportunity to bring together key stakeholders to discuss and prioritize actions to mainstream nutrition considerations into climate change and health policies and programs across the Region. The event also included partners such as FAO, WFP, and the Scaling Up Nutrition (SUN) movement, who shared their experiences and expertise in transforming food systems to enhance food security and improve population nutrition.

# II. Meeting purpose and objectives

### Overall objective

To strengthen interlinkages between nutrition and climate change, and to identify opportunities for integration towards improved nutrition and health outcomes.

### Specific objectives

- To provide a platform for exchange of information and experiences on the impact of climate change on nutrition and biodiversity, their interlinkages and recommended actions to be initiated.
- To build capacity to advocate the importance of strengthening policy coherence between climate change and nutrition policies to ensure optimum adaptation and mitigation of climate change.
- To identify priority actions in countries to accelerate investment and integrated action on nutrition and climate change.

Meeting participant list in provided in **Annexure I**.

# III. Proceedings and session summaries

## Session 1. Opening Session

The meeting opened with remarks of Ms. Saima Wazed, Regional Director, WHO South-East Asia Region, delivered by Dr. Rasheed Hussain, Regional Adviser- Water, Sanitation and Climate Change.

**Key messages** from the Regional Director:

- Improvements in nutrition in WHO's South-East Asia Region have been encouraging, but a significant burden yet remains, and is likely to be worsened by climate change.

- WHO, as a member of the Alliance for Transformative Action on Climate and Health, strives to support countries to realize the goal set at COP26 to build climate resilient and sustainable health systems.
- WHO also recently established a working group, the *Initiative on Climate Change and Nutrition (I-CAN)* which uses the combined strength of WHO Member States and other stakeholders to promote the integration of climate change and nutrition into respective national, regional, and global plans.
- Climate change and health and nutrition has been given a high consideration in the Region, through the endorsement of Resolutions such as the Malé Declaration that committed to build health systems resilience to climate change.
- At the country level, it is paramount to ensure a better integration of nutrition considerations in climate change planning processes. So too is an equal consideration of climate change impacts, along with dietary impacts, in nutrition. These are urgent country priorities.
- Review done by SEARO of relevant policies in 2020 shows that there has been little realization of such initiatives by member states and multiple opportunities exist for coordinated action to prepare health-nutrition systems to be adaptive to climate change.
- Policy coherence and multi sectoral coordination across sectors such as agriculture, water and sanitation, social protection and health and nutrition is the need of the hour. There is also a need to scale up evidence based essential nutrition interventions while ensuring a healthy and sustainable food system and environment.
- Data linking nutrition with climate indicators will support early actions when necessary.
- This is an initial meeting, the main aim of which is to identify actions that result in country level outcomes which urgently addresses climate change and nutrition in policies and programmes.

This was followed by the opening remarks delivered by Dr. Dipendra Raman Singh, the Additional Secretary of Ministry of Health and Population, Nepal.

**Key messages:**

- Addressing nutrition and climate change in isolation is insufficient. It requires collaboration and partnerships across different sectors- health, agriculture, environment, economic development, industry, academia and civil society.
- *Nepal Demographic Health Survey report 2022* shows a decreasing trend in the prevalence of stunting among under five age group, from 57% in 2001 to 25% in 2022. While this is a commendable achievement, the aim should be to eradicate it entirely.
- While progress has been made in ensuring food security in the country, there are increasing emerging challenges such as drought leading to malnutrition and hunger in many areas. Climate change is one of the major threats for nutrition and health of people in Nepal.
- Nepal has managed to cut multi-dimensional poverty in alignment with the SDG goal on cutting multi-dimensional poverty by half in 15 years. On the other end, overweight and obesity is still a problem due to excessive intake of high amounts of fat, salt, sugar and inactive lifestyle. This is leading to increasing incidence of hypertension, diabetes and other non-communicable diseases.

- The World Bank estimates that undernutrition causes losses of up to 3% of economic development. Thus, improving nutrition requires breaking the cycle of poverty for sustainable economic development.
- Nepal is one of the first countries to make a commitment at the COP26, has completed the climate change and health vulnerability and adaptation assessment with consideration of nutrition related issues. Based on this assessment, the country has also developed a health national adaptation plan (2023-2030)
- Nutrition and climate change is a new area of work for a country like Nepal and others in the region, and this meeting will support the strengthening of the interlinkages between these areas, in the ongoing work in the country.
- While the region is the food bank of the world, food security remains a grave concern. With collective efforts of diverse stakeholders, it is possible to develop innovative solutions, implement effective policies and interventions to scale up a more sustainable and resilient food system for future generations.
- It is important to create a strong foundation for addressing the issues of nutrition and climate change and one of the key outcomes of the meeting should be the development of actionable plans to address nutrition and climate change, with a potential to safeguard the lives of the most vulnerable populations.

Following the opening remarks by Dr. Singh, Dr. Hussain Rasheed then outlined the key objectives of the meeting and outlined the structure and organization of the three-day event. He highlighted the unique nature of this meeting, with participation from different sectors and line ministries, emphasizing that its success relies on cross-sector collaboration. He urged for active discussions towards the development of action plans to drive coordinated efforts on nutrition and climate change.

This was followed by administrative announcements and a group photo and tea break.

## Session 2- Global and regional overview of the interlinkages between climate change, biodiversity, nutrition and its impact on health outcomes

This session aimed to provide participants with a comprehensive overview of the advances in Global initiatives and actions on climate change, biodiversity and nutrition led by global platforms, coalitions, e.g. FAO, WHO and other agencies. It also aimed to present a Regional overview on the current state of nutrition and climate change.

**Speakers and key messages**

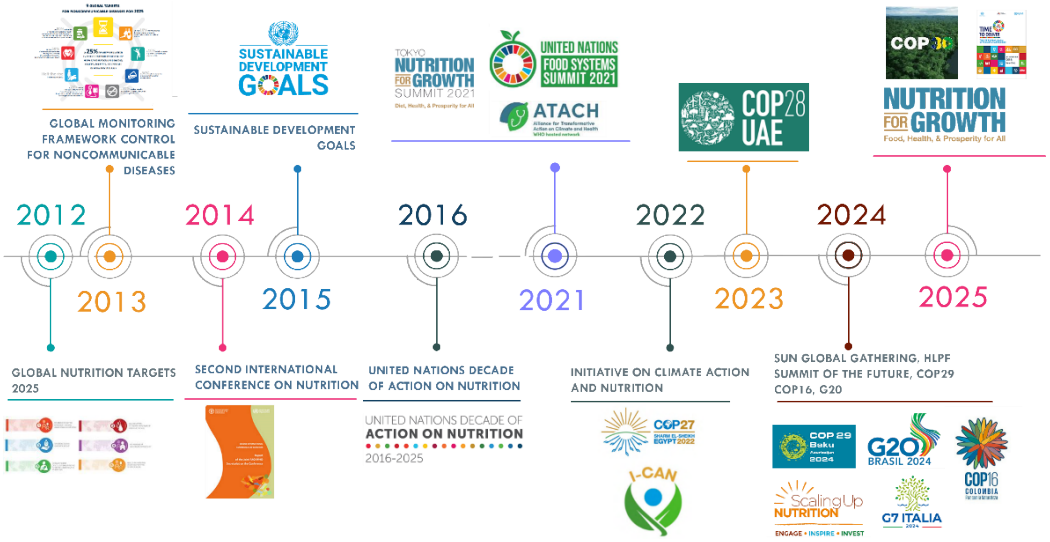
**Global overview – Climate Change & Nutrition-** *Lina Mahy, Department of Nutrition and Food Safety, WHO HQ*

Lina Mahy's presentation emphasized the interconnectedness of climate change, nutrition, healthy diets, and food systems transformation in achieving the Sustainable Development Goals (SDGs). She outlined key engagements, initiatives, and milestones linking climate change and nutrition, focusing on major events like the UN Food Systems Summit and COP28 in the UAE.

**Key milestones and reports highlighted:**

- *IPCC Special report (2019)* highlighted the importance of diversification in the food system to reduce the risk of climate change. It also highlighted that dietary shift to more diverse, plant-based diets are major adaptation and mitigation opportunities, while generating human health co-benefits.
- The *6th assessment report of the IPCC* (2023) presented additional evidence linking climate change and its risks to livelihoods, biodiversity loss, health and food systems. The report indicates that climate change will disrupt food supplies and lower nutritional quality of crops. It also highlights that food system diversification can reduce these risks, while on the demand side, adopting healthy and sustainable diets can support adaptation efforts.
- In 2022, the UN Environment Programme (UNEP) document, *"The Closing Window"* emphasized the urgent need to transform food systems to lower greenhouse gas emissions. It identified 4 action areas, if addressed, could reduce food systems emissions to one-third of their current levels by 2050. These action areas include, protection of natural ecosystems, dietary changes, improvements in farm food production and decarbonization of food supply chains.


- The UN has identified transforming food systems as one of six critical shifts or transformations needed to accelerate progress toward the Sustainable Development Goals (SDGs). Over the past year, UN Sustainable Development Group committed the UN development system to an operational shift that embraces a systems approach that focuses on these six (6) interconnected and complex key transitions, each backed by strong political momentum.




- The year 2013 saw the adoption of the global nutrition targets and the global non-communicable diseases targets with no linkages to environment and climate change.
- The narrative began to shift in 2014 with the *2nd International Conference on Nutrition (ICN2)*. The Rome Declaration, the outcome document endorsed by 162 member states and the EU, acknowledged the need to address climate change and other environmental impacts on food security and nutrition. It emphasized that food systems must be sustainable, resilient, and efficient to provide diverse foods equitably while considering environmental health. The Declaration includes 10 commitments for member states to foster sustainable food systems by creating cohesive public policies from production to consumption, aimed at meeting nutritional needs and ensuring safe, diverse, and healthy diets.
- In 2015, the adoption of the SDG agenda with its 17 goals, including SDG 2 —focused on ending hunger, achieving food security, improving nutrition, and promoting sustainable agriculture— highlighted the connection between nutrition and sustainability, particularly through its targets. Notably, Target 2.4 under SDG 2 emphasizes the need for sustainable food production systems. Additionally, SDG 13 calls for urgent action to combat climate change and its impacts, with Target 13.2 specifically advocating for the integration of climate change measures into national policies, strategies, and planning.
- The year 2016 saw the launch of the UN Decade of Action on Nutrition (2016-2025), a ten-year period dedicated to investing in nutrition.
- In 2021, the *UN Food Systems Summit*, the *Tokyo Nutrition for Growth Summit (N4G)* and *UN Climate Change Conference in Glasgow (COP26)*, strengthened commitments to linking climate change with food systems and promoting healthy, sustainable diets. During COP26, the Alliance for Transformative Action on Climate Change and Health (ATACH) initiative was launched.
- In 2022, at the COP27 in Egypt the Initiative on Climate action and Nutrition (I-CAN) was launched.
- A wealth of evidence, endorsements, and commitments justify linking climate action to nutrition, with more opportunities arising this year and next. These include the G20 in Brazil (2024), the SUN global gathering in Rwanda (November 2024), COP16 on Biodiversity in

Colombia, the Nutrition for Growth (N4G) Summit in France (2025), COP29, and the High-Level Meeting on NCDs, given the link between climate and environmental impact of ultra-processed foods.

- The workplan of the currently ongoing UN Decade of Action on Nutrition (2016-2025) has 6 action areas and one of those action areas focuses on action on sustainable and resilient food systems for healthy diets.
- A joint publication between WHO and FAO on the guiding principles for sustainable healthy diets, published in 2019, outlines 16 principles across health, environment and socio-cultural aspects.
- In 2019, the Eat Lancet Commission published a report on healthy diets from sustainable food systems, establishing global scientific targets for healthy diets within sustainable food production. These universal scientific targets were integrated into a common framework, defining a safe operating space for food systems.
- Another important document, is CFS Voluntary guidelines on Food Systems and Nutrition (2020), a negotiated document, adopted by the Committee on World Food Security (CFS), representing 141 member states. These voluntary guidelines aim to promote policies and actions that improve health, livelihoods, and well-being, encourage sustainable food production and responsible consumption, protect and promote sustainable use of natural resources, biodiversity, and ecosystems, and support climate change mitigation and adaptation.
- The UN General Assembly resolution on the right to a healthy environment (2022) encompasses key elements such as clean air, safe and sustainable climate, access to safe water and adequate sanitation, healthy and sustainably produced food, non-toxic environments to live, work, study and play and healthy biodiversity and ecosystems.
- The UN Food Systems Summit (2021), supported by WHO from the outset, saw WHO serve as the UN anchor for Action Track 2, aimed at promoting healthy and sustainable consumption patterns. Following the summit, a UN coordination hub was established, featuring a website with extensive information on countries' food systems transformation pathways. Over 120 countries have developed these pathways, which are accessible for download and exploration through a dashboard that allows users to filter and analyze the data. Additionally, the hub provides information on the post-summit ecosystem of support established for all non-state actors and coalitions, including the Coalition of Action on Healthy Diets from Sustainable Food Systems, hosted by WHO with the support of 20 member states and other non-state actors.

**COP28 Outcomes:**

- The 2023 UN Climate Change Conference (COP28), held in Dubai, UAE, marked an important event for health, nutrition and food systems transformation. It featured the launch of the following documents:

    - **Global Stock take Outcome Document**: For the first time, this document explicitly mentions the importance of food systems and nutrition (in paragraphs 55 and 66), as well as health and healthy environments**.** Notably, it also calls for transitioning away from fossil fuels, underscoring its relevance in global climate discourse.

- **Declaration on climate change and health**: Signed by 149 countries, this declaration emphasizes the urgency of tackling climate change and promotes the shift toward sustainable and healthy diets**.**
- **Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action**: This declaration asserts the need for immediate adaptation and transformation of agriculture and food systems. Signatories commit to scaling up adaptation and resilience efforts, aiming to protect vulnerable food producers.
- Additionally, there is a **non-state actors call for transforming food systems**, which is endorsed by 204 organizations.

**Country Status and Future Opportunities:**

- The table below indicates the status of countries concerning their engagement in food system transformation pathways, membership in the Coalition of Action on Healthy Diets, ATACH, and endorsement of the two key declarations referenced above. The overarching message highlights substantial opportunities for countries to participate and endorse these critical initiatives.

| Country | FST pathway | HDSFS | ATACH | COP28-Climate & Health | COP28-Climate & Food |
|---|---|---|---|---|---|
| Bangladesh | √ | X | √ | √ | √ |
| Bhutan | √ | X | √ | √ | √ |
| DPR Korea | X | X | X | X | X |
| India | √ | X | X | X | X |
| Indonesia | √ | X | X | √ | √ |
| Maldives | X | X | √ | √ | √ |
| Myanmar | √ | X | X | √ | X |
| Nepal | √ | X | √ | √ | √ |
| Sri Lanka | √ | X | √ | X | √ |
| Thailand | X | X | X | X | √ |
| Timor-Leste | √ | X | √ | X | X |

The presentation concluded with upcoming opportunities for action and advocacy by member states. This included:

1. **77th World Health Assembly (WHA77 in May 2024)**: The agenda presents several opportunities to discuss and connect issues around climate, food systems, and nutrition**,** such as antimicrobial

resistance, social determinants of health, and maternal and child nutrition. Delegations can highlight the importance of addressing climate change across these areas.

2. **Session on Climate Change and Health**: A resolution on climate change and health, sponsored by countries like the Netherlands and Peru, is expected to be adopted. Additionally, there will be discussions on WHO's 14th General Program of Work (2025-2028)**,** which designates climate change as one of its six strategic objectives.
3. **Roundtables and Side Events**: A significant roundtable on climate and health will be held on 1 June 2024, and various member state-led side events will focus on these topics.
4. **Call to Action**: Governments, UN bodies, and non-state actors can act by utilizing a One Health approach, developing food-based dietary guidelines with climate considerations, and reviewing national food systems transformation pathways to ensure a strong focus on nutrition.
5. **Engagement in Global initiatives**: Initiatives such as I-CAN**,** ATACH**,** and the Healthy Diet Coalition offer opportunities to strengthen commitments at the national level and promote these agendas in international forums.

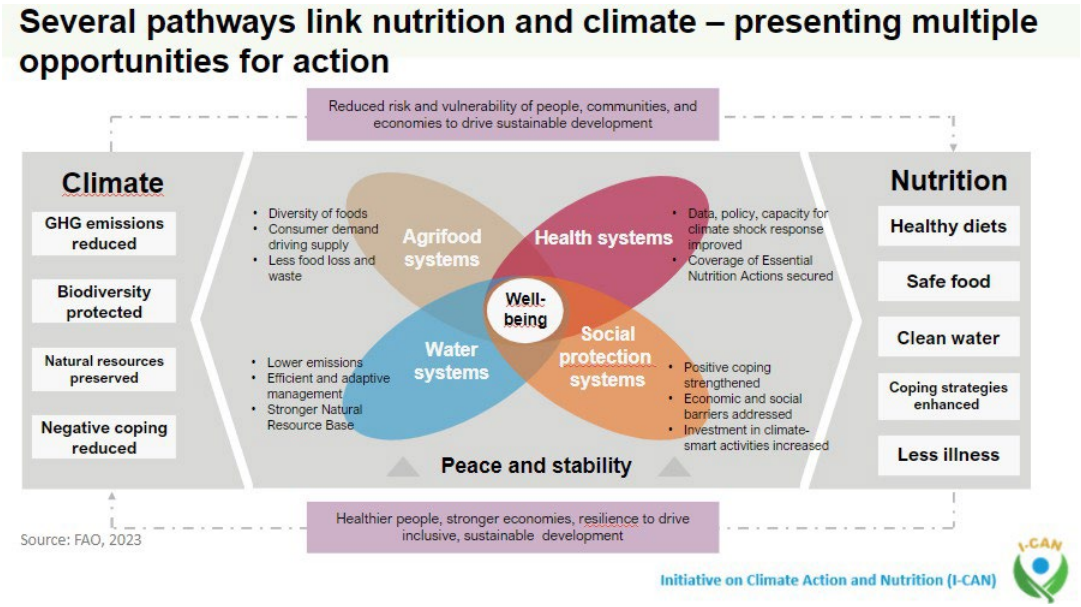
**Alliance for Transformative Action on Climate and Health (ATACH) –The Initiative on Climate Action and Nutrition ( I-CAN) Working Group- Key functions, priorities, initiatives -***Jessica Colston, The Global Alliance for Improved Nutrition (GAIN)*

At COP26, the health community made significant strides by prioritizing human health in climate negotiations, leading to commitments from 80 countries, including six in the WHO South East Asia region, to enhance climate resilience and reduce emissions in health systems. The WHO-led Alliance for Transformation Action on Climate Change and Health (ATACH) supports these commitments, with Initiative on Climate Action and Nutrition (I-CAN), co-convened by Egypt and GAIN, as one of its working groups.

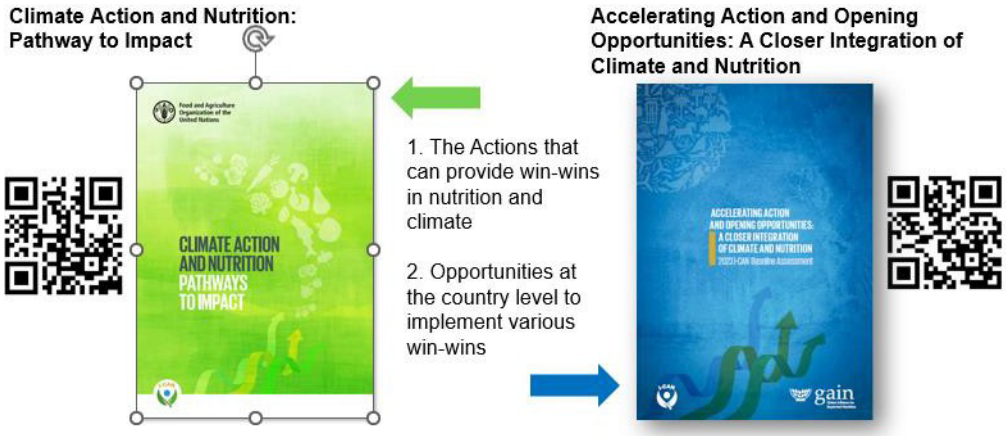
Jessica Colston from GAIN, co-convener of I-CAN, outlined I-CAN's mission to integrate climate and nutrition policies and foster a coalition of champions for climate and nutrition action.

