

**Meeting in the Council for Development Policy on 1 June 2023**

Agenda Item No. 4

- 1. Overall purpose:** *For discussion and recommendation to the Minister*
- 2. Title:** Danish Organisation Strategy for the CGIAR Partnership 2023-2025
- 3. Amount:** DKK 90 million (2023-2025)
- 4. Presentation for Programme Committee:** 18 April 2023
- 5. Previous Danish support presented to UPR:** 27 January 2022

# Danish Organisation Strategy for the CGIAR Partnership 2023-2025

## Introduction:

The CGIAR is a global research partnership comprising 12 international centres, which conduct research in food and agriculture, nutrition and health, fisheries, water, land and natural ecosystems, targeting the global south.

**Key results:** Danish support for CGIAR research will contribute to:

- Climate change effects on small-scale producers, notably women, reduced (adaptation), and GHG emissions reduced
- Poverty reduced; livelihoods and jobs enhanced
- Nutrition, health and food security improved
- Environmental health and biodiversity enhanced
- Organisational effectiveness enhanced by supporting the One CGIAR reform

## Justification for support:

Enhancing research through CGIAR is of considerable importance for generating new knowledge and seeking innovative solutions for sustainable food systems transformation. High quality research can inform and improve Danish development programmes, consistent with partner's priorities and in conjunction with tackling climate change challenges.

## How will we ensure results and monitor progress:

Tracking of research results is carried out through regular performance reporting by the CGIAR entities, including the research Centres and the senior leadership team responsible for 33 research initiatives (2022-24). Funders and partners monitor research progress using knowledge management systems.

## Danish involvement in governance structure:

The MFA will participate in the decision making processes guiding One CGIAR reforms, selection of research priorities, etc. in close collaboration with other funders through the System Council. The 2023-25 multi-year contribution entitles Denmark to a voting seat on the Council.

<b>File No.</b>	2023-5101				
<b>Responsible Unit</b>	ELK				
<i>Mill. DKK</i>	2023	2024	2025	Total	
<b>Commitment</b>	30	30	30	90	
<b>Projected ann. Disb.</b>	30	30	30	90	
<b>Duration of strategy</b>	2023-25				
<b>Finance Act code.</b>	§06.34.01.75				
<b>Desk officer</b>	Hanne Carus				
<b>Financial officer</b>	Gitte Bruus				

## SDGs relevant for Programme



## Risks and challenges:

- In terms of reform processes, a potential risk is the limited ability of senior leadership to drive effectiveness and efficiency across the organisation
- Difficulties in the design, approval and implementation of common research initiatives, associated with slowdown in food systems transformation;
- Limited adoption of research findings
- Failure to attract additional pooled funding

## Strat. objectives

Denmark will contribute to CGIAR achieving its goals in the Strategy 2030 within the overall objective to **encourage and enable a green food systems transformation in the context of climate change**, taking the challenges of climate change adaptation and mitigation (reducing GHG emissions) fully on board.

## Priority areas

Danish funding will prioritise following impact area from the CGIAR 2030 research and innovation strategy:

1. Adaptation to climate change and greenhouse gas reduction
2. Poverty reduction livelihoods and jobs
3. Nutrition, health and food security
4. Environmental health and biodiversity

In addition, Denmark will pursue:

5. Enhanced organisational effectiveness (through contribution to the One CGIAR reform process)

## Core information

Established in 1971 as the Consultative group on international agricultural research, the CGIAR System Organisation has been reorganised between 2019 and 2023. The main office is located in Montpellier, France, where the organisation is registered.

Chair of the System Council: Jürgen Voegelé, World Bank

Trustee: World Bank

Human resources: approximately 9000 staff at 12 research centres and affiliates in 90 countries

The One CGIAR reform process builds on a transformative research and innovation strategy (towards 2030), unified governance of the international research centres, engagement at country level with research partners, collaboration with international agencies and increased pooled funding to