**Key messages:**

Climate change will greatly impact food production and the affordability of nutritious foods, posing challenges for health systems. Addressing climate change is essential for safeguarding nutrition, as changes in food systems, like shifts in dietary patterns, also affect greenhouse gas emissions. I-CAN aims to identify actions that simultaneously enhance nutrition and mitigate climate change, focusing on areas where climate and nutrition intersect, such as health systems, water and sanitation, and social protection systems, to build resilience in both.




Since its inception, I-CAN has published two reports. The first report by FAO outlines win-win actions that benefit both nutrition and climate across food, health, and water systems. The second report, led by GAIN, assesses the current state of climate and nutrition integration, identifying where more action is needed.




Findings show low policy integration, with only 2% of climate policies addressing nutrition, 95% of nutrition commitments lacking climate considerations, and 83% of public food procurement policies ignoring climate or sustainability. Despite these gaps, countries in Africa, Asia-Pacific, and Latin America are leading in integrating nutrition into climate policies. The private sector and financing are also areas needing stronger action; only 1% of aid funding explicitly mentions nutrition in climate-related projects.

This analysis underscores the need for greater integration in climate and nutrition policies, as well as in private and financial sectors, to strengthen commitments. The speaker concluded by stressing that addressing climate and nutrition together can be more impactful, with I-CAN providing support, data, and fostering collaboration to achieve this.

**Sustainable agri-food systems and climate change - key interventions identified at a global level which would work for the Asia Pacific region (Nature-positive Food Systems for Sustainable Food Production under Climate Threats)-** *Dr. Warren T K Lee, Senior Nutrition & Food Systems Officer, FAO-Regional Office for Asia and the Pacific (RAP)*

Climate change has a significant impact on agricultural productivity and practices, including food production, distribution, and consumption patterns, which in turn impacts food security, dietary diversity, and overall nutrition outcomes. Thus, it's crucial to develop strategies that mitigate these effects and strengthen resilience within food systems.

Dr. Warren T. K. Lee's presentation centered on solutions for establishing a sustainable, nature-positive food system in the face of climate threats.

**Key messages:**

Current food systems are failing to provide healthy diets, leading to widespread food insecurity, malnutrition, and rising obesity. Climate change both impacts and is impacted by food production, with agriculture contributing heavily to greenhouse gas emissions, water scarcity, biodiversity loss, and soil degradation. Livestock production, deforestation, and food waste further strain the food system, making it vulnerable to climate stress.

One-third of global greenhouse gas emissions come from agri-food systems, with livestock alone accounting for 74% of these emissions. Food loss and waste contribute another 10%. Additionally, 70% of global freshwater is used for irrigation, driving water scarcity. Intensive farming degrades soil and pollutes the environment, and to expand farmland, countries resort to deforestation, worsening desertification and biodiversity loss. This loss of habitat increases the risk of plant and livestock diseases and limits food diversity, with diets heavily reliant on a few staple crops and animals, increasing vulnerability to climate impacts.

Food safety is at risk due to overuse of pesticides and antibiotics, leading to crop yield declines, reduced nutrient content, and rising malnutrition. A nature-positive approach is needed to address these challenges, focusing on:

- **Protection**: Safeguarding natural ecosystems to prevent land conversion for agriculture.
- **Sustainable management**: Promoting sustainable food production that conserves soil, water, and biodiversity.
- **Restoration**: Rehabilitating degraded lands to strengthen ecosystem resilience.

FAO's approach supports countries through integrated food system programs, community engagement, and science-driven solutions. It emphasizes governance, financing, environmental benefits, and knowledge-sharing, targeting key areas such as rice, maize, livestock, and aquaculture. Solutions prioritize biodiversity conservation, sustainable forestry and water management, reducing food waste, improving crop yields, and food safety, alongside educating consumers on sustainable diets.

The speaker concluded that adopting nature-positive solutions can address climate challenges, support biodiversity, and develop sustainable food systems that provide nutritious food year-round, while promoting resilience and minimizing environmental harm.

**Climate Change and Nutrition -Regional overview-** *Dr. Angela De Silva- Regional Adviser, Nutrition and Health for Development (NHD), WHO SEARO*

Dr. Angela De Silva's presentation highlighted the health sector's role in collaborating with other sectors to support nutrition and climate-resilient initiatives. It provided a brief overview of the regional context, followed by an exploration of the conceptual framework on nutrition and the gaps in nutrition policies and services at the regional level. Key points from the discussion are summarized below:

- **Challenges in Linking Commitments**: While there are many global and regional commitments to achieving SDGs, clearly understanding and linking these commitments can be challenging. Nutrition is crucial for SDGs, and addressing regional gaps in policies and services is essential.
- **Gaps in Nutrition Interventions**: Addressing current gaps in nutrition coverage and practices requires more than scaling up existing interventions; a greater focus on climate-adaptive, nutrition-sensitive approaches is necessary.
- **Health Sector's Role in Adaptation**: The health sector should prioritize adaptation to climate change, as climate impacts like increased malnutrition, stunting, and food insecurity particularly affect vulnerable groups, including young children.
- **Positive Regional Trends and Ongoing Issues**: Though stunting rates have decreased and breastfeeding has increased, challenges such as rising obesity, NCDs, and food insecurity are worsening, mainly due to climate change impacts on food systems.
- **Need for Climate-Responsive Nutrition Programs**: Multisectoral action plans exist but often lack integration between nutrition and climate. Nutrition programs must be climate-informed, and data collection should be strengthened to assess climate effects on vulnerable populations.

**Summary of Recommendations:**

1. Improve coordination between health, environment, and nutrition sectors.
2. Focus on climate adaptation within nutrition programs.
3. Implement practical actions at the country level, like integrating climate resilience into health policies.
4. Enhance data collection to fill knowledge gaps on climate impacts on nutrition.
5. Advocate for accessible, healthy diets and promote sustainable consumption to influence food production and encourage responsible food choices.

**Country case study 1- Impact of flooding events on agricultural production and introduction of subsidy programmes for food security and building community resilience in Timor-Leste**

The presentation discussed the impact of climate hazards, such as flooding and droughts, on agricultural production in Timor-Leste, which has impacted Timor Leste's already fragile nutrition and food safety and security, along with the introduction of a subsidy program to enhance food security and community resilience. With a population of 1.34 million, Timor-Leste faces common climate hazards like island and coastal floods, heatwaves, wind gusts, coastal and island erosion, landslides, and droughts. Key health priorities related to climate change in Timor-Leste include preventing malnutrition, managing climate-related mental health risks, addressing malaria and dengue outbreaks, reducing diarrheal diseases, improving water and sanitation systems, and investing in climate-resilient health services.

Climate change has resulted in rising temperatures and fluctuating rainfall patterns, impacting agriculture and food security. Timor-Leste's agricultural sector, which supports 80% of the population, has been severely affected by these challenges. Key issues include reduced production of crops like paddy and maize, low soil fertility, increased pest infestations, and food losses due to a lack of infrastructure. The government has responded to these challenges by providing food subsidies and agricultural support, such as rehabilitating irrigation schemes, cash transfers to the poor, agri-seeds and tools to help disaster-affected communities improve food security. However, there remain significant challenges, including low investment in agribusiness (unavailability of infrastructure, water and essential inputs for farming) and limited home food production/diversification; heavy focus on policy development, inter sectoral coordination, training –but limited focus on implementation and routine programme monitoring and course correction; Conflicting policies – many subsidies are quoted to be counterproductive for food production – cheap food imports, veteran subsidies, etc.

Key lessons learned highlight the need for more infrastructure, local capacity building, external aid, and addressing inflation. Multiple government ministries and international partners like FAO, WHO, and WFP are involved in efforts to strengthen food security and nutrition.

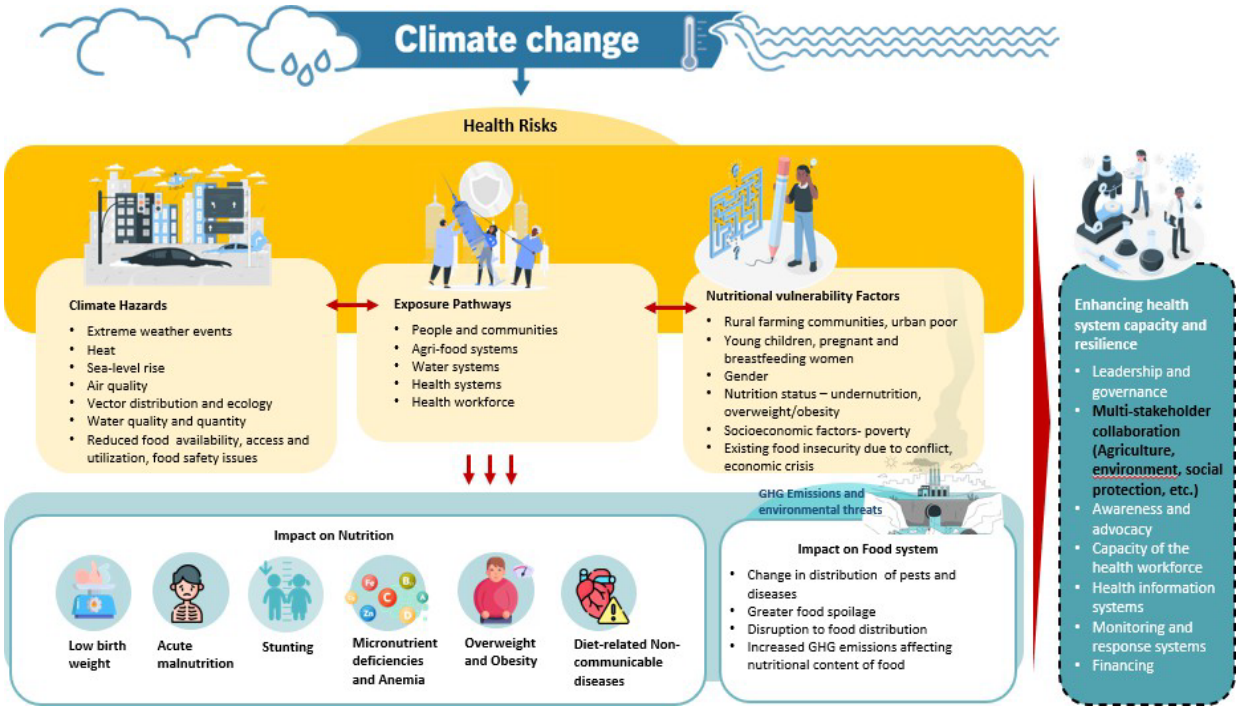
## Session 3: Key drivers for improved climate-nutrition outcomes

The main goal of this session was to identify key drivers that, when addressed, can enhance climate nutrition outcomes, followed by a discussion on the enablers, barriers, and existing opportunities informed by country experiences.

**Key drivers for the linkages between climate change and nutrition: An introduction-** Faustina Gomez, Technical Officer, Water, Sanitation and Climate Change unit, WHO-SEARO

The presentation focused on integrating climate and nutrition considerations into policies, actions, data, and finance. Key points included:

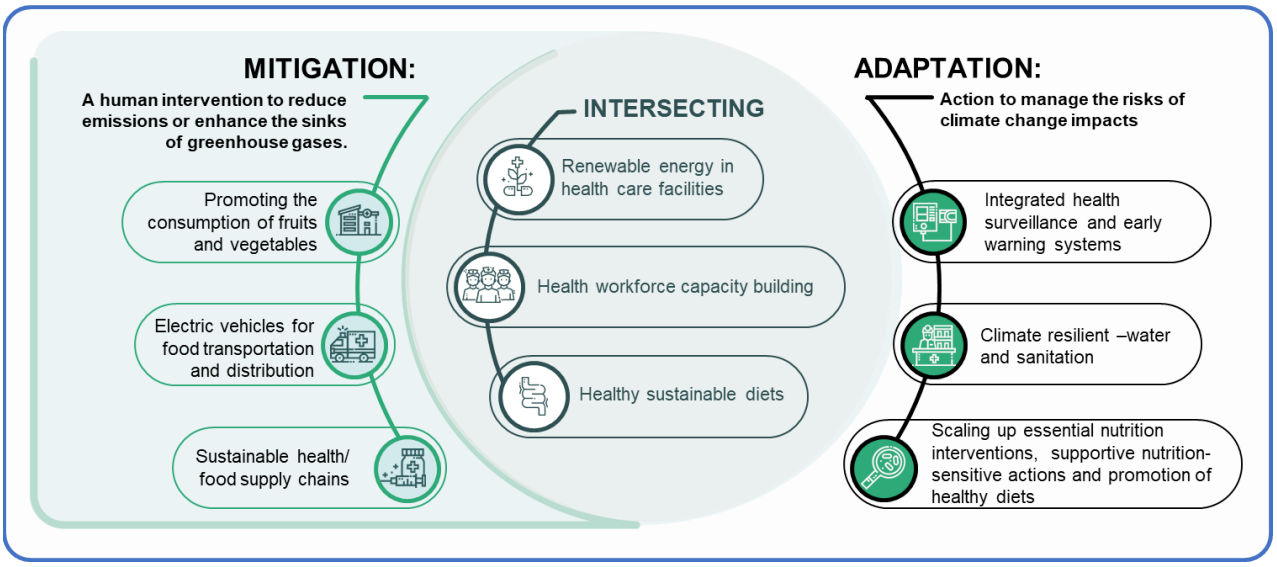
1. **Health Risks and Climate Impact**: Health risks stem from climate-related hazards, exposure, and vulnerabilities (e.g., gender, nutritional status). This combination negatively impacts nutrition and health, increasing morbidity and mortality risks.




2. **Complex Relationship**: Nutrition and climate change have a complex, reciprocal relationship, where resilience in health and nutrition systems plays a key role in determining nutritional vulnerability to climate impacts.
3. **Need for Urgent Action**: Global nutrition targets are unlikely to be met by 2025, with only 15% of Sustainable Development Goals (SDGs) on track, and SDG 2 ("End hunger, achieve food security and improved nutrition, and promote sustainable agriculture") falling short. Climate change is projected to cause 250,000 premature deaths and push over 100 million people into extreme poverty by 2050, further impacting nutrition.
4. **Strengthening Climate-Nutrition Linkages**: Strengthening the link between climate change and nutrition is essential for two main reasons:

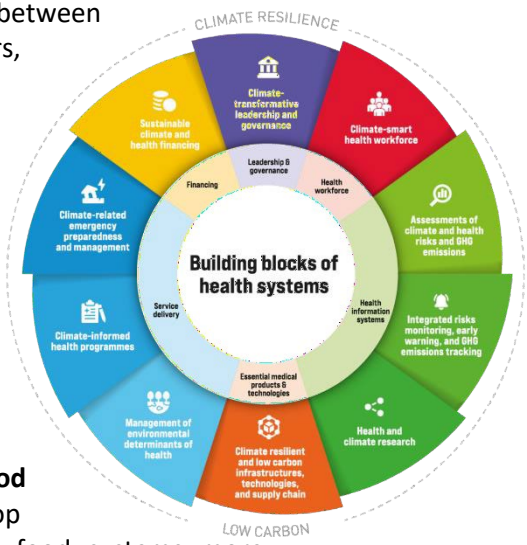
- Ensuring nutrition and food systems can withstand climate impacts on food availability, access, utilization, and stability to meet dietary needs, especially for vulnerable populations.
- Reducing greenhouse gas emissions from food systems and ecosystems.

- **Adaptation and Mitigation**: Many climate-related nutrition and health risks can be addressed through reducing exposure, building resilience (adaptation), and decreasing GHG emissions (mitigation). Adaptation involves implementing strategies to prepare for and respond to the health risks posed by climate change, aiming to increase resilience and reduce vulnerabilities, while **Mitigation,** aims to reduce greenhouse gas emissions and address the root causes of climate change. Examples are as shown in the image below.




The [WHO Operational framework for building climate resilient and low carbon health systems Framework (2023)], based on the health system's six building blocks, provides a roadmap for creating climate-resilient, low-carbon health and nutrition systems by:

- **Strengthening leadership and inter-sectoral coordination** between health, agriculture, environment, finance, and other sectors, ensuring nutrition integration in NDCs, NAPs, and HNAPs.
- **Building workforce capacity**: Enhancing health workforce skills related to nutrition and climate change.
- **Strengthening data and evidence**: Supporting informed decision-making through strengthened data on climate and nutrition.
- **Conducting comprehensive assessments (Vulnerability and Adaptation assessments) integrating nutrition**: V&A's should integrate nutrition-related, climate-sensitive health risks to inform national climate strategies. (i.e. HNAPs, NAPs, etc.)




- **Promoting technologies to enhance the resilience of food systems**: Supporting technologies and approaches (e.g., crop diversity, biodiversity, food waste reduction) to make food systems more resilient.
- **Enhancing service delivery**: Scaling up essential nutrition actions, promoting healthy diets, addressing WASH, and preparing for extreme weather events.
- **Monitoring progress**: Setting measurable targets for adaptation and mitigation in the area of nutrition and climate change
- **Mobilizing finance**: Securing funds for nutrition-focused adaptation and ensuring adequate budget allocation in NAPs to address nutrition issues.

These points are detailed in the booklet provided to participants at the beginning of the session.

**World café- Areas for country action on key drivers linking climate change and nutrition**

The session was organized as a world café, and groups were requested to discuss key gaps/barriers and opportunities for integrated action on climate change and nutrition for the following areas.

- Strengthening leadership and governance
- Capacity building of the health/nutrition workforce
- Strengthening health/nutrition information systems
- Strengthening climate action in nutrition service delivery
- Climate resilient and sustainable technologies in agri-food systems
- Climate, health and nutrition financing

The main highlights from these group discussions were shared in the plenary and are outlined below:

**<u>Strengthening leadership and governance</u>**

- **Strengthen inter-ministerial policy steering committees**: Build on existing committees that include technical experts from policy, academia, and non-policy sectors. These committees should focus on integrating nutrition and climate change into institutional frameworks. Their roles include:

    - Allocating human and financial resources for prioritizing nutrition and climate change.
    - Using data to create policy briefs and decisions for senior policymakers, including cost and return-on-investment analysis.
    - Raising awareness among senior policymakers about the importance of investing in nutrition and climate change, with a curriculum developed to explain the linkages, following Thailand's model.
- **Incorporate voices from all levels**: Ensure local voices from district, provincial, and village levels are heard alongside national-level perspectives. These local voices should highlight challenges related to agri-food systems, nutrition, and climate change, offering locally-driven recommendations. India's Climate Resilient Villages initiative serves as an example for South-South collaboration.
- **Data accountability**: Digitalized and visualized data will enhance transparency and help policymakers make informed decisions. This will also facilitate resource allocation and ensure accountability.
- **Revise policies/strategies and laws**: Policies, strategies, and laws should be updated to integrate climate change and nutrition through a multi-stakeholder approach, involving the private sector, academia, and civil society.
- **Develop a structured financing system**: Create a financial framework that supports climate, nutrition, and the One Health agenda, using a bottom-up approach. This should include:
    - Budget codes in every ministry to ensure the inclusion of climate and nutrition priorities. E.g. Nepal's use of budget codes for climate and nutrition is an example.
    - Engaging the private sector in financing efforts.
- **Launch global collaborations at national levels**: Global initiatives like I-CAN should be launched at national levels, with a multi-stakeholder approach aligned with national commitments.
- **Amplify voices of key stakeholders**: Ensure that youth, farmers, fishermen, and livestock farmers—particularly women—are represented in policy discussions. Build their capacity to reduce the effects of climate change and raise awareness of the links between climate, nutrition, and soil health. Businesses need to be brought into the conversation with clear ethical practices and accountability frameworks. Their contributions must be monitored and regulated by the government.
- **Develop outcome-based monitoring and accountability frameworks**: Develop indicators to monitor and track progress on climate and nutrition actions and a financing and investment framework for government-led initiatives. E.g. Financing should shift from aid to trade, with a system that monitors, tracks, and visualizes outcomes. Both public and private sector contributions must be transparent and aligned with a systems approach to financing climate and nutrition initiatives.
- **Access global climate financing**: Work with regional bodies to secure access to global climate financing, with clear asks aligned with national commitments.

### i) Capacity Building of the Health/Nutrition workforce

The discussion on capacity building of the health and nutrition workforce focused on several key gaps and enablers:

**Capacity Gaps Identified**:

- **Lack of training and curriculum**: There is no training or structured curriculum on climate change and nutrition for the health workforce, from decision-makers to grassroots workers.
- **Human Resources (HR) capacity**: There is a shortage of skilled personnel in nutrition and climate, and suggestions were made to address this gap through institutional capacity development and conducting assessments to address skill gaps.
- **Multidisciplinary HR**: The need for workers with multiple skills was highlighted, but this was seen as challenging to implement.
- **Coordination gaps**: Lack of collaboration and coordination among stakeholders was identified as a barrier.

**Proposed Enablers**:

- **Training and curriculum development**: Develop tailored training and curricula for the health and nutrition workforce on climate change and nutrition.
- **Institutional Capacity Building**: Improve HR capacities at various levels, including decision-making and implementation, while exploring multidisciplinary roles.
- **Coordination mechanism**: Establish a coordination mechanism to enable better collaboration and resource use across sectors.
- **Technology and tools**: Develop capacity not just in knowledge but also in using sustainable technology and tools.
- **Research and Development (R&D)**: Build capacity to identify research gaps and improve R&D within the nutrition workforce.
- **Private sector engagement**: Equip the nutrition workforce to engage with and support capacity development of the private sector.

Additionally, the role of grassroots-level workers was also discussed. Grassroots nutrition workers can empower communities by improving their capacity for climate adaptation, such as home gardening and reducing consumption of processed foods. They can share local-level nutrition data with stakeholders for collective action on climate issues. In emergencies, they should be better equipped to address malnutrition and other climate-related health challenges. They can also form volunteer groups, involving schoolchildren and others, to bring innovative solutions to climate-nutrition issues at the community level, and support identification of indigenous and traditional food practices that can be scaled up at the community level.

The overarching theme of the discussion was empowering the workforce at all levels to act on climate and nutrition issues, from advocating at the national level to mobilizing local communities and sharing data for collective decisions.

### ii) Strengthening Health/Nutrition information systems

The discussion in this group focused on the key enablers for strengthening health and nutrition information systems and included the following-

1. **Strengthening vulnerability and adaptation assessments**

    - Existing vulnerability assessments often lack nutrition modules. There is opportunity to integrate nutrition into these assessments and vice versa, to avoid creating new systems.

- Pre-service and in-service curriculums should integrate nutrition (status, diets, services) and climate resilience to ensure these are part of the system.
- Government indicators exist but are not well-collated or interoperable. There's a need for systems that visualize and feed back data into decision-making.

**2. Strengthening integrated surveillance and early warning systems**

- Establish an integrated and interoperable system that combines nutrition (status, diets, services), food insecurity, and climate vulnerability surveillance. Merge separate tools and mechanisms to improve efficiency.
- Early warning systems use physical science data, which could be better integrated into other areas like nutrition for broader preparedness.

**3. Strengthening Research**

- Utilize existing policy-academia platforms to identify and prioritize key research questions. Engage relevant academic networks and non-public actors to address these questions through government-led mechanisms.
- Research on nutrition and climate change lacks prioritization and budget. Governments should identify research questions that can inform policy.

    - Establish or activate platforms for dialogue to share findings from research, program monitoring, and surveillance systems.
    - Utilize methods and metrics e.g. cost-benefit analysis, across systems for better decision making.

**iii) <u>Strengthening climate action in nutrition service delivery</u>**

Discussions within this group concluded that nutrition services should be integrated into preparedness, crisis response, and post-crisis recovery. This includes data collection, dissemination, and forecasting to improve emergency preparedness and response. The key gaps and enablers that emerged from these discussions are as outlined below-

**Gaps Identified:**

- Lack of surveillance systems to forecast and inform about nutritional impacts.
- Some countries have not developed National Adaptation Plans (NAP), and even where plans exist, climate-related nutritional services are often not included or prioritized.
- Poor multi-stakeholder coordination is hindering service delivery.
- No dedicated budget for providing nutritional services during climate crises.
- Healthcare workers lack adequate knowledge on how to mitigate climate-related nutritional risks.
- Gaps in equitable access to nutritional services, especially for vulnerable populations, across social and geographical boundaries.
- Information gaps e.g. Lack of linkage between seasonal crop availability and hospitals procuring nutritious foods which prevents the procurement of locally available, seasonal, and affordable foods during crises to maintain nutritional services.

**Opportunities for Improvement:**

- Leverage existing programs like child welfare, maternal health, and NCD clinics to incorporate crisis-related nutrition services.
- Enhance healthcare workers capacity to address climate-related nutritional issues.
- Engage other service providers like community-based organizations, religious leaders, women's groups, and the private sector in delivering nutrition services during crises.
- Identify a climate-resilient food basket that can be made available during crisis periods, ensuring access to seasonal, nutritionally rich, and affordable food.
- Utilize NCD clinics and other existing health infrastructure e.g. RMNCH and programs for the elderly, to promote healthy diets during crises.

### iv) Climate Resilient and Sustainable Technologies in the Agri-food system

Below is a summary of the discussion on promoting climate-resilient technology in agri- food systems:

**Gaps Identified:**

- **Multi-sectoral coordination and governance:** Climate and nutrition issues are divided across various sectors, making coordination difficult.
- **Financing:** Lack of financial resources to introduce and promote new technology for climate-resilient food systems.
- **Knowledge gaps:** Farmers, consumers, and extension workers lack awareness of technological advances and intersectoral linkages between agriculture and climate change, and also lack training to use these climate-resilient technologies.
- **Data and vulnerability assessments:** Current assessments are sector-specific (e.g., health-focused) with a lack of integrated data across sectors. Added to this is the lack of data on impact of climate change on agri-food systems.
- **Monitoring and surveillance-Supply Chain Management:** Challenges in technology for reducing food waste and poor understanding of points of intervention to prevent food loss.
- **Research and Development:** Shortage of trained manpower to use technology and challenges in sustaining pilot programs. Lack of research and development for climate resilient technology.

**Opportunities for improvement:**

- **Indigenous knowledge:** Countries have untapped traditional knowledge, such as seasonal land management, that can be leveraged for building climate resilience in the agri-food sector
- **Climate-resilient crops:** Availability of hybrid and climate-resilient crops that can be scaled up across the region.
- **Forecasting and early warning systems:** Availability of efficient forecasting and early warning systems which are easily accessible through mobile applications and are scalable.
- **Cross-Learning Institutions:** Availability of academic institutions/resource centres to promote cross learning.
- **Government Policies:** Governments are implementing policies (insurance, subsidies) that support adoption of climate-resilient technologies.

- **Affordable Technology:** Domestic production is making technology more affordable and accessible.
- **Streamlining Procurement Processes:** Improving the efficiency of procurement is critical to allow faster access to technology for accelerated implementation
- **Innovative Solutions** e.g. hydroponics, floating farms, and the use of IT and artificial intelligence in agriculture.

These gaps and opportunities highlight the need for better coordination, financing, and technology adoption while leveraging traditional knowledge and new innovations to build more climate-resilient agriculture systems.

### v) Climate, health and nutrition financing

Here's a summary of the discussion on gaps, barriers, and opportunities related to nutrition financing and climate integration:

**Gaps identified:**

- **Integration of nutrition into climate policy:** Nutrition integration into climate strategies is still relatively new and has not yet been fully prioritized by most countries.
- **Awareness and advocacy:** A lack of planning, awareness, and advocacy, especially towards policymakers, budget bureaus, and politicians, is a significant barrier.
- **Sectoral budgeting:** The absence of a dedicated budget line for nutrition across sectors, combined with uncoordinated budgeting among stakeholders, poses a challenge.
- **Coordination and collaboration:** There is a lack of coordination among line ministries and stakeholders working within countries, making it difficult to align resources and strategies.
- **Inadequate data and evidence:** Insufficient data and evidence hinder the ability to make a strong case for prioritizing nutrition financing.
- **Limited human resource capacity:** Limited capacity in generating evidence-based arguments for nutrition financing adds to the challenge.
- **Sustainable technology and integrated systems:** Challenges in integrating data systems for nutrition remain, given the complexity of nutrition across different sectors.
- **Involvement of the finance sector:** The lack of engagement from the finance sector in nutrition-related initiatives is a notable gap.
- **Championing agency:** There is no clear champion or entity to lead and push forward nutrition financing efforts across sectors.
- **Global health adaptation fund:** The concept of a Global Health Adaptation Fund was mentioned as a potential need, though its existence is unclear.
- **Promotion of local, nutritious food:** There is insufficient awareness and promotion of healthy, indigenous foods, which are often expensive, limiting their integration into nutrition financing strategies.

**Opportunities for improvement:**

- **Capacity building and dialogue:** Initiatives like the current discussion present an opportunity to build capacity and raise awareness about nutrition financing.

- **New evidence and advocacy:** Opportunities exist for generating new evidence and advocacy targeted at policymakers, politicians, and the finance sector to boost nutrition financing.
- **Utilizing existing action plans:** Existing action plans and multi-sectoral platforms can be leveraged to advocate for increased attention and resources for nutrition.
- **Engagement of the finance sector:** Proactively involving the finance sector presents a major opportunity to address nutrition challenges.
- **Technology integration:** Existing technologies can be used as integrated platforms to advance nutrition financing and governance.

This discussion highlights the critical gaps in nutrition financing and the need for stronger coordination, advocacy, and evidence generation, while also identifying opportunities to engage various stakeholders and leverage existing frameworks to push forward nutrition and climate integration.

**Country case study 2 - Integration of nutrition in health vulnerability and adaptation assessments and national adaptation plans in Nepal**

In Nepal, climate change is becoming a significant challenge, and the country is exploring integrating climate change, nutrition and health. The Ministry of Forest and Environment (MoFE), 2021 reported that climate change was responsible for production losses in agriculture worth 1.5 % of GDP.

Nepal has experienced rising temperatures above the global average, affecting agriculture, food security, and nutrition. Reports indicate changes in rainfall patterns, melting glaciers, and increased droughts, which significantly impact livelihoods.

Agriculture, contributes 27% to the GDP and employs 63% of the population, is central to the economy. However, 20% of the population lives below the poverty line, and food- and nutrition-related diseases remain a major burden.

While some initiatives have been undertaken, much more is needed to integrate nutrition and climate-sensitive health in national planning. E.g. Climate Change policy, 2019 considered "Agriculture and Food Security" as one of the major climate affected areas. Ministry of Health conducted a Vulnerability Adaptation Assessment (VAA) and reported that "climate events reduce agricultural productivity by 76%.; Compared to men, women have higher perception of risk of climate variability and associated impacts on food security. Specific hill districts were more vulnerable"

Nepal has developed key frameworks, such as the Health National Adaptation Plan (HNAP)**, a** National Adaptation Plan (NAP)**,** and a Vulnerability and Adaptation Assessment (V&A)**.** These documents highlight the impacts of climate change on various sectors, including agriculture, nutrition, and health. National Adaptation Plan, is a costed plan, and the total value is about 47 billion up to 2050, off which 11.2 billion is accorded to the agriculture and food sector.

While key documents mention the importance of watershed management, crops, and food security, nutrition lacks a detailed focus. Research linking climate change, health, and nutrition is also scarce.

The main challenges include insufficient financial resources, lack of advocacy at all levels of government, and limited cross-sectoral collaboration. Although there are separate programs for climate, health, and nutrition, their integration is still underdeveloped. There is a need for stronger financial support, collaboration, and research to effectively address the nexus of climate change, health, and nutrition in Nepal.

Nepal aims to promote collaboration across sectors, advocate for climate-informed policies, and invest in research and development. It plans to develop early warning systems for climate-sensitive diseases, enhance food security, and protect health from the impacts of malnutrition.

**Country case study 3-Nutrition and climate change in Bangladesh**

Bangladesh is the seventh most vulnerable country to climate change, facing 185 extreme weather events from 2000 to 2019. Rising temperatures, increasing sea levels, and waterborne diseases like cholera and diarrhea are significant concerns. By 2050, over 9 million people in southern Bangladesh may be displaced due to sea level rise.

Tropical cyclones, heatwaves, and droughts are key climate impacts, damaging infrastructure, displacing people, and destroying crops. Climate change has a severe effect on Bangladesh's gross domestic product (GDP) and food security. Rising carbon dioxide levels may lead to micronutrient deficiencies, and vulnerable populations, especially mothers, are at risk of health issues like pre-eclampsia or gestational hypertension due to increased salinity levels in drinking water from sea-level rise.

In response, Bangladesh has developed a National Adaptation Plan (2023–2050) and other policies to promote climate-resilient agriculture, fisheries, and livestock. Actions include extending climate-smart agriculture, managing agri-inputs, and strengthening value chains. The National Nutrition Policy and National Plan of Action on Nutrition aim to mitigate climate change's impact on nutrition through adaptation strategies and gender-sensitive, climate-smart technologies.

Several operational plans have been implemented, including sensitization meetings and advocacy efforts in climate-vulnerable districts (Sillet, Sonamgon, Gaibandhan, Kurigam). The government has also stockpiled nutrition items e.g. anthropometric equipment, nutrition supplements, carried out disaster preparedness activities, and supported revitalization of farming and non-farming activities. Noteworthy initiatives include climate-resilient housing, rooftop gardens, floating agriculture, and stress-tolerant seeds for year-round vegetable farming.

Multiple ministries and stakeholders are involved in promoting food security and climate-smart agriculture. The way forward includes developing a national nutrition adaptation plan, strengthening institutional capacities, building awareness, training health workers, and improving food storage and supply chains to prevent pre- and post- harvest loss.

**Expert session: Nutrition & Climate Change – Overview-** Prof. Kraisid Tontisirin, Member, International Award Committee, Prince Mahidol Award Foundation, Bangkok, Thailand

This presentation discussed the complexities of addressing nutrition and climate change, emphasizing the integration of multiple systems: agricultural, food, health, and climate systems. Agriculture starts with food production and transitions into a larger food system that prioritizes safety, quality, and trade, ultimately aiming for food and nutrition security, cultural connection, economic opportunity, and environmental sustainability. Smart farming, good agricultural practices, food processing, trade, and consumption all play key roles in improving food systems.

The importance of enabling mechanisms such as value chains, reducing food loss, and fostering partnerships (5P: public, private, professional, people partnership) was stressed. Fair income for farmers, innovation, and capacity building was also emphasized.

In discussing food security, the FAO definition of food security was referenced, and challenges like climate change, conflict, pandemics, poverty, and inequality, were highlighted, pointing out that even without climate change, food insecurity is a major issue. The importance of linking food security with health systems, sanitation, and disease prevention, was elaborated, underscoring nutrition as a bridge between food and health.

Malnutrition issues in South Asia, specifically India, were highlighted while advocating for meeting global nutrition goals such as reducing stunting and low birth weight and implementing food-based approaches, including improving food quality, fortification, supplementation, and public health measures. Community-based action and integration of macro-level policies was also emphasized.

Thailand's success story in poverty alleviation through nutrition as an indicator was drawn upon, which involved community action, training, and supervision and highlighted the importance of measurable goals and indicators for complex issues like nutrition and climate action, as well as the role of volunteer and community mobilization in achieving success.

Lastly, the presenter emphasized the need for multi-stakeholder involvement (public, private, professional, and people) to effectively manage and address complex issues such as nutrition, climate change, and sustainable development.

***** Day 1 close *****

*****Day 2 *****

The day began with participants sharing their thoughts and reflections on the previous day's discussions. Bhutan highlighted the need for clarity on the shift toward plant-based foods, emphasizing the importance of animal-sourced foods in addressing micronutrient deficiencies. Maldives expressed concerns about adapting climate change and nutrition strategies, noting that 90% of their food is imported, making agriculture limited. Sri Lanka raised the point that malnutrition indicators should be monitored across sectors, not just health. Thailand mentioned the need for a framework to work on climate change and nutrition, while Timor-Leste emphasized improving training approaches and integrating technology for data collection. Nepal stressed the importance of capacity building, public awareness, and promoting indigenous crops for nutrition, while India called for a multi-life cycle approach targeting adolescents, women, and improving complementary feeding behavior. Bangladesh underscored the need for better coordination among ministries and behavior change efforts.

## Session 4. Country status presentations on nutrition and climate change

The main aim of this session was to have countries in the region share the status of nutrition and climate in terms of vulnerabilities, gaps, progress, adaptive actions taken at the country level. Templates for the poster, as shown below, were shared in advance of the meeting and countries were requested to bring along with them a printout of the poster, in the size specified, for display at the meeting venue. Each country presented their poster during this session. For an overview of country presentations, refer the table below.

**SNAPSHOT** | Country **status** on **Nutrition** and **Climate Change**
**<Country>**

<Flag>

## 9 Q

Country context

| | |
|---|---|
| Population | |
| Staple diet/s ( e.g. rice wheat, barley, maize, etc.) | |
| Crops most vulnerable to climate change *(if national level information available)* | |
| Prevalence of moderate and severe food insecurity(%) | |
| Prevalence of undernourishment(%) | |

Progress- Key nutrition indicators

| Indicators of nutrition status in the population | Current status |
|---|---|
| **Children< 5 years** | |
| Stunting | |
| Wasting | |
| Overweight | |
| Prevalence of anaemia<br>Vitamin A- Service coverage<br>**Infant and young child feeding**<br>% children exclusively breastfed at 6 months | |
| Minimum acceptable diet<br>6-23 months | |
| **Older children and adolescents** | |
| Prevalence of thinness | |
| Prevalence of overweight | |
| **Adults-Women in reproductive age-group** | |
| Prevalence of anaemia | |
| **Adults- Men and women 18-65 years** | |
| Prevalence of overweight (men) | |
| Prevalence of overweight (women) | |

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Climate hazards & nutrition vulnerability

Key climate hazards **!e.g.** extreme heat, draught, floods, sea level rise, etc.) and current and projected increase in incidence {Trendgraph) [Data may be extracted from the national health vulnerability and adaptation IV&A) report]
Key risks posed by climate change to nutrition jcontextual to the country)
Current/projected increase/decrease in the incidence of undernutrition, food and water borne diseases, etc. !trend graph)
Current and estimated decrease in agricultural production as a result of climate change (graph, if available)
Change in cost and affordability of a Healthy diet 2015-2021/2 {trend graph)
Percentage population unable to afford a healthy diet (trend graph)
Data on the GHG emissions from the agri-food sector including information onany commitment towards emission reduction

**Nutrition related policy/programme challenges/gaps from a climate perspective**

**W** **Intersectoral collaboration for climate-nutrition**

Identify key stakeholders at the government level responsible for inter-sectoral collaboration on climate/nutrition actions
List other partners who currently support climate-nutrition actions

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**Adaptive actions undertaken by the health sector at the national level (alone or in collaboration with other sectors)**

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|---|---|---|
| Nationally determined Contributions (NDCs) include nutrition related actions? | | |
| National Adaptation Plans (NAPs) include nutrition-related actions?<br>National Nutrition Plans (NNPs) refer to climate? | | |
| Climate change and health vulnerability assessment (V&A) conducted<br>+ includes nutrition-linked climate sensitive health outcomes? | | |
| Food-based dietary guidelines (FBDGs) include climate considerations? | | |
| Nutrition related policies/plans/programmes take climate change into consideration? | | |
| Climate change and nutrition issues included in curricula of any of the health workforce?<br>Climate resilient-Water/Sanitation safety planning implemented?<br>Availability of funding for climate interventions that is linked to nutrition (GCF, GEF, etc.) | | |

**POSTER SIZE: AO (46" x 33")**
**BOXES ABOVE MAY BE RESIZED/MODIFIED TO ACCOMMODATE SPACE REQUIREMENTS.**

| Country Situation/status | Efforts undertaken | Challenges and Opportunities |
|---|---|---|
| **Bangladesh** has a population of 173.3 million with rice as the staple diet. Some varieties of rice are highly vulnerable to climate change. Moderate to severe food insecurity affects 31.1% of the population, and 11.4% face undernourishment *(Source: World Bank Open Data)*. Stunting among children is at 24%, wasting at 1.6%, and overweight at 21%. Vitamin A service coverage is 99%, and exclusive breastfeeding for children under six months is at 55%. Anemia in women of reproductive age is at 28.9%, despite available antenatal and postnatal care services. There's an interesting reversal in adult nutritional status: 22.2% of women are overweight compared to 18% of men. *(Source: BDHS 2022, MICS 2019, NCD Risk Factor Collaboration 2022, National Micronutrient Survey 2019-2020)* Bangladesh is the seventh most climate-vulnerable country, experiencing tropical cyclones, which result in a 0.7% GDP loss annually. Rice prices have surged due to extreme weather events. BDP2100 predicts a decline in rice production by 17% by 2050 which would impede food and nutrition security. Sea level rise causes saline intrusion into coastal areas, leading to health issues like pre-eclampsia and foodborne diseases such as acute diarrhea. Heat stress affects fishermen and livestock, reducing dairy and meat production, while droughts affect crop yields. | Bangladesh has developed several key policies and action plans, including the National Nutrition Policy (2015), National Food Policy, and National Adaptation Plan (2023-2050), which address food security and nutrition. The country's National Determined Contribution (NDC) also outlines climate adaptation and mitigation strategies, focusing on food security and nutrition. Ministries of Environment, Forest, Climate Change, Agriculture, Fisheries, Livestock, Water Resources, and Disaster Management, along with the Ministry of Health, collaborate on nutrition and climate resilience. Several international partners, including the Green Climate Fund and Bangladesh Climate Change Trust Fund, support climate-linked nutrition interventions. | Bangladesh lacks food-based dietary guidelines specifically addressing climate change, though general guidelines exist for the population, including disease-specific recommendations. |
| **India** has a population of 1.4 billion with wheat and rice as the staple diet. The country is geographically diverse, with over 20 agroecological zones, making it highly vulnerable to climate change. Rice, sugar cane and | India launched the National Action Plan on Climate Change in 2008, featuring eight missions, including those focused on sustainable agriculture, water management, and energy efficiency. | |

| Country Situation/status | Efforts undertaken | Challenges and Opportunities |
|---|---|---|
| wheat are crops most vulnerable to climate change.<br><br>Stunting among children is at 35.5%, wasting at 19.3%, and overweight at 3.4%. Vitamin A service coverage is 71.2%, and exclusive breastfeeding for children under six months is at 63.7%. Anemia in women of reproductive age is at 57.2%. 24% of women are overweight compared to 22.9% of men. India's average annual mean temperature during 1901–2020 showed an increasing trend of 0.62°C/100 years, with significant increasing trend in maximum temperature (0.99°C/100 years). Agriculture remains the second-largest contributor to India's greenhouse gas (GHG) emissions. Climate change resulting in global warming is impacting water availability and simultaneously impacting agriculture, food and nutrition security. Extreme events like droughts reduces crop yields, impacts farmers and lowers nutrition quality of produce. In the absence of adaptation measures, rainfed rice yields in India are projected to reduce by 20% in 2050 and 47% in 2080 scenarios while, irrigated rice yields are projected to reduce by 3.5% in 2050 and 5% in 2080 scenarios. Climate change is projected to reduce wheat yield by 19.3% in 2050 and 40% in 2080 scenarios towards the end of the century with significant spatial and temporal variations. Climate change is projected to reduce the kharif maize yields by 18 and 23% in 2050 and 2080 scenarios, respectively. | In agriculture, efforts include promoting water conservation techniques like drip irrigation and issuing soil health cards to farmers to optimize fertilizer use.<br>India is also focusing on climate-resilient technologies for vulnerable regions like coastal and Himalayan areas. The government collaborates with farmers, providing advisories on weather events and developing stress-tolerant crop varieties.<br><br>On the nutrition front, the country faces challenges with high rates of stunting (35%), wasting (19%), and anemia. To address this, the government has implemented initiatives like the Poshan Abhiyaan (supplementary nutrition for mothers and children) and the Midday Meal Scheme in schools. However, the primary issue is not food availability but the need for behavior change to improve dietary diversity and feeding practices.<br><br>The country is also working on gender-related initiatives, such as providing clean cooking gas and improving access to water. Food safety concerns, particularly regarding aflatoxin contamination due to climate change, were briefly discussed, with the Food Safety and Standards Authority of India (FSSAI) monitoring food samples.<br>India's has pilot programs, like Climate Resilient Villages, focusing on water conservation, renewable energy, and sustainable | |

| Country Situation/status | Efforts undertaken | Challenges and Opportunities |
|---|---|---|
| | agriculture, but these pilots are yet to be fully integrated into broader strategies.<br><br>Millets which are climate resilient crops are included in all social safety net programs of the country. | |
| **Indonesia** has a population of 278 million (2020 census). The staple diet includes rice, wheat noodles, maize, sago, and tubers, with rice being the most vulnerable crop, especially in Java and Bali. Moderate and severe food insecurity is at 4.5% (2023), with undernourishment at 8.53% in 2023, a decrease from 10.21% in 2020. The country faces a triple burden of malnutrition: stunting (21.5%), wasting (8.5%), and overweight (4.2%) (2024). Overweight prevalence is also high among both men (13.6%) and women (15.3%) (2024). As an archipelago, Indonesia is highly vulnerable to climate change. The country is experiencing increased rainfall, higher temperatures, air pollution, and water pollution, contributing to diseases like malaria, diarrhea, dengue, and pneumonia. Greenhouse gas emissions are notably high, with BFM land use (related to agriculture) contributing significantly, especially in paddy production, fresh water use, and nitrogen/phosphorus application. | Indonesia has a National Action Plan for Food and Nutrition ("Rencana Aksi Pangan Gizi"), which aims to improve access to quality food and ensure the sustainability of agriculture amidst climate change.<br>Intersectoral collaboration exists between ministries of health, agriculture, environment, marine and fisheries, and others. There is also collaboration between international partners.<br>Climate-resilient water and sanitation plans are implemented, and funding for climate-linked nutrition interventions is available.<br>A presidential law exists to accelerate the reduction of stunting. Monitoring and evaluation of stunting reduction are coordinated by the National Development Planning Ministry, with local governments responsible for implementing national programs through local action plans. | Nutrition-related actions are not yet included in the country's Nationally Determined Contribution (NDC) or adaptation plans, and there is no specific national nutrition plan linked to climate change.<br>Indonesia continues to face significant challenges related to climate change and its impact on nutrition, but is actively working on intersectoral strategies and programs to address these issues. |
| **Maldives** has a population of around 515,000, with rice and wheat flour as staple foods. The most climate-vulnerable crops include taro, banana, papaya, | The Maldives has several nutrition and health policies, such as the First Thousand Days Social Behavior Change Strategy and a Health Master Plan, but there is | The country faces challenges with stakeholder coordination, policy cohesion, financing, and |

| Country Situation/status | Efforts undertaken | Challenges and Opportunities |
|---|---|---|
| watermelon, and chili. Exact indicators for food insecurity and undernourishment were not available, but key malnutrition statistics include stunting at 15.3%, wasting at 10.1%, overweight at 6.7%, and anemia at 50%.<br>The exclusive breastfeeding rate is 64%, with a complementary feeding rate of 51%. For adults, anemia affects 63% of the population, while 49% of men and 35% of women are overweight. There is no nationally representative data for adolescents.<br>Climate change is a significant issue, especially sea level rise, erosion, flooding, and extreme weather events. These events disrupt food distribution, which is a challenge due to the geographical dispersion of the islands. | little integration of climate change into these policies.<br><br>The Maldives is working on incorporating nutrition and climate change into its national adaptation plan, which is still in the early stages of development. | infrastructure related to climate change, food security, and agriculture. There is also a lack of data on agricultural production linked to climate change and the affordability of nutritious diets.<br>Malnutrition indicators have improved since the 1990s, with significant declines in stunting and wasting, but challenges remain in feeding practices, modernization of diets, and behavioral changes. |
| **Myanmar** has a population of 54.6 million, with rice as the staple diet. There are challenges in accessing updated nutrition data due to limited engagement with government and WHO officials.<br>The latest available data comes from a 2017-2018 micronutrient survey, showing a positive 50% exclusive breastfeeding rate but only 16% for minimum acceptable diet.<br>While Myanmar faced severe climate risks from 2000 to 2019, it was no longer among the top 10 most vulnerable countries by 2021. Surveys show improvements in stunting, underweight, and wasting, but recent data, such as from the 2022 Household Welfare Survey, indicates deteriorating food security. | Myanmar has developed initiatives like the Multi-Sector Nutrition Action Plan (2018-2023), which incorporates climate change, though not as an adaptive strategy but as a nutrition-sensitive emergency response.<br><br>The 2021 Nationally Determined Contribution (NDC) commits to reducing emissions by 50% by 2030, with a focus on the agricultural sector and agroforestry.<br>Myanmar's focus on climate-resilient agricultural and water strategies includes efforts by UNICEF and the Ministry of Health to implement climate-resilient water safety plans.<br>Nutrition-related interventions include maternal cash transfers linked to child immunization.<br>Partners like UNICEF and WHO | International funding has dwindled, limiting further progress. |

| Country Situation/status | Efforts undertaken | Challenges and Opportunities |
|---|---|---|
| | actively participate in monthly nutrition cluster meetings to address the country's challenges. | |
| **Nepal** has a population of 29 million, with staple diets including rice, wheat, maize, millet, and potato. Rice and wheat are the crops most affected by climate change. Prevalence of moderate and severe food insecurity stands at 27% and 4%, respectively. Undernourishment is 5.5%. Among children under five, stunting is at 25%, wasting at 8%, and overweight at 1.3%. Anemia affects 43.3% of children. Vitamin A service coverage is over 98%, and exclusive breastfeeding rates have decreased to 55%. Minimum acceptable diet for children aged 6-23 months is at 43%. Adolescents face a high prevalence of thinness, with 26% of boys and 41% of girls affected. Overweight prevalence is nearly equal across genders, and 34% of women in reproductive age suffer from anemia. Climate hazards such as droughts, floods, landslides, and changing temperature patterns are impacting agricultural productivity, particularly in mountain and plain areas. | Funding for climate-related nutrition interventions is supported by international sources such as the Green Climate Fund (GCF) and Global Environment Facility (GEF). The country has multisectoral coordination mechanisms for climate and nutrition issues, with the Ministry of Forests and Environment coordinating climate-related efforts and the National Planning Commission leading nutrition initiatives. Various policies and action plans, such as the National Nutrition Policy, Food Safety Policy, Multisectoral Nutrition Action Plan, and National Adaptation Plans, address both nutrition and climate-sensitive issues. | The country faces challenges with data availability, inter-sectoral coordination, and integration of climate and nutrition in policies and workforce curricula and education. |
| **Sri Lanka,** with a population of 22.1 million, has a staple diet consisting of mainly rice. Climate change poses significant risks to vulnerable crops like rice, vegetables, and fruits. Food insecurity is currently at 10.9%, and malnutrition indicators have stagnated, worsened by the recent economic crisis. Sri Lanka faces challenges of both undernourishment and rising overweight/obesity rates, and is | Sri Lanka has been successful in promoting exclusive breastfeeding, achieving one of the highest rates in the region, largely due to cultural factors, village-level midwife programs, and a strong monitoring system. Sri Lanka is committed to reducing greenhouse gas emissions by 14% by 2030, increasing forest cover by 32%, and achieving carbon neutrality by 2050. The country also aims to generate 70% of its | Sri Lanka has several nutrition and climate-related policies, including a multi-sectoral nutrition action plan and an emergency operation plan for nutrition. However, there are gaps in awareness about the health impacts of climate change among health workers, and there is a need for improved multi- |

| Country Situation/status | Efforts undertaken | Challenges and Opportunities |
|---|---|---|
| working to improve dietary diversification.<br>The country is experiencing temperature increases, unpredictable rainfall, droughts, sea level rise, and greenhouse gas emissions, despite contributing only 0.01% to global emissions. | electricity from renewable energy by 2030.<br>The country also secured funding from the Green Climate Fund through a multi-sectoral approach involving several ministries. However, it is still in the initial stages of implementing climate change and nutrition initiatives. | sectoral collaboration. Various ministries, including health, agriculture, and environment, are involved, but better coordination is required. While there are committees and regional climate efforts in place, gaps in nutrition-related policies and funding persist.<br>In conclusion, Sri Lanka is actively working on climate resilience and nutrition, but requires stronger intersectoral collaboration, policy integration, and funding to address both climate and nutrition challenges. |
| **Thailand,** with a population of 66 million, faces food insecurity with a prevalence of 7.7%, while undernourishment is at 5%. Malnutrition, particularly stunting in children under five (12.5%), remains a challenge. However, vitamin A deficiency is not a public health problem, and exclusive breastfeeding has improved from 14% to 28.6%, though still below the 50% target.<br>Thailand faces significant climate risks, such as droughts and increased temperatures, which impact food availability by reducing crop yields. Vulnerable populations struggle to access diverse diets due to rising food prices. Agriculture contributes 15% of the country's greenhouse gas emissions, and Thailand has committed to reducing these emissions through measures | Key programs include the "1,000 Days" initiative, which focuses on child nutrition and breastfeeding, involving local authorities and village health volunteers. The country is working on improving interministerial collaboration and establishing indicators to track progress. However, processed foods and sedentary lifestyles contribute to the high prevalence of overweight and obesity, particularly among women. Efforts are ongoing to promote healthier eating environments and control food and beverage marketing. | The country has strong policies addressing nutrition across age groups but faces gaps in addressing minority and vulnerable populations. Collaboration between ministries, such as health and agriculture, is crucial, though integration is still evolving. Thailand also faces challenges related to data availability, financial constraints, and the need for more research on climate change and nutrition. Thailand continues to strengthen its nutritional policies and collaboration across sectors, but challenges related to local implementation, |

| Country Situation/status | Efforts undertaken | Challenges and Opportunities |
|---|---|---|
| like better manure management, reduced chemical fertilizers, and alternate wetting and drying in rice fields. | | data, and climate risks remain. |
| **Timor Leste** with a population of 1.3 million, relies heavily on staple crops like rice, maize, and potato, which are highly vulnerable to climate change. The country faces significant food insecurity, with 34.8% of the population experiencing moderate food insecurity and 15.6% facing severe food insecurity. Stunting among children under five is high at 47.1%, indicating chronic malnutrition. Timor-Leste faces various climate hazards such as floods, heatwaves, landslides, and drought, which heavily impact agriculture. With 75% of the population engaged in agriculture, climate change threatens key crops like coffee and rice, leading to declining agricultural production and food insecurity. | In response, the government has established the Health Climate Working Group and the I-CAN Working Group to coordinate efforts between health, agriculture, and other sectors. There is a focus on improving agricultural practices, rice cultivation, and livestock management to mitigate climate impacts. | There is a need to address issues like food security, malpractices, and accessibility as contributing factors to stunting, wasting, and anemia. |

For further information on country situation/status, efforts undertaken and challenges and opportunities for each of the countries outlined above please refer to the posters. In closing, key points raised during the poster session was summarized. Regarding Food-Based Dietary Guidelines (FBDGs), it was emphasized that while climate may not always be mentioned, healthy and sustainable diets might already support climate mitigation. FBDGs should only be revised if significant policy gaps exist.

India's agricultural diversification efforts, particularly the National Millet Mission, were praised for focusing beyond rice, maize, and wheat, which are vulnerable to climate change. Bhutan was also noted for promoting quinoa cultivation. The session ended with a call for sharing case studies from countries like Thailand, Indonesia, and Sri Lanka on their successes in addressing stunting, wasting, and anemia, which would benefit other member states.

## Session 5. Opportunities for enhancing partner support

This session focused on the ongoing work and plans by various partners working at the intersection of climate change and nutrition. The discussions centered on supporting countries to integrate climate change considerations into their nutrition policies and programs. Partners shared details of their initiatives aimed at mainstreaming climate change into nutrition strategies to address the complex challenges posed by both issues.

**Presenters:**

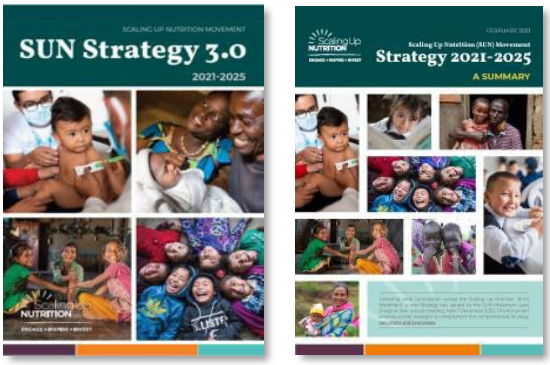
- Dr. Marian (Amaka) Odenigbo, Country Action Specialist, Scaling Up Nutrition (SUN) Movement Secretariat (SMS)- Asia Hub
- Dr. Vani Sethi, Regional nutrition specialist, UNICEF, Regional Office for South Asia (ROSA)
- Dr. Anusara Sinkumarwong, Regional Nutritionist, World Food Programme, Regional Bureau for Asia and the Pacific
- Dr. Rudabar Khondker, Country Director, Global Alliance for Improved Nutrition Gain, Bangladesh

**Key messages:**

**Dr. Marian (Amaka) Odenigbo, Country Action Specialist, Scaling Up Nutrition (SUN) Movement Secretariat (SMS)- Asia Hub**

Amaka Odenigbo, the Country Action Specialist for Scaling Up Nutrition (SUN), introduced SUN, a global initiative launched in 2010 in response to the 2008 food crisis. SUN focuses on promoting multisectoral collaboration to tackle malnutrition, coordinating efforts across various networks and levels of governance. SUN operates through country-led efforts, where governments nominate a SUN focal point to lead nutrition-related initiatives.

SUN is not a program, but rather a platform hosted by the UNOPS, acting as a catalyst for aligning investments and advocacy in nutrition. The movement now includes 66 members. SUN's vision is to eliminate all forms of malnutrition by 2030, working across a multisectoral platform that includes civil society, business, UN, and donor networks, academia and youth. Some countries also incorporate research, academia, and youth networks.




**SUN Strategy 2021-2025**

The SUN movement provides technical assistance, strengthens institutional capacities, and supports national multi-sectoral platforms for nutrition. It helps countries develop, cost, and implement their nutrition plans, while also sharing best practices and facilitating resource mobilization. Countries like Bangladesh and Cambodia were highlighted as front-runners for their multisectoral approach to nutrition planning.

Once a country commits to becoming a Scaling Up Nutrition (SUN) country, the government nominates a coordinator known as the SUN focal point. The positioning of this focal point is crucial for securing high-level political commitment and engagement. For example, in Nepal, the SUN focal point is positioned in the National Planning Commission (NPC), while in Bangladesh, it is in the Ministry of Health, and in Indonesia, within the planning committee. This focal point leads the country's multisectoral coordination efforts and is supported by a global system of networks operating at the global, regional, and national levels. The focal point is central to coordinating these efforts and ensuring alignment with SUN's goals across sectors.

SUN is funded by donors and contributing countries, including the EU, Canada, France, and others. Regarding the SUN Business Network, it varies by country. In some countries, organizations like GAIN or WFP lead the network, while in others, like Indonesia, the private sector, including SMEs, collaborates with the government to promote healthier diets. For example, SUN supports Cambodia in food fortification by involving the private sector.

To avoid duplication of efforts in countries like Sri Lanka, SUN establishes a multi-sectoral platform (MSP) led by the SUN focal point. This platform brings together agencies like FAO, WFP, and others to align their work plans with national priorities. Each agency commits its activities and budget through this platform, ensuring coordination. In some countries, donors and UN agencies collaborate on a joint work plan to further streamline efforts.

The presenter identified the way forward as intensifying regional engagement and coordinating support for countries, especially through regional bodies like the Asian Development Bank (ADB) and ASEAN. SUN continues to advocate for stronger regional nutrition platforms, similar to what exists in Africa. The presenter urged countries not yet committed to SUN to consider joining the movement to scale up nutrition efforts.

**Dr. Vani Sethi, Regional nutrition specialist, UNICEF, Regional Office for South Asia (ROSA)**

Dr. Vani Sethi, the Regional Nutrition specialist from UNICEF-ROSA, emphasized the need to center conversations about climate and nutrition crises around child rights. She highlighted that while climate change disproportionately affects children, especially in communities that have contributed the least to the problem, children's voices are often absent from discussions on these issues. UNICEF has developed a new five-point action agenda in response to the poly-crisis of climate change, nutrition, and conflict in South Asia, aiming to integrate child rights into the climate and nutrition agendas.


November, 2019 December 2020 December 2023

In South Asia, child malnutrition remains a persistent crisis, particularly for girls and women who often face disempowerment and undernourishment. The region continues to struggle with stunting, wasting, and inadequate child diets, including suboptimal breastfeeding practices. Climate change is exacerbating these vulnerabilities, deepening inequalities, and disproportionately affecting children.

UNICEF's five-point action agenda focuses on protecting children's nutrition in the face of climate shocks, adapting nutrition programs to prevent worsening malnutrition, mitigating climate risks through improved food systems, engaging youth as advocates for nutrition and climate justice, and improving measurement systems to track progress. The agenda promotes breastfeeding as an investment in both child health and carbon offset and emphasizes integrating nutrition into disaster risk reduction efforts.

UNICEF is working across sectors, including health, water, sanitation, education, and food systems, to ensure that children's diets, nutrition services, and practices are protected and improved in the face of climate challenges. The presenter concluded by advocating for more child participation in future discussions and events on these critical issues.

The discussion following the presentation centered on the concern that during climate crises, some industries exploit the situation by promoting unhealthy foods, such as biscuits and breast milk substitutes, under the guise of donations. These actions could undermine child nutrition in the long term. The speaker emphasized the need to address this issue in future programs and consider the potential harm of such donations.

UNICEF is increasingly focusing on legislative actions, particularly in humanitarian settings. The organization is working on mapping and engaging legal experts across countries to protect breastfeeding and strengthen nutrition laws, especially during crises. There is a call for the creation of legal networks, similar to business and academic networks, to support nutrition initiatives. The speaker noted that involving legal professionals early in the legislative process could strengthen laws and enforcement measures, ensuring better protection of child nutrition during crises.

**Dr. Anusara Singkumarwong, Regional Nutritionist, World Food Programme, Regional Bureau for Asia and the Pacific**

Anusara Singkumarwong, from the World Food Program (WFP) regional office in Bangkok, discussed the nexus between climate change and nutrition, sharing findings from a commissioned study that spans 17 countries in the region. She highlighted the persistent malnutrition crisis in Asia-Pacific, where South Asia has the highest prevalence of stunting, wasting, and rising overweight and obesity rates.
Additionally, 400 million people remain undernourished, and nearly 1.9 billion cannot afford healthy diets.

The study aims to assess the direct and indirect effects of climate change on all forms of malnutrition, focusing on vulnerable groups like children and women of reproductive age. The findings revealed that climate-related factors—such as extreme weather events, rising temperatures, and water scarcity—impact food production, food access, health systems, and nutrition outcomes. Climate change exacerbates malnutrition through its effects on agriculture, water availability, and food prices, leading to dietary and nutrition-related challenges.

The WFP is mapping out how different systems, such as agriculture, social protection, and health, intersect with climate-related risks and affect nutrition. The next steps include identifying high-risk countries, integrating nutrition into emergency response mechanisms, and exploring innovative solutions, such as promoting indigenous crops and fortification efforts. The report is still under review, with future plans to publish and further explore nutrition in response systems across five or six high-risk countries.

**Dr. Rudaba Khondker, Country Director, Global Alliance for Improved Nutrition (GAIN), Bangladesh**

Rudaba from Global Alliance for Improved Nutrition (GAIN) provided an overview of the organization's mission, which focuses on ensuring access to safe, nutritious food in an environmentally sustainable manner. Founded in 2002 from a UN initiative, GAIN now works in Bangladesh, Pakistan, India, Indonesia, and other countries, collaborating with governments, businesses, and other stakeholders to support efforts that move from merely feeding people to nourishing them, considering the impact on people, the planet, and prosperity.

A key point was the affordability of nutritious food, with studies showing that in countries like Bangladesh and India, five servings of fruits and vegetables can cost over 50% of people's income, highlighting the challenge of balancing climate and nutrition goals. GAIN aims to help countries incorporate climate considerations into national food and nutrition plans and strengthen food and health systems.

For instance, in Bangladesh, GAIN collaborates with the Government of Bangladesh to procure biofortified, climate-resilient, and nutrient-rich Zinc Rice. Additionally, GAIN partners with the Department of Agricultural Extension under the Ministry of Agriculture (MoA) to raise awareness among farmers and households about the nutritional benefits of lentils and their positive environmental impact. Furthermore, the organization supports the government in advancing its development initiatives in island regions (Char in Bangla) by promoting climate-resilient agricultural and livestock practices, ensuring improved nutritional outcomes for local communities.

Rudaba discussed the importance of collective action and collaboration between governments, private sectors, and organizations like WHO, UNICEF, and FAO. She stressed the need for simple, actionable plans that integrate climate actions with nutrition efforts, focusing on issues such as healthy diets, micronutrient deficiencies, and environmental sustainability.

GAIN supports food system processes by providing data for decision-making, such as through the food systems dashboard, which tracks indicators like nutrition outcomes, climate, and environment.
Additionally, the organization is involved in initiatives like nutrition food financing for SMEs and helping governments with investment plans. The presenter also emphasized the need for accountability, monitoring frameworks, and youth engagement in decision-making, urging stakeholders to learn from failures and work collectively toward common goals. Finally, she highlighted the importance of the food systems summit, where countries have committed to addressing nutrition and climate challenges.

**Country case study 4-Millets as the cereal of the future for combating malnutrition and climate change in India**

Cereal crops such as rice, wheat, sugarcane are highly water-intensive. They occupy the greatest share of the market in India, imposing a trade-off between food security and water availability. One kilogram of rice consumes 3,500 liters of water and contributes to 10% of global methane emissions and 30% of emissions in South-East Asia. The prolonged exploitation of groundwater resources has led to significant depletion, necessitating urgent adaptation policies for effective groundwater management. The agricultural sector, which utilizes nearly 89 percent of groundwater, must shift to practices that promote both nutritional and water security while minimizing social costs.

India is the largest producer and exporter of millets, including major varieties like sorghum and pearl millet, and minor varieties such as finger millet, foxtail millet, and buckwheat. The Millet Mission in India (2020) focuses on policy support, research, capacity building, and raising public awareness to revitalize and encourage millet cultivation and consumption.

Millets are rich in protein, fiber, vitamins, and essential amino acids. They are gluten-free, making them suitable for people with celiac disease or gluten intolerance. Millets require less water and are highly resilient to adverse climatic conditions, making them an ideal crop in the context of global warming and water scarcity. Millets are also nutrient-dense compared to rice and wheat, and are rich in proteins, vitamins, minerals, and bioactive compounds with medicinal properties. Millet cultivation provides income diversification for farmers, reduces the carbon footprint, and enhances soil carbon levels.

India's government has implemented several initiatives to promote millet cultivation, such as the Millet Mission (2020), which includes policy support, capacity building, market promotion, and inclusion of millets in social protection programs like Poshan Abhiyan (led by Ministry of Women and Child Development), Targeted Public Distribution System (Ministry of Food and Public Distribution), Integrated Child Development Services (ICDS) and Midday Meal scheme. India's National Eat Right campaign - promotes millets as part of a healthy and varied diet. In 2018, millets were recognized as 'Nutri Cereals' and 2018 was declared as the *National Year of the Millets.*

While millet consumption has decreased in favor of rice and wheat, efforts are underway to reintroduce millets into daily diets. This includes promoting millet-based products and encouraging a shift in dietary habits, especially in urban areas.

The presentation concluded with a call to capitalize on the *International Year of Millets (2023)* to raise global awareness of the nutritional and climate resilience benefits of millets.

## Session 6: Closing gaps on financing and improving monitoring and response systems for improved climate-nutrition outcomes

The session covered updates on addressing financing gaps for climate change and nutrition programs by increasing investments to transform agri-food systems and promote sustainable, healthy diets for both people and the planet. The session also highlighted examples of enhancing monitoring and response systems to improve climate and nutrition outcomes.

**Improving monitoring and response systems for climate-related water and food borne diseases- Dr. Laith Hussain, University of Gothenburg/ Dr. Axel Kroeger, University of Freiburg**

Drs. Laith Hussain and Axel Kroeger presented their experience with establishing climate-informed early warning and response systems (EWARS) for climate-sensitive diseases like cholera. EWARS, developed over 12 years, and currently implemented in 17 countries, helps predict outbreaks based on meteorological indicators, giving countries time for preparedness and response. The system can predict outbreaks up to 10 weeks in advance, identify transmission hotspots, and improve communication between national and local health authorities. In other words, between the surveillance staff at the Ministry of Health or National Institute of Health and the district level where the operations start and take place.

EWARS can enhance decision-making and response actions at both central and local levels. The system has demonstrated high sensitivity and accuracy in predicting outbreaks, and countries like Nepal, Laos, and Bangladesh have successfully implemented it for waterborne and foodborne diseases.

A discussion followed about whether the tool could be adapted to track nutrition-related issues, given that malnutrition often follows climate-sensitive disease outbreaks. It was clarified that while direct surveillance for malnutrition is challenging due to the lack of weekly data, EWARS could potentially use indirect indicators, such as spikes in diarrheal diseases, to predict malnutrition trends.

The tool relies on strong surveillance systems, and its success has encouraged countries to improve their data collection efforts. The presentation underscored the need for ongoing collaboration to expand and refine the tool's capabilities for various health challenges, including malnutrition e.g. Strengthening input of meteorological data is required to sustain EWARS, this can be done by adopting data sharing agreements with the meteorological department and deploying meteorological station at the health care facility level.

***References:***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**EWARS Explained-Example of outbreak warning at the local level**

**Outbreak:** An outbreak is the occurrence of disease cases in excess of what is typically expected within a specific population, geographic area, or time period. There are two main types of outbreak situations:

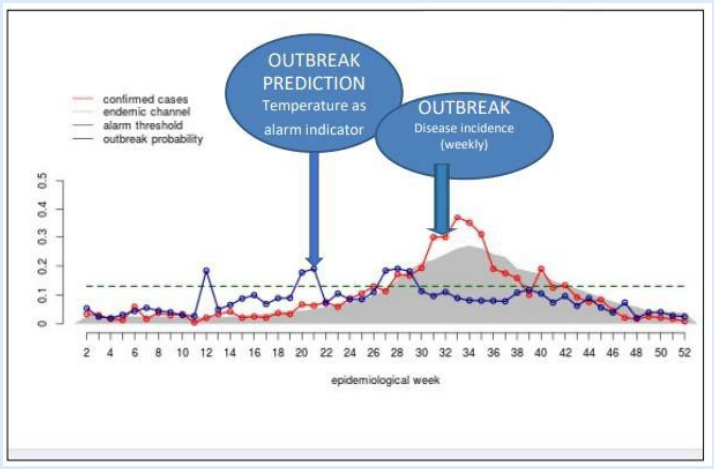
A. This occurs in areas with no previous cases, where a sudden appearance of one or more cases leads to local transmission, such as with Ebola, Polio, SARS, or other non-endemic diseases. The COVID-19 pandemic is an example of this type, highlighting the importance of prediction for such outbreaks.
B. This involves areas where sporadic cases, such as one case per week or a few cases per month, are typically present. An outbreak occurs when there is a sudden, unexpected increase in cases, which differs from the expected seasonal peaks. Seasonal peaks are anticipated for certain diseases, especially waterborne ones, during wet or dry seasons, depending on the location.

**How are outbreaks predicted:** To predict outbreaks, alarm indicators are essential. These indicators signal a potential outbreak, and the most effective ones, based on experience in various countries, are meteorological indicators. Factors like temperature, rainfall, humidity, wind, and dust are strong predictors, as malnutrition and infectious diseases are closely tied to weather conditions. For vector-borne diseases**,** additional predictors include entomological indicators and epidemiological factors like patients' age, sero-positivity rates in lab samples, and predominant serotypes (e.g., for dengue). Beyond biological and meteorological factors, social events, social media activity, and intervention efforts can also provide valuable early warnings of outbreaks.

**Sensitivity:** The proportion of alarms that successfully predict defined outbreaks i.e. no. of correct outbreak alarms/ total outbreaks. Therefore, sensitivity of 90% means that nine of 10 outbreaks have been correctly detected.

**Positive predictive value (PPV):** The proportion of true alarms out of all alarms i.e. no. of correct alarm periods/ total no. of alarm periods. Therefore, PPV of 70% means 7 out of 10 alarm signals were correct.

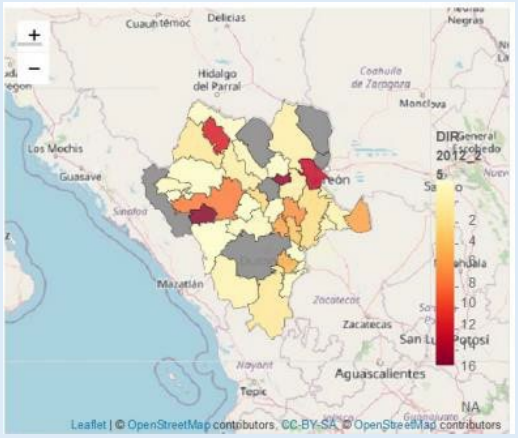
**E-WARS dashboard explained (cont…)**




The gray shaded area represents the endemic channel, indicating the historical pattern of disease incidence. The horizontal axis displays the epidemiological weeks. The red line shows the actual number of cases or weekly disease incidents, and when it exceeds the endemic channel, it signals a disease outbreak. The blue line represents the prediction, which could be related to factors like temperature, rainfall, or humidity. The dotted horizontal line marks the alarm threshold, and if the alarm indicator surpasses this threshold for two consecutive weeks, it indicates an outbreak warning. In this scenario, the outbreak prediction begins approximately 10 weeks before the actual outbreak.

In this way EWARS is designed to give more decision power to the local (district) level. It improves coordination and encourages engagement of key stakeholder from central and local levels, and facilitates easy-to-translate warning signal into organized response actions.

EWARS also allows spatial analysis, generating risk maps for ‘hotspots’ based on model analysis. The image below depicts dengue incidence on Week 25 in the year 2012. The darker color refers to higher incidence rate of the disease during this period.



## Mobilizing finances for nutrition and climate change- Mr. Brian Riley, Health practice team, Asian Development Bank (ADB), Manila.

Brian Riley, from the Asian Development Bank's (ADB) Health Practice Team, presented ADB's work on climate and health. He highlighted that if the healthcare sector were a country, it would rank as the fifth-largest emitter, close behind major emitters like the US and the EU. The sector's climate footprint is comparable to the output of 514 coal-fired power plants, producing 5.9 million tonnes of medical waste annually, with the supply chain being the largest contributor. Without intervention, healthcare emissions are projected to triple by 2050, potentially reaching 6 gigatons.

The *Climate and Health Initiative*, launched at the first ever Health Day at COP28, focuses on creating climate-resilient, low-carbon healthcare systems**.** As a part of this**,** ADB has committed 15% of its annual health portfolio (roughly about $30 billion per year) to support climate-focused health projects. Additionally, through the Future Health Accelerator, an immersive climate and health or health systems financing training course, that will be launched later in 2024, ADB aims to train country leaders on health financing systems.

The *Climate and Health Initiative* has 6 pillars- knowledge generation, incubation, incubating innovations, novel financing, capacity building, partnerships, and advocacy. To launch the Initiative, ADB is providing $12 million in seed funding and aims to raise an additional $6 million from multilateral banks, philanthropic organizations, and development donors through co-investment. This funding will help support the Initiative's efforts to strengthen climate-resilient, low-carbon healthcare systems.

The G20 principles are guiding ADB's approach to identifying and financing health-related interventions at the intersection of climate and health. The key principles include:

1. Prioritizing climate-resilient health development
2. Building sustainable, low-carbon health systems
3. Decarbonizing the healthcare supply chain
4. Mobilizing climate finance for the health sector
5. Facilitating collaboration on One Health (integrating human, animal, and environmental health).

Using these principles, ADB is developing a pipeline of interventions, such as financing real-time predictive analytics, telemedicine platforms, community-driven early warning systems, and green, sustainable health facilities. Efforts also include solar-powered medical equipment and greening the vaccine supply chain. ADB plans to build a global repository of climate and health experts to assist with country diagnostics, adaptation plans, and capacity building for healthcare workforces. It aims to foster collaboration with the task force on climate and health and scale innovations for increased financing. The platform will also focus on data collection, advocacy, and predictive modeling by financing data repositories and visualization platforms to strengthen regional, national, and sub-national systems.

Examples of ADB-funded projects at the regional level include: Green medical centers in Thailand, relocating hospitals from inundated areas in Kiribati, and greening the supply chain in Bangladesh. The initiative also integrates nutrition-sensitive investments into healthcare, addressing malnutrition through multi-sectoral programs like livestock projects, cash transfers, and nutrition training.

ADB’s focus is to scale nutrition-smart investments and develop strategic approaches for nutrition financing, collaborating across sectors to achieve improved health and nutrition outcomes.

## Session 7. Multi-stakeholder collaboration for establishing governance mechanisms and institutional frameworks for nutrition and climate change

The main aim of this session was to explore the roles of various sectors, including Health, Agriculture, Environment, and Finance, in ensuring coherent policies and plans for addressing both nutrition and climate change.

**Panel discussion on multi-sectoral response for nutrition and climate change**

The panelists included:

- Dr. Perdinan, MNRE Associate Professor, Department of Geophysics and Meteorology, Bogor Agricultural University, Indonesia
- Mr. M H A M Riflan, Director General, Partnership Secretariat for World Food Programme Cooperation, Presidential Secretariat, Colombo, Sri Lanka
- Professor Kraisid Tontisirin, Member, International Award Committee, Prince Mahidol Award Foundation Bangkok, Thailand
- Dr. Mohammad Ferdous Rahman Sarker, Senior Scientific Officer, Institute of Epidemiology, Disease Control & Research (IEDCR)
- Mr. Ibrahim Mohamed, Environmental and Social Safeguards Specialist (PMU) Ministry of Finance, Maldives
- Mr. Caetano dos Santos Cristovao, Senior Officer, Unit of Agribusiness, Food Security and Cooperation, Ministry of Agriculture, Livestock, Fisheries and Forestry, Timor-Leste

Panelists were posed with 1-2 questions each. The questions and their responses are as noted below.

**Dr. Perdinan, MNRE Associate Professor, Department of Geophysics and Meteorology, Bogor Agricultural University, Indonesia**

i. *What are the key challenges in integrating health considerations into climate and nutrition policies, and how can they be overcome? Could you highlight through a country experience how nutrition has been integrated into climate change and health policies or plans?*

**Response:** Climate change impacts food production, security, and dietary patterns, indirectly affecting nutrition. Insufficient supporting data, such as climate and nutrition data at local levels, poses challenges to integrating health considerations into climate and nutrition policies. Other challenges include research gaps, funding limitations, competing priorities, and difficulties in coordinating across government agencies. Engaging marginalized communities, especially in Indonesia's remote areas, is also a problem. Proposed solutions include fostering collaboration between government agencies, building capacity for policymakers and researchers, improving data collection, and promoting climate-resilient agricultural practices. Integrating nutrition goals into climate adaptation strategies, such as promoting climate-resilient crops and nutrition education, is key. Initiatives like Indonesia's Desa Desi (village-based climate programs) could help address these issues, particularly in supporting vulnerable populations and ensuring access to nutritious food during climate-related disasters.

ii. *What investments can countries make in research and innovation to develop scalable solutions that simultaneously address climate change and nutrition?*

**Response:** Research should connect climate change studies with nutritional status to develop sustainable adaptation strategies. This includes utilizing tools like EWARS for historical data analysis alongside weather predictions to prevent nutrition-related diseases. There needs to be a focus on improving food security and nutrition for vulnerable groups during climate-related disasters to combat malnutrition. Digital platforms need to be established that integrate climate data, agricultural practices, and nutritional outcomes. This includes creating mobile apps to share research and information, especially in remote areas with limited internet access. Innovative financial mechanisms e.g. green bonds and climate funds to support sustainable agriculture and nutrition initiatives need to be explored. It is important to advocate for policies that incentivize sustainable agricultural practices, including subsidies for renewable energy and climate-resilient practices, and engage local research institutions and universities to conduct interdisciplinary studies on climate change and nutrition, tapping into local knowledge and traditional practices. It is also important to engage local communities in participatory research to integrate indigenous knowledge with modern solutions, ensuring culturally appropriate interventions. These investments should aim to enhance resilience to climate change while improving nutritional outcomes, aligning with long-term low-carbon strategies. The focus on data collection, community engagement, and scaling effective solutions are essential for sustainable development.

**Mr M H A M Riflan, Director General, Partnership Secretariat for World Food Programme Cooperation, Presidential Secretariat, Colombo, Sri Lanka**

i. *What partnerships are being forged with other sectors (e.g., health, education, environment) to address the interconnected challenges of climate change and malnutrition? Do you have any examples to share that you think will work in the WHO South East Asia regional context?*

**Response:** In Sri Lanka, multi-sectoral partnerships are being established to tackle the interconnected challenges of climate change and malnutrition, focusing on collaboration between various ministries and stakeholders such as the health, education, environment, and agriculture sectors. These efforts are crucial in addressing climate change's threat to food and nutrition security, particularly for vulnerable populations.

Key partnerships include:

1. **South-South Triangular Cooperation Projects**: These aim to strengthen smallholder farmers' resilience to climate risks by leveraging technological solutions, with support from China. Partners include the Ministries of Agriculture from Sri Lanka and China, WFP, district secretaries, and private companies.
2. **Thriposhan Program**: A collaboration between the health and nutrition sectors, this program provides fortified supplements to vulnerable groups like pregnant women and young children. It aims to combat malnutrition but has faced challenges due to adverse weather conditions affecting local maize production, leading to reliance on imports facilitated by the WFP.
3. **ADAPT4 Project**: A regional initiative focused on enhancing the resilience of vulnerable communities in Sri Lanka and India to climate change. It involves partnerships between the Ministry of Environment, WFP, Department of Agriculture, and other government agencies, aiming to provide early weather information to farmers to better prepare for climate change.

These partnerships, supported by the President's Office, help align the different mandates of ministries and foster coordinated action to build national resilience to climate change while addressing malnutrition.

**Dr. Mohammad Ferdous Rahman Sarker, Senior Scientific Officer, Institute of Epidemiology, Disease Control & Research (IEDCR)**

i. *How important do you think are the climate change processes such as national adaptation planning for ensuring nutrition security?*

**Response:** The Bangladesh National Adaptation Plan (NAP), (2023-2050) spans 264 pages, but only four pages are dedicated to nutrition, which is insufficient given its importance to health and food security. Nutrition and its impact on human health should be more thoroughly addressed in the NAP, especially considering the broader socioeconomic and demographic influences of nutrition deficiency. While several ministries (e.g., Agriculture, Fisheries and Livestock, Water Resources, Food, Disaster Management, and Environment) have incorporated their plans into the NAP, the health sector is underrepresented. A key example is the progress made in food security through the introduction of new saline-tolerant, heat-stressed, and cold-stressed rice variety, have helped triple rice production since 1970, during this time Bangladesh has seen its population grow from 75 million to 160 million. However, food insecurity can still arise, particularly after disasters, underscoring the importance of collaboration between the Ministry of Disaster Management, Ministry of Environment, and other relevant ministries. A multi-sectoral approach is critical for adapting to challenges such as climate change and food security.

**Prof. Kraisid Tontisirin, Member, International Award Committee, Prince Mahidol Award Foundation Bangkok, Thailand**

i. *How do we ensure that the policies that we develop for integrated action on climate change and nutrition are equitable and address the needs of the marginalized communities, who often bear the brunt of both climate change impacts and food insecurity?*

**Response:** Marginalized populations are disproportionately impacted by both climate change and food insecurity. Policies aimed at climate change and nutrition must prioritize these vulnerable groups and areas. Localized, community-based actions are essential. Programs should involve local communities and stakeholders who understand the specific needs of vulnerable populations, helping to design effective, targeted interventions. There is a gap between global policies (such as the Sustainable Development Goals - SDGs) and local action. Localization of SDGs is critical to address climate and nutrition challenges at the grassroots level. Effective solutions require partnerships between various sectors (health, education, environment, agriculture). Collaboration among stakeholders, including government ministries, private sectors, and international organizations (like WFP and WHO), is crucial. Despite decades of discussion on multi-sectoral involvement, achieving coordinated action remains difficult. A shift towards a multi-stakeholder approach, which involves relevant partners at all levels, is suggested as a more practical and effective strategy. Successful examples of partnerships include initiatives like the South-South triangular cooperation and nutrition programs in Sri Lanka, demonstrating how partnerships can strengthen resilience and address food security and climate challenges.

i. *What according to you are ways to monitor the effectiveness of policies and programmes aimed at integrating climate action and nutrition goals?*

**Response:** There is a need for robust data collection and evaluation methods to track progress and identify areas for improvement. Research and innovation are crucial for developing evidence-based policies that link climate change and nutrition. Effective governance is essential for management, involving transparency, accountability, and multi-sectoral participation. There is a need for outcome indicators E.g. Monitoring emissions, particularly methane from rice production and livestock, tracking the percentage of forests and mangrove restoration, as well as carbon credits, can incentivize community involvement. Using early warning systems to enhance preparedness in high-risk areas, can mitigate damage from climate impacts. Assessing food security through availability, access, utilization, and stability is crucial, especially as extreme weather affects crop and livestock production. Monitoring dietary diversification and the nutritional status of vulnerable populations is important, along with access to clean water and sanitation. Engaging academic and research institutions for new evidence-based ideas to improve policy strategies is essential.

Overall, the interconnectedness of climate and nutrition goals and the importance of integrating scientific research into policy and monitoring efforts was highlighted .

**Mr. Caetano dos Santos Cristovao, Senior Officer Unit of Agribusiness, Food Security and Cooperation Ministry of Agriculture, Livestock, Fisheries and Forestry, Timor-Leste**

i. How can agricultural practices be modified to both mitigate climate change and improve nutritional outcomes?

**Response:** Integrating good agricultural practices (GAP) with climate change mitigation and nutrition enhancement is essential. One effective approach is encouraging small farmers to diversify their crops, which can boost production and minimize risks. This can involve crop rotation, such as replacing paddy with corn or beans after harvest, or adopting intercropping techniques to grow multiple crops on the same land. For instance, in Timor-Leste, integrating trees with crops like coffee has demonstrated benefits such as improved soil health, reduced erosion, and enhanced water infiltration, ultimately supporting both crop yields and environmental sustainability. The use of certified, environmentally friendly seeds is equally important, as unregulated seeds can contribute to greenhouse gas emissions. Shifting from chemical to organic fertilizers offers a cost-effective alternative for small farmers while reducing environmental impacts. Providing training to farmers on organic farming practices can further promote sustainable agriculture.

Overall, Mr. Dos Santos-Quistarao advocated for practical, sustainable approaches in agriculture that can simultaneously address climate change and nutritional needs.

**Mr. Ibrahim Mohamed, Environmental and Social Safeguards Specialist (PMU), Ministry of Finance, Maldives**

i. What financing mechanisms/plans are available to support funding needed by ministries for integrated action on climate change and nutrition? Give us an example with reference to Maldives?

**Response:** The Maldives heavily focuses on climate finance, particularly for physical adaptation projects, such as coastal protection due to its vulnerability to sea-level rise and coastal erosion. The Maldives spends around $300 million annually on such projects, though adaptation efforts related to social and health sectors, including nutrition, are less mainstreamed. Key financing mechanisms include:

- **Global Financing Mechanisms and Donor-Driven Funding**: The Maldives secures climate adaptation finance primarily through multilateral banks and donor-driven sources
- **Integrated National Financing Framework (INFF)**: Developed in partnership with UNDP and other UN agencies in 2023, this framework helps mobilize and align all necessary resources across sectors, including public and private partnerships. While it currently does not include nutrition, the framework focuses on aligning finance flows with sustainable agendas, mainstreaming sustainability into risk management, and mobilizing new sources of sustainable finance.
- **Private Sector Engagement**: The framework aims to involve the private sector through mechanisms like insurance to address gaps in financing.

Though nutrition is not yet fully incorporated, the Maldives is working on its third national communication and adaptation plan, aiming to better integrate nutrition-related issues in the future.

In conclusion, the discussions highlighted the challenges of scaling successful pilot projects across various sectors, particularly in forestry, agriculture, and health. Despite having successful evidence and experiences, scaling is often hindered by financing mechanisms and resource availability.

**Conclusion**

Key insights from the panel discussion can be summarized as follows:

1. **Advocacy and Awareness**: There's a need to raise awareness based on evidence to convince policymakers and secure commitments for resource mobilization.
2. **Incremental Costs and Incentives**: Projects should be integrated into broader planning, focusing on incremental costs and leveraging private investment through incentives, such as job creation.
3. **Learning from Pilots**: Successful pilot projects should inform best practices and be gradually scaled, emphasizing the importance of community engagement and private sector involvement.
4. **Collaborative Efforts**: Partnerships with global organizations can help raise awareness and facilitate funding and resources, especially for marginalized communities.

In summary, the scaling of successful initiatives requires a multifaceted approach that combines advocacy, effective financing, community involvement, and strategic partnerships.

**Country case study 5- Multisectoral response to mitigate the effects of climate change on nutrition– Sri Lanka**

Sri Lanka, with an area of over 65,000 square kilometers and a population of approximately 22 million, has implemented a free healthcare policy that has led to strong health outcomes: a life expectancy of 77.6 years and an infant mortality rate of 5.7 per 1,000 live births. However, the nation faces significant climate challenges, having experienced a steady temperature increase since 1961 and rising extreme weather events, including droughts, floods, and intense rainfall. The impacts of climate change are varied across Sri Lanka's two main zones: the dry and wet zones. Projections indicate that the wet zone may improve, while the dry zone is likely to become drier, exacerbating issues like food insecurity and nutritional deficiencies, particularly in vulnerable communities.

In response, Sri Lanka has developed comprehensive climate policies, including:

- *National Adaptation Plans:* Integrating nutrition, food security, and environmental health.
- *Climate-Smart Agriculture:* Promoting sustainable agricultural practices to enhance food availability and safety.
- *Carbon Tax Utilization:* Redirecting carbon tax revenues to alleviate poverty in vulnerable populations.
- *Women's Empowerment:* Involving women in agriculture to strengthen food security.
- *Health and Environmental Safeguards:* Enhancing monitoring of climate-induced health issues and diseases.

Notable initiatives include pilot projects e.g. *Healthy Landscape Project (2021-23),* supported by GEF, with a total budget of $2 billion aimed at revitalizing the ancient village tank system for better water management and agricultural productivity. It's a multistakeholder project to implement biodiversity-based options to manage landscape and strengthen institutions, policies and knowledge management for better support. It targets restoration and sustainable management of multiple Village Tank Cascade Systems to withstand drought and promote farming. It is owned by the Community (CBOs) and monitored by respective government agencies. One of the main objectives of the project are to improve agriculture and land use management, enhancing food security and ecosystem health. The project directly benefits 2,000 families and has reached 4,500 individual families. The project aims to tackle challenges like drought severity and nutrient deficiencies among local communities, promoting overall health, food security, and biodiversity through sustainable management practices.

In conclusion, Sri Lanka's multi-faceted approach to addressing climate change's impact on nutrition illustrates the importance of integrated policy measures and community engagement. This case study highlights the significance of adaptive strategies in ensuring food security and health in the face of climate challenges.

**Country case study 6 - Multisectoral coordination for nutrition in Bhutan**

Bhutan, a highly mountainous country, is significantly affected by climate change, experiencing glacial lake outburst floods, landslides, erratic rainfall, and other climate-related challenges that impact agriculture and food security. Despite being carbon neutral, Bhutan faces rising temperatures and water scarcity, which threaten crops like rice and potatoes.

Bhutan's recent *National Health Survey 2023* revealed a high burden of undernutrition, including stunting (18%), wasting (5%), underweight (9%), anemia, and widespread micronutrient deficiencies across all population groups. To address these issues, Bhutan recently approved the *Food and Nutrition Security Policy of 2023*, which promotes multi-stakeholder coordination, involving key ministries like Agriculture, Health, and Education, to improve nutrition and address climate challenges through climate-smart farming and weather prediction systems.

Bhutan also has a Health National Adaptation Plan for Climate Change (HNAP) and a National Nutrition Strategy and Action Plan, both of which include climate-related provisions. The National Nutrition Task Force brings together all major stakeholders in nutrition, including government departments and international organizations like WHO and UNICEF, to collaborate on evidence-based plans and policies. Bhutan's focus on climate-resilient food systems and multi-sectoral coordination is still in its early stages, but the country is making strides in integrating climate change and nutrition interventions.

**Country case study 7- Thailand's approach to integrate climate change and nutrition**

Thailand ranks ninth globally in vulnerability to climate change, facing challenges like uncertain rainfall patterns, extreme floods, droughts, and subsequent food insecurity and malnutrition. As the 19th largest emitter of greenhouse gases, primarily from the energy and agriculture sectors, the country anticipates a decline in the production of key crops such as rice, sugarcane, and cassava by 2046-2055. Despite efforts, exclusive breastfeeding rates remain low at 28.6%. However, including other feeding practices raises this figure to 73.9%. The country follows global nutrition targets and recognizes the pressing need to address malnutrition exacerbated by climate change.

Thailand's response is structured around multiple national plans:

- 13th National Economic and Social Development Plan (2023-2027)
- Climate Change Master Plan (2015-2050)
- National Adaptation Plans (NAPs), encompassing agriculture, food security, and public health.

Key initiatives include:

- **Strategic Framework for Food Management (2018-2037)** focusing on food security, safety, education, and management.
- **National Food Committee**, chaired by the Deputy Prime Minister, oversees sub-committees addressing food security, quality, nutrition linkages, and management.
- **Provincial Crop Calendar**: Developed by the Office of Agricultural Economics, this tool forecasts agricultural production to enhance food security and nutrition management.
- **Child Support Grant**: A social protection initiative providing monthly support to vulnerable families to improve nutrition (USD 6 per child per month until 6 years of age).
- **Water and Food Safety Surveillance**: Managed by the Ministry of Public Health, this system ensures food safety standards and supports health education.
- **School Feeding Programs**: Linking local agriculture to school meals, fostering nutrition literacy and healthy eating habits among students.

Challenges and Future Directions- Despite having a national framework, challenges remain in coordinating implementation and integrating databases on climate change and nutrition. Future efforts will focus on:

- **Integrating Databases**: Streamlining data related to climate change and nutrition for better analysis and action.
- **Research and Indicators**: Developing joint indicators to prioritize investments and strategies amid resource constraints.

In conclusion, Thailand's comprehensive approach to addressing the intersection of climate change and nutrition underscores the importance of multi-sectoral collaboration and targeted policies. Ongoing efforts to refine data management and enhance community-based initiatives are crucial for improving food security and nutritional outcomes in the face of climate challenges.

## ***Day 3 ***

The day began with participants sharing their thoughts and reflections on the previous day's discussions which included partnerships, multi-sectoral coordination, and country presentations. Key points of reflection included:

1. **Sri Lanka's Initiatives**: A representative from Sri Lanka highlighted two major efforts:
    - Integrating social safety nets with climate data to assess people's vulnerabilities.
    - Establishing a District Food Security Network (DFSN) to facilitate coordination among stakeholders at the district level on climate, disaster management, and health needs.
2. **Linking Agriculture and Climate Change**: It was noted that climate vulnerabilities significantly affect farmers' productivity and investments. The discussion pointed to the importance of strengthening interlinkages between agriculture, social protection, and finance sectors to address these challenges.
3. **Women's Role in Agriculture**: There was an emphasis on the critical role women play in agriculture. Women's self-help groups and farmer producer organizations are key contributors to poverty alleviation, and they could be further engaged in climate-smart agriculture initiatives.
4. **Supply Chain and Nutrition**: A speaker from Bangladesh stressed the importance of shortening food supply chains to reduce greenhouse gas emissions and highlighted the impact of the pharmaceutical industry, particularly nutrition supplements, on emissions. This reflection suggests the need to consider environmental impacts in nutrition policies.
5. **Food Quality and Safety**: Another participant emphasized that maintaining food quality is crucial, regardless of the quantity produced. They advocated for better data, evidence generation, and institutional capacity-building to ensure food safety, especially in resource-limited settings.
6. **Role of Women Volunteers**: The critical role of women volunteers, especially in household nutrition and health practices, was highlighted. Countries like Nepal and Sri Lanka have mobilized women volunteers to promote diverse food preparation and better nutrition practices at the household level.
7. **Scaling Up Pilot Projects**: The challenge of scaling up successful pilot projects was discussed. There was a reminder from the previous panel discussion that scaling requires careful planning and mobilizing sufficient evidence to advocate for resource allocation.

It concluded with reminders of the importance of localization and scaling up successful initiatives, along with the need for ongoing collaboration between sectors.

## Session 8 – Action planning and next steps towards systems level transformation for integrated action on climate change and nutrition

This session included country group work to identify next steps for coordinated action on climate change and nutrition on how to move forward in the areas of i) policy and programme strengthening, ii) strengthening multistakeholder coordination platforms and accountability mechanisms, iii) Joint monitoring targets and indicators, iv) closing the gaps on data, evidence and research, and v) mobilizing funds. A template was provided to countries to develop an action plan. The action plans developed by each country are summarized below-

**Bangladesh**

| Action Area | Key priorities /planned interventions | Timelines | Key Stakeholders/Responsibilities | Resources needed | Support needed |
|---|---|---|---|---|---|
| **1.Policy and Programme** | Review the policy and strategies using climate change and nutrition lens and develop respective plan of actions | 1 year | Ministry of Environment, Forest and Climate Change, Water Resources, Agriculture, Fisheries and Livestock, Disaster Management and Relief, Rural Development and Cooperatives Division, Women and Children Affairs, Primary and mass education Industries, Health Services Division, NNS, IPHN, BNNC,, IEDCR, Food, Secondary and Higher Education Division, Social Welfare. Cabinet Division (PMO), Development Partners and Academia | Technical, Financial and human resource Technical, Financial and human resource | World Bank, UNDP, FAO, WHO, WFP, GAIN, GIZ, USAID, UNICEF, SUN |
| | Vulnerability and adaptation assessment for nutrition through coordinated approach | 1 year | | | |
| | Public expenditure review including financial tracking | 1year | | | |
| **2.Strengthening MSP and accountability** | Strengthening coordination platforms ( e.g. Bangladesh National Nutrition Council, food policy monitoring unit, SDG tracking committee, and NAP Secretariat) for linking nutrition and climate change actions (includes advocacy to activate these platforms) | 3-5 years | | | |
| **3.Joint Monitoring** | Develop combined indicators for climate change and nutrition (review existing documents and | 3 years | | | |

| Action Area | Key priorities /planned interventions | Timelines | Key Stakeholders/Responsibilities | Resources needed | Support needed |
|---|---|---|---|---|---|
| **Targets and indicators** | indicators, incorporate climate change aspects, and finalize a joint monitoring system within three years) | | | | |
| **4.Closing data and evidence gap** | Review of existing innovations and research on nutrition and climate change (across multiple sectors, including health, agriculture, and disaster management) through desk review | 3 years | | | |
| | Baseline assessment on nutrition and climate change | | | | |
| **5.Ideas for Mobilizing Funds** | Bangladesh Climate Change Trust Fund, Green Climate Fund, Least Developed Countries Fund, Bangladesh Delta Plan- 2100-mobilization and create a multi-donor funding pool (including private sector while ensuring no conflict of interest) | 5 years | | | The World Bank, UNDP, FAO, WHO, WFP, GAIN, GIZ, USAID, UNICEF SUN, PPPA (Public Private Partnership Authority) |
| In summary, Bangladesh's plan includes policy reviews, multi-sectoral strengthening, developing monitoring indicators, closing data gaps, and mobilizing funds with significant support from international and local stakeholders. | | | | | |

**Bhutan**

Bhutan follows a five-year planning cycle and is currently in the 12th plan, set to transition to the 13th plan in July 2024, running until June 2029. Bhutan's approach is to incorporate relevant components into comprehensive policies rather than creating multiple stand-alone policies. All policies must be backed by action plans.

| Key Action Areas | Where are we? | Where do we want to go? |
|---|---|---|
| **Policy and Programme Strengthening** | Food and Nutrition Security Policy 2023 adopted | Incorporation of climate component in the policy during 13th FYP (FY 2024-29) |
| **Multistakeholder coordination** | National Nutrition Task Force (NNTF) formed in the year 2021<br>and the meeting is conducted as and when required. | • Regularize coordination meetings every 6 months, or as and when required.<br>• Strengthen the National Nutrition Task Force by including representatives from climate change bodies.<br>  ○ Inclusion of new representative/focal points e.g. from the Department of Environment and Climate Change<br>  ○ Inclusion of local government representatives<br>  ○ Other key partners e.g. Ministries of health, agriculture, education, and international organizations like WHO and UNICEF, WFP, FAO. |
| **Monitoring Targets & Indicators** | • Periodic national health surveys<br>• Monitoring using DHIS2 online platform | Joint monitoring. |
| **Closing data & evidence gaps** | No data sharing mechanism | Improving data quality, and creating a data-sharing mechanism across sectors. |
| **Identifying areas for research & Innovation** | • No integrated research in areas of Nutrition, Climate change and Agriculture<br>• Poor data sharing mechanism | Integrate research efforts from the Ministries of Health and Agriculture, reducing silos and fostering collaboration. |

**India**

| Action Area | Key priorities /planned interventions | Key Stakeholders/Responsibilities | Resources needed | Support needed |
|---|---|---|---|---|
| **Policy and program strengthening** | • Traditional and natural farming practices<br>• Crop disease surveillance /crop health assessments<br>• End-to-end Agri crop value chain for timely delivery of quality food and reducing food wastage<br>• Storage facilities<br>• Real time inventory management – integration of all storage facilities<br>• Public awareness for food safety and wastage<br>• Promotion of traditional diets<br>• Inclusion of climate change related impacts in nutrition policies<br>• Climate resilience at GP level to be mainstreamed | NITI Aayog, Concerned Ministries, State governments, Local governments, Private sector<br>Industries, Academia<br>CSOs/NGOs, Citizens | Technical and financial | Best practices/Country experiences/Support for running of pilots from development partners |
| **Multistakeholder coordination platforms and accountability mechanism** | • Institutional mechanism for dialogue with CSO/NGOs<br>• Active platforms for citizen engagement<br>• Ministry level-academia, think-tanks, experts etc.<br>• Capacity building at state governments<br>• Better monitoring at sub-national level | | Tech and human resources | |
| **Joint Monitoring target and indicators** | • Sub-national capacity building for target development and monitoring<br>• Inter-sectoral target and indicators | NITI Aayog, Concerned Ministries, State and local governments | Tech support | |

| Action Area | Key priorities /planned interventions | Key Stakeholders/Responsibilities | Resources needed | Support needed |
|---|---|---|---|---|
| | • Multi-ministerial targets to better align with the Sustainable Development Goals (SDGs). Need for cross-ministry target monitoring, capacity building at state and local levels, and technical assistance from partners. | | | |
| **Closing data and evidence gaps** | • India specific evidence on impact of climate change on nutrition<br>• Nutrition vulnerability assessment at sub-national level<br>• Evidence based District level nutrition contingency planning<br>• Real time data on nutrient status, food production and climate change related impacts | ICAR, ICMR, IMD, National Disaster Management Authority, DSTMinistry of Women and Child Development | Technical support and financial support | |
| **Research and innovation** | • Climate resilient crop varieties<br>• Food safety – farm to fork<br>• Real time surveillance of climate related food and nutrition issues<br>• Nutrition delivery mechanism<br>• Low cost sustainable diets<br>• Eco-friendly integrated supply chain management of food products<br>• Sustainable and remunerative farming practices<br>• Nutrition recipes/formulations<br>• Behavioural science | ICAR, ICMR<br>Academia, Ministry of Agriculture, MoWCD<br>Ministry of Food and Public Distribution System | Technical support | |

**Maldives**

| Action Area | Key priorities /planned interventions | Timelines | Key Stakeholders/Responsibilities | Resources needed | Support needed |
|---|---|---|---|---|---|
| **Policy and programming strengthening** | • Mapping/ Rapid Assessment of existing sectoral plans to identify inter-linkages | Y1 | MoH, Min of Climate Change and Environment and Energy (MCCE), Ministry of Agriculture and Animal Welfare (MAAW), Finance, Min of Planning, Donors, Local Govt. | HR, Technical Support | Financial and technical support from partners WHO, UNICEF WB , ADB |
| | • Develop a concept paper for policy makers | Y1<br>Y2 | MoH, MCCE, MAAW, Finance, Min of Planning, Donors, Local Govt. | Technical Support | Financial and technical support |
| | • Nutrition and Climate change in next HNAP | Y3 | MoH, MCCE, MAAW, Finance, Min of Planning, Donors, Local Govt, Civil Society, | Technical Support | Financial and technical support, WHO |
| | • Incorporate climate aspects to FBDGs | Y1 | MoH, MCCE, MAAW, Finance, Min of Planning, Donors, Academia | Technical Support | |
| **Strengthening Multi stake holder coordination platforms** | • Reformulate/Create sectoral committees by leveraging existing platforms, such as NCD task forces and GAP schemes, to improve coordination between key ministries. | Y1-Y2 | MoH, MCCE, MAAW, Finance, Min of Planning, Donors, Local Govt, Civil society, | HR | Financial and technical support |
| **Joint monitoring targets and indicators** | • Develop a framework for Joint indicator identification<br>• Contextualized assessment tools for Maldives | Y1-Y2 | MoH, MCCE, MAAW, Finance, Min of Planning, Donors, Local Govt, Civil society, National Bureau of Statistics, NCIT | Technical Support | Financial and technical support |

| Action Area | Key priorities /planned interventions | Timelines | Key Stakeholders/Responsibilities | Resources needed | Support needed |
|---|---|---|---|---|---|
| **Closing data and evidence gaps** | • Conduct baseline assessments to understand the inter-linkages between nutrition and climate change using existing databases. | | MoH, MCCE, MAAW, National Bureau of Statistics, NCIT | Technical Support | Financial and technical support |
| **Identifying research and innovation areas** | • Understanding the relationship of climate change on nutrition in the country context<br>• Review National Health Research Areas<br>• Academia and local research entities to be involved, with a focus on total diet studies and evidence on pesticides in the food chain. | Y1-Y3 | MoH, MCCE, MAAW, Finance, Min of Planning, Donors, National Bureau of Statistics, Academia | Technical Support | Financial and technical support |
| **Ideas for mobilizing funds** | • Establish local accredited entity to access funds<br>• Identify intermediaries<br>• Explore in-kind contributions + non-financial contributions<br>• Establish credit schemes for micro-financing<br>• Strengthen existing partnership between SDFC | Y1-Y3 | MoH, MCCE, MAAW,Finance, Min of Planning, Donors, National Burea of Statistics,,Academia | Technical Support | Financial and technical support |

**Nepal**

| Action Area | Key priorities /planned interventions | Timelines | Key Stakeholders/Responsibilities | Resources needed | Support needed |
|---|---|---|---|---|---|
| **Policy and programme strengthening** | Updating of all relevant policies<br>• Food Safety Policy 2019<br>• Nationally Determined Contribution<br>• National Health Policy 2019<br>• Development of climate resilient GESI responsive Local Adaptation Plan of Action in 753 palikas<br>• Review of draft food system transformation pathway strategy in line with climate change, nutrition and health<br>• Integrate climate change and nutrition perspectives across ministries. While multi-sector platforms exist, they are not yet coordinated on these issues, and further efforts are needed to create a unified mechanism. | Mid-term (2024-2028) | Lead: by respective Stakeholder Ministries and line agencies, National Planning Commission (NPC), Development Partners (DPs)<br>Support: Private sector; Civil society organizations; Communities | Financial and Technical<br>HR | Technical support from, UNDP, FAO, UNICEF, WHO, GAIN<br>Best practices |
| **Joint Monitoring Targets and indicators** | Integration of climate change and nutrition issues in M&E frameworks | Contd. | NPC, Ministry of Agriculture Livestock and Development (MoALD) and respective ministries and DPs | Technical assistance | Financial support Needed with priorities |

| Action Area | Key priorities /planned interventions | Timelines | Key Stakeholders/Responsibilities | Resources needed | Support needed |
|---|---|---|---|---|---|
| | | | | | from WHO, FAO, UNICEF |
| **Closing data and evidence gaps** | 1. Integrated Research on Climate Change Nutrition and Public Health.<br><br>2. Promote research on indigenous crops, medicinal plants that are potential in Nepal | 2 yrs | Relevant ministries, NPC, National Health and Research Council, National Agriculture and Research Council-NARC, Ministry of Forest and Environment, MoALD, Academia | Financial and expertise | Technical and financial support from, WHO, FAO, GAIN |
| **Identifying areas for research and innovation** | Updating of Early Warning and Response System (EWARS)/ Development of Multi-hazard early warning System | Mid term | Ministry of Health and Population-MoHP, Ministry of Finance-MoF, DHM, DoHS, EDCD, relevant ministries & agencies | Technical, Financial, Human Resources | Technical and financial support from, WHO, UNDP, FAO |
| | Integration of climate, nutrition and health in different training curricula (e.g. Climate change Manual in National Health Training Center of MoHP). | | MoHP, MoFE, NPC, MoALD, NHTC, relevant agencies and ministries | Financial, Experts in climate change and nutrition | Technical and financial support from, WHO, FAO, UNICEF, SUN |
| **Technical and financial support from, WHO, FAO, UNICEF, SUN** | Enhance National Capacity to access global financing | Contd. | Ministry of Finance,<br>National Planning Commission,<br>Ministry of Forest and Environment,<br>Private sector,<br>Communities,<br>CSOs | Financial support needed from multi-donor (GCF, GEF, Adaptation Fund, FCDO, USAID etc.) | Technical assistance from WHO and other EDPs |

UNICEF ROSA raised a suggestion for Nepal to integrate climate vulnerability into upcoming national surveys, such as the 2025 National Micronutrient Survey and the Multiple Indicator Cluster Survey (MICS). This could help capture climate data across sectors without missing opportunities in ongoing surveys.

**Sri Lanka**

| Action Area | Key priorities /planned interventions | Timelines | Key Stakeholders/Responsibilities | Resources needed | Support needed |
|---|---|---|---|---|---|
| **Strengthening Policy and program & multi-stakeholder coordinating platforms** | Multi-sectoral awareness/ advocacy, Capacity Building to incorporate climate change and nutrition respectively in existing policies e.g. National Nutrition Plan, National Adaptation Plan, etc. to ensure nutrition-related activities are aligned with climate change impacts. | Short term (to be completed with a year) | Ministry of Environment, Agriculture, Health, DMC, Provincial Council | Experts: Climate change and Nutrition, Finance | WHO, UNDP, GCF, FAO, ICUN |
| **Joint monitoring targets & indicators** | Need to identify joint indicators to reflect the impact of climate change on Nutrition, especially since current nutrition indicators, like stunting and wasting, are stagnant. (stakeholder consultation) | | Ministry of Environment, Agriculture & Health | | GCF, WHO |
| **Closing data & evidence gaps** | Desk review and situational analysis on climate change data, nutrition & agriculture<br>Development of a multi-sectoral database for forecasting - unified platform to analyze how climate change affects nutrition | | | | |
| **Research & Innovations** | Research to relate climate change with nutrition impact | Medium-term | | | |

**Thailand**

| Key action areas | Where are we? | Where do we want to go? |
|---|---|---|
| **Policy and programme stengthening** | Thailand has NAP, HNAP, Food management Plan, Nutrition Plan. | Propose to add Nutrition issues to<br>• HNAP<br>• NAP Action Plan |
| **Strengthening multi stakeholders coordination platform and accountability mechanisms** | Currently, there are already existing platforms and mechanisms as listed above. | • Create mutual understanding through National conference on Nutrition<br>• Host a high-level dialogue between the Ministry of Natural Resources and Environment and the Ministry of Health, with support from WHO and FAO, to emphasize the global importance of the link between climate change and nutrition. This event aims to gain high-level agreement on the issue. |
| **Joint KPI** | N/A | • Research to identify appropriate local/national indicators (i.e. relationship between impacts of CC both slow onset and extreme events and nutrition.<br>• Develop specific impact chain that visualizes the link between climate change and nutrition, including key indicators and the timeline of activities- to help clarify the connection between climate change and nutrition in the country, building on existing global examples. |
| **Closing data and evidence gaps** | There are silo(ed) data sets (Climate change/Agriculture/Health) | • Data mapping to integrate siloed datasets (Climate Hazards map and Food insecurity and Vulnerable groups, also by household incomes) |
| **Identifying areas for research and innovation** | Crop calendar informs production which is used as a proxy for nutrition in those areas | • Linking climate conditions and hazards to crop calendar<br>• Climate change projection predicts agricultural production which in turn predicts nutrition of the local area |
| **Ideas for mobilizing funds** | WHO /<br>Domestic research Fund (วช) | WHO/FAO for convening<br>Domestic research Fund (วช) for research |

Thailand will engage multiple stakeholders, including departments of health, climate change, agriculture, and national statistics, along with academic institutions. They also have domestic funding sources, such as the National Research Fund and Thailand Science Innovation, to support these initiatives.

**Timor Leste**

| Action Area | Key priorities /planned interventions | Timelines | Key Stakeholders/Responsibilities | Resources needed | Support needed |
|---|---|---|---|---|---|
| **Policy Program strengthening** | Adapt policies to address climate change and nutrition, with a focus on political commitment | 2 yrs | Government, MoH, SUN | OGE<br>TA Support<br>DBS | EU, UNICEF, WHO |
| **Strengthening stakeholder coordination** | • To establish committees- climate change and nutrition<br>• Define roles and responsibility of different stakeholder | 1 yr | | | |
| **Joint Monitoring Target and indicator** | • Create data collection tools<br>• Establish monitoring indicators for climate change and nutrition<br>• TA needed | 1 yr | Government, MOH, MAP, MTE | | |
| **Identify area for research and innovation** | • Identify local macro & micro nutrition in local food product<br>• Local seed tolerant/resilient to climate change | 5 yrs | Government | | |
| **Closing data and evidence** | • Develop a centralized data system that links climate change and nutrition.<br>• TA needed to link with climate change & nutrition | 1 yr | Government | | |
| **Ideas for mobilizing funds** | Strengthening multi-sectoral coordination | 1 yr | Government, UNICEF, WHO, and the European Union. | | |

## Session 9 – Reflections and Way Forward

The meeting concluded with Dr. Hussain Rasheed, Regional Adviser- Water, Sanitation and Climate Change, SEARO, expressing gratitude and summarizing key takeaways. He highlighted the valuable learning and sharing of experiences, case studies, and good practices among the participating countries and stakeholders. The purpose of the meeting was to bring together like-minded partners to discuss the complex issue of climate change and nutrition, and the feedback from participants was largely positive.

On behalf of SEARO, Dr. Rasheed reaffirmed commitment to supporting the action points outlined by each country and emphasized that collaborative efforts would be critical in implementing these plans. Special thanks were given to the Government of Nepal for hosting the event, as well as key individuals and teams who contributed to the meeting's success. Participants contributions were also acknowledged, noting that without their input and engagement, the meeting's objectives would not have been achieved. He encouraged everyone to continue working together to achieve the concrete actions outlined during the meeting. Finally, the meeting was officially declared closed, with additional thanks extended to partners, resource people, and WHO focal points for their active participation.

*****Day 3 close*****

**Annexure I**

# WHO South-East Asia Regional meeting on nutrition and climate change
# Kathmandu, Nepal
# 14–16 May 2024

## List of Participants

| | | | |
|---|---|---|---|
| **Bangladesh** | | | |
| 1 | Dr Mohammad Ferdous Rahman Sarkar<br>Senior Scientific Officer<br>IEDCR, Directorate General of Health Services<br>Dhaka, Bangladesh<br>Email: ferdous48@yahoo.com | 2 | Dr Nandalal Sutradhar Deputy<br>Program Manager National<br>Nutrition Services<br>Directorate General of Health Services Dhaka, Bangladesh<br>Email: drnandalal@yahoo.com |
| 3 | Ms Fowzia Rahman<br>Deputy Secretary<br>Finance Division<br>Ministry of Finance<br>Dhaka, Bangladesh<br>Email: fowzia_rahman@yahoo.com | | |
| **Bhutan** | | | |
| 4 | Ms Dorji Wangmo<br>AHRO, Department of Environment and Climate Change<br>Ministry of Energy and Natural Resources Thimphu, Bhutan<br>Email: dorjiwangmo@moenr.gov.bt | 5 | Mr Domang<br>Principal Agriculture Officer<br>Agriculture Research Development Center Wengkhar<br>Ministry of Agriculture and Livestock Bhutan<br>Email: domang@moal.gov.bt |
| 6 | Mr Hari Prasad<br>Nutrition<br>Program<br>Non-Communicable Disease Division<br>Ministry of Health<br>Thimphu, Bhutan<br>Email: hppokhrel@health.gov.bt | 7 | Mr Prem Kumar Neopanay<br>Senior Dietician<br>Jigme Dorji Wangchuck National Referral Hospital<br>National Medical Services<br>Thimphu, Bhutan<br>Email: pkumar@jdwnrh.gov.bt |
| **India** | | | |
| 8 | Mr Hemant Kumar Meena<br>Deputy Secretary Niti Aayog New Delhi<br>Email: wcd-niti@gov.in | 9 | Dr Tapan Seal Scientist 'E Plant<br>Chemistry Department Botanical Survey of India<br>Acharya Jagadish Chandra Bose Indian Botanic Garden<br>Shibpur, Howrah<br>Email: kaktapan65@yahoo.co.in |

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|---|---|---|---|
| **Indonesia** | | | |
| 10 | Ms Prastiwi Dewi Anggraini, STP., M.Si<br>Food Security Analyst<br>National food Agency<br>Jalan Harsona RM Nomor 3 Ragunan<br>Pasar Mainggu Jakarta 12440.<br>Email: dhewi_an@yahoo.com | | |
| **Maldives** | | | |
| 11 | Mr Ali Amir<br>Director<br>Ministry of Agriculture and Animal Welfare<br>Male, Maldives<br>Email: ali.amir@agriculture.gov.mv | 12 | Mr Ahmeem Farish<br>Associate Public Health Specialist<br>Health Protection Agency<br>Male, Maldives<br>Email: ahmeem.farish@health.gov.mv |
| 13 | Ms Fathimath Thohira<br>Public Health Coordinator<br>Health Protection Agency<br>Male, Maldives<br>Email: f.thohira@health.gov.mv | 14 | Ms Fathimath Zaina Shareef<br>Program Officer<br>Ministry of Climate Change, Environment and Energy<br>Male, Maldives<br>Email:<br>Fathimath.zaina@environment.gov.mv |
| 15 | Mr Ibrahim Mohamed<br>Environmental and Social Safeguards Specialist (PMU)<br>Ministry of Finance<br>Male, Maldives<br>Email: ibrahim.mohamd@finance.gov.mv | | |
| **Nepal** | | | |
| 16 | Dr Samir Kumar Adhikari<br>Senior Health Administrator<br>Ministry of Health and Population<br>Government of Nepal<br>Kathmandu, Nepal<br>Email: adhikarispk@gmail.com | 17 | Dr Anu Shakya<br>Senior Health Administrator<br>Department of Health Services<br>Ministry of Health and Population<br>Government of Nepal<br>Kathmandu, Nepal<br>Email:shakyanu@gmail.com |
| 18 | Ms Shila Gnyawali Forest Officer Ministry of Forest and Environment Government of Nepal<br>Kathmandu, Nepal<br>Email: shila.gnyawali.2022@gmail.com | 19 | Mr Lakshya Bahaur Chaudhary Plant Protection Officer<br>Ministry of Agriculture and Livestock Development<br>Government of Nepal<br>Kathmandu, Nepal<br>Email:lakshya.moald@gmail.com |
| 20 | Mr Shiva Ranjan Poudyal<br>Program Director, National Planning Commission | 21 | Mr Chandra Prakash Basnet<br>Planning Officer, National Planning Commission |

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|---|---|---|---|
| | Government of Nepal Kathmandu, Nepal<br>Email: srpoudyal@npc.gov.np | | Government of Nepal<br>Kathmandu, Nepal<br>Email: spbasnet@npc.gov.np |
| **Sri Lanka** | | | |
| 22 | Dr Janitha Tennakoon<br>Provincial Director of Health Services<br>Uva Province, PDHS Office<br>R H Gunawardhane Mawatha, Badulla<br>Sri Lanka<br>Email: janithatennakoon@yahoo.com | 23 | Mr K G M Shaminda<br>Deputy Director<br>Ministry of Agriculture and Plantation Industries,<br>80/5, "Govijana Mandiraya"<br>Rajamalwatte Lane, Battaramulla<br>Sri Lanka<br>Email: shamindamanjula41@gmail.com |
| 24 | Mr R S K Doolwalage<br>Director, Environment Education Training Promotion & Special Projects<br>Ministry of Environment<br>Sobadam Piyasa No. 416/C/1, Mawatha<br>Battaramulla, Sri Lanka<br>Email: rdoolwalage@hotmail.com | 25 | Mr D M Buddhika Gayan Diyagama Deputy Director<br>Department of National Planning<br>The Secretariat, Colombo 1<br>Sri Lanka<br>Email: buddhika.mppea@gmail.com |
| 26 | Dr Monika Wijeratne<br>Director, Nutrition Division<br>Ministry of Health, No. 385<br>Ven. Baddegama Wimalawansa Thero Mawatha, Sri Lanka<br>Email: monika.wijeratne@gmail.com | | |
| **Thailand** | | | |
| 27 | Miss Kornwipa Punnasiri<br>Public Health Technical Officer<br>Department of Health<br>Ministry of Public Health<br>Tivanond Road, Nonthaburi 11000 Thailand<br>Email: kornwipa.pun@gmail.com | 28 | Dr Saipin Chotivichien<br>Director, Bureau of Nutrition<br>Department of Health<br>Ministry of Public Health<br>Tivanond Road, Nonthaburi 11000 Thailand<br>Email: saipin.chotivichien@gmail.com |
| 29 | Mrs Sairak Chailanggar<br>Economist<br>Director, Division of Technology Agricultural Resources and Environment Economic Research<br>Ministry of Agriculture and Cooperatives<br>Bangkok, Thailand<br>Email: sairakc@gmail.com | 30 | Mr Teerapong Laopongpith<br>Director<br>Department of Climate Change and Environment<br>Ministry of Natural Resources and Environment<br>Bangkok, Thailand<br>Email: t.laopongpith@gmail.com |
| 31 | Mr Napattarapong Vajiravongburi<br>Policy and Plan Analyst<br>Division of Social and Human Resource Development Office of the National Economics and Social Development Council<br>Bangkok, Thailand<br>Email: napattarapong@nesdc.go.th | | |

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|---|---|---|---|
| **Timor-Leste** | | | |
| 32 | Mr Bernardo Soares Dias<br>Supply Officer<br>National Directorate for nutrition<br>Ministry of Health<br>Dili, Timor-Leste<br>Email: jhiodasilva@gmail.com | 33 | Ms Justina Pinto Food<br>Safety Officer<br>Environmental Health Department Ministry of Health<br>Dili, Timor-Leste<br>Email:Justinapinto36@gmail.com |
| 34 | Ms Fernanda Cesar da Silva Technical Staff<br>General Directorate of Environment<br>Ministry of Tourism and Environment Dili, Timor-Leste<br>Email: larakyra73@gmail.com | 35 | Mr Caetano dos Santos Cristovao<br>Senior Officer<br>Unit of Agribusiness, Food Security and Cooperation<br>Ministry of Agriculture, Livestock, Fisheries and Forestry<br>Dili, Timor-Leste<br>Email: cscristovao21@gmail.com |
| **Special invitees – Inauguration and observers** | | | |
| 36 | Dr Dipendra Raman Singh<br>Additional Secretary<br>Ministry of Health and Population<br>Kathmandu Nepal | | |
| **Consultant / Partner Agencies** | | | |
| 37 | Ms Anusara Singhkumarwong Regional Nutritionist United Nations World Food Programme Regional Bureau for Asia & the Pacific Bangkok, Thailand<br>Email: anusara.singhkumarwong@wfp.org<br>**Virtual participation** | 38 | Dr Amaka Odenigbo Country Action Specialist – Asia Scaling Up Nutrition (SUN) Movement Secretariat (SMS) Bangkok, Thailand<br>Email: marian.odenigbo@scalingupnutrition.org |
| 39 | Dr Warren T.K. Lee<br>Senior Nutrition and Food Systems Officer FAO Regional Office for Asia and the Pacific<br>Maliwan Mansion, Phra Atit Road<br>Bangkok 10200, Thailand<br>Email: Warren.Lee@fao.org<br>**Virtual participation** | 40 | Dr Rudaba Khondker<br>Country Director<br>Global Alliance for Improved Nutrition Level 4, House no-20<br>Road no-99, Gulshan-2 Dhaka,<br>Bangladesh<br>Email: rkhondker@gainhealth.org |
| 41 | Dr Lalith Hussain-Alkhateeb Associate Professor<br>Global Public Health<br>School of Public Health & community Medicine Sahlgrenska Academy<br>University of Gothenburg<br>Email:<br>laith.hussain@gu.se<br>**Virtual participation** | 42 | Dr Vani Sethi<br>Nutrition Specialist<br>United Nations Children's Fund Regional Office for South Asia<br>Lekhnath Marg, Lainchaur Kathmandu<br>Nepal<br>Email: vsethi@unicef.org |

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|---|---|---|---|
| 43 | **Brian Riley** PhD, M.Law<br>Health Specialist<br>Human and Social Development Sector Office, Sectors Group (SG-HSD)<br>Cell: +63 999 999 6456<br>Email: briley@adb.org<br>**Virtual participation** | 44 | Ms Jessica Colston The Global Alliance for Improved Nutrition (GAIN)<br>Email: jcolston@gainhealth.org<br>**Virtual participation** |
| **Experts** | | | |
| 45 | Mr M H A M Riflan<br>Director General<br>Partnership Secretariat for World Food Programme Cooperation<br>Presidential Secretariat<br>Colombo, Sri Lanka<br>Email: dg.pswfpc@presidentsoffice.lk; | 46 | Dr Perdinan, PhD, MNRE<br>Associate Professor<br>Department of Geophysics and Meterology<br>Bogor Agricultural University<br>Indonesia<br>Email: perdinan@apps.ipb.ac.id<br>**Virtual participation** |
| 47 | Professor Kraisid Tontisirin<br>Member<br>International Award Committee<br>Prince Mahidol Award Foundation Bangkok, Thailand<br>Email: kraisid.tontisirin@gmail.com | | |
| **WHO/HQ** | | | |
| 48 | Ms Lina Mahy<br>Technical Officer-Nutrition<br>WHO/HQ<br>Email : mahyl@who.int<br>**Virtual participation** | | |
| **WCO's** | | | |
| 49 | Dr Ahammadul Kabir<br>Programme Officer Climate Change<br>WCO Bangladesh<br>Email: kabirah@who.int | 50 | Ms Faria Shabnam<br>National Professional Officer – Nutrition<br>WCO Bangladesh<br>Email: shabnamf@who.int |
| 51 | Mr Raja Ram Pote Shretha<br>National Professional Officer-Env. Health<br>WCO Nepal<br>Email : poteshresthar@who.int | 52 | Dr Lonim Dixit<br>National Professional Officer-NCD & MH<br>WCO Nepal<br>Email : dixitl@who.int |
| 53 | Dr Dona Mallawaarachchi<br>National Professional Officer-NCD<br>WCO Sri Lanka<br>Email : mallawaarachchid@who.int | 54 | Dr Teeranee Techasrivichien<br>National Professional Officer-PH<br>WCO Thailand<br>Email : techasrivichient@who.int |
| 55 | Dr San Khine<br>National Professional Officer-MAL. & EH<br>WCO Myanmar<br>Email : khines@who.int | 56 | Dr Rachita Gupta<br>NPO-Nutrition<br>WCO India<br>Email : guptarac@who.int |

| **Secretariat** | | | |
|---|---|---|---|
| 57 | Dr Rasheed Hussain<br>Regional Advisor – WSC<br>Department of Healthier Populations and Non-communicable Diseases<br>WHO/SEARO<br>Email : hrasheed@who.int | 58 | Dr Angela De Silva,<br>Regional Advisor-NHD<br>Department of Healthier Populations and Non-communicable Diseases<br>WHO/SEARO<br>Email : desilvap@who.int |
| 59 | Ms Faustina Gomez<br>TO-WSC<br>Department of Healthier Populations and Non-communicable Diseases<br>WHO/SEARO<br>Email : gomezf@who.int | 60 | Mr Ravinder Negi<br>Executive Assistant<br>Department of Healthier Populations and Non-communicable Diseases<br>WHO/SEARO<br>Email: negir@who.int |
| 61 | Dr Sudan Raj Panthi<br>NPO Environment Health focal point<br>WHO-Nepal<br>Email : panthis@who.int | 62 | Mr Raja Ram Pote Shrestha<br>NPO Environment Health focal point<br>WHO-Nepal<br>Email : poteshresthar@who.int |
| 63 | Mr Silas Rai<br>Executive Assistant<br>WHO-Nepal<br>Email : rais@who.int | 64 | Ms Laxmi Dhakal<br>Executive Assistant (Programme)<br>WHO-Nepal<br>Email: dhakall@who.int |

**Annexure II**

## TENTATIVE AGENDA

## WHO South-East Asia Regional meeting on nutrition and climate change

## Kathmandu, Nepal, 14–16 May 2024

**Day 1 | 14 May 2024**

| **Session 1** | **Welcome, Introductions and Meeting Overview and objectives** | **Moderator:** Faustina Gomez- Technical officer, Water, Sanitation and Climate change |
|---|---|---|
| 8:30-9:00 | Registration | All participants |
| 9:00-9:15 | Opening Remarks by Regional Director and MoH Representative- Nepal | Dr. Hussain Rasheed, Regional Adviser (RA)-Water Sanitation and Climate Change (WSC), WHO SEARO (on behalf of RD SEARO)<br><br>Dr Dipendra Raman Singh, Additional Secretary of MoHP |
| 9:15-9:35 | Overview and objectives of the meeting and introduction of participants and administrative announcements | Dr. Hussain Rasheed |

9:35- 10:00 Group Photo and Coffee/Tea Break

| **Session 2** | **Context setting- Global and regional overview of the interlinkages between climate change, biodiversity, nutrition and its impact on health outcomes** | **Moderator:** Faustina Gomez |
|---|---|---|
| 10:00-10:15 | Global overview guidance, tools and training materials- Climate change and its impact on health and nutrition | Lina Mahy, Head, Cross-cutting Unit of Safe, Healthy and Sustainable Diet<br>Department of Nutrition and Food Safety, WHO HQ |
| 10:15-10:30 | Alliance for Transformative Action on Climate and Health (ATACH) – I-CAN Working Group<br>• Key functions, priorities, initiatives<br>• Report of the initiative on climate action and nutrition (I-CAN)- Key findings and key areas for country action | Jessica Colston, The Global Alliance for Improved Nutrition (GAIN) |
| 10:30-10:40 | **Q&A** | |
| 10:40-11:00 | Sustainable agri-food systems and climate change -key interventions identified at a global level which would work for the Asia Pacific region. | Dr. Warren T K Lee, Senior Nutrition & Food Systems Officer, |

| | | |
|---|---|---|
| (includes 5 minutes for Q&A) | | FAO-Regional Office for Asia and the Pacific (RAP) |
| 11:00-11:15 | Climate Change and Nutrition -Regional overview | Dr. Angela De Silva- Regional Adviser Nutrition and Health for Development (NHD), WHO SEARO |
| 11:15-11:30 | **Country case study 1**- Impact of flooding events on agricultural production and introduction of subsidy programmes for food security and building community resilience in **Timor-Leste** | Timor Leste |
| 11:30-11:45 | **Q&A** | |

| **Session 3** | **Key Drivers for improved Climate-Nutrition outcomes** | **Moderator:** Dr. Hussain Rasheed |
|---|---|---|
| 11:45-12:00 | Key drivers for the linkages between climate change and nutrition-An introduction<br>(10 minutes presentation /5 minutes- **Q&A**) | Faustina Gomez |
| 12:00-13:00 | World café- Areas for country action on key drivers linking climate change and nutrition | Faustina Gomez<br>Dr. Rudaba Khondker, Country Director-Bangladesh, GAIN |
| **13:00-14:00** | **Lunch** | |

| **Session 3** (cont..) | **Key Drivers for improved Climate-Nutrition outcomes (Cont.)** | **Moderator:** Faustina Gomez |
|---|---|---|
| 14:00-15:00 | World café- Plenary (Cont…) | |
| 15:00-15:40 | **Country case study 2** - Integration of nutrition in health vulnerability and adaptation assessments and national adaptation plans in Nepal<br><br>**Country case study 3**-Nutrition and climate change in Bangladesh | Nepal<br><br>Bangladesh |
| 15:40-16:00 | **Q&A** | |
| 16:00-16:20 | Expert session: Nutrition & Climate Change – Overview | Prof. Kraisid |

16:20-16:35 Coffee/Tea Break

***** Day 1 close *****

**Day 2 | 15 May 2024**

8:30-8:45 Opening – Day 2/ Recap of discussion for Day 1

| **Session 4** | **Marketplace-poster presentation** | **Moderator:** Dr. Angela De Silva, RA-NHD |
|---|---|---|
| 8:45-9:00 | Introduction to the exercise | |
| 9:00-10:15 | Poster presentation by countries on status of Nutrition and Climate Change- vulnerabilities, gaps, progress, adaptive actions taken at the country level. | All countries |
| 10:15-11:00 | **Plenary-** Discussion of key highlights/ lessons learned | |

11:00-11:15 **Tea/Coffee break**

| **Session 5** | **Opportunities for enhancing partner support** | **Moderator:** Dr. Marian Odenigbo, Scaling up Nutrition (SUN) Movement Secretariat |
|---|---|---|
| 11:15-12:15 | Partner support to countries to mainstream climate change into nutrition policies and programmes<br><br>Presentation by key agencies working at the intersection of climate change and nutrition (10 minutes each) | Presenters: Scaling up Nutrition (SUN) Movement Secretariat, UNICEF, WFP, GAIN |
| 12:15-12:40 | Plenary/Q&A | |
| 12:40-13:00 | **Country Case study 5-** Millets in social protection programmes for combating malnutrition and climate change in India | India |
| **13:00-14:00** | **LUNCH** | |

| **Session 6** | **Closing gaps on financing and improving monitoring and response systems for improved climate-nutrition outcomes** | **Moderator:** Faustina Gomez |
|---|---|---|
| 14:00-14:20 (Includes 5 minutes for **Q&A**) | **Mobilizing finances for nutrition and climate change**<br><br>Stepping up financial investments to transform agri-food systems, end poor diets and malnutrition, and ensure diets healthy and sustainable for people and the planet | ADB |
| 14:20-14:40 (Includes 5 minutes for **Q&A**) | **Improving monitoring and response systems for climate for nutrition and climate change**<br><br>Establishing climate-informed health early warning and response systems for improving the response to water and food-borne diseases that are an outcome of climate change | Dr. Laith Hussain, University of Gothenburg/ Dr. Axel Kroeger |

| **Session 7** | **Multisectoral response for nutrition and climate change** | **Moderator:** Dr. Angela De Silva, RA-NHD/ |
|---|---|---|

| | | |
|---|---|---|
| | | Faustina Gomez, TO-WSC |
| 14:40-15:40 | Panel discussion with experts/national representatives:<br>Role of different sectors in ensuring policy/plan coherence for nutrition and climate change– Health, Agriculture, Environment, Finance, etc. | <Panelists-TBD> |
| 15:40-16:00 | **Q&A** | |
| 16:00-16:15 | **Tea/Coffee break** | |
| 16:15-16:35 | **Country case study 4-** Multisectoral coordination for Nutrition in Bhutan | Bhutan |
| 16:35-16:50 | **Country Case study 5-** Multisectoral response to mitigate the effects of climate change on nutrition in Sri Lanka | Sri Lanka |
| 16:50-17:00 | **Country Case study 6-** The experiences on nutrition related to climate change programmes in Thailand | Thailand |

***** Day 2 close *****

**Day 3 | 16 May 2024**

8:30-8:45 Opening – Day 3/ Recap of discussion for Day 2

| **Session 8** | **Country Group Work- Action planning and next steps towards systems level transformation for integrated action on climate change and nutrition** | |
|---|---|---|
| 8:45-10:45 | Country Group work- Identifying avenues for- i) policy and programme strengthening, ii) strengthening multistakeholder coordination platforms and accountability mechanisms, iii) Joint monitoring targets and indicators, iv) closing the gaps on data evidence and research, v) mobilizing funds. | Country Groups |

10:45-11:00 Coffee/Tea

| **Session 9** | **Reflections and way forward** | |
|---|---|---|
| 11:00-12:00 | Country Group work – *(Cont…)* | Country groups |
| 12:00-12:45 | Plenary- Discussion of action plans by countries | |
| 12:45-13:00 | Where do we go from here?<br>• Tracking and supporting country progress<br>• Leadership and implementation at regional, national and sub-national level<br>• Rapid feedback from select participants<br><br>Closing Remarks and meeting close | Dr. Hussain Rasheed, RA-WSC |

13:00-14:00 Lunch and goodbyes

***** Day 3 close *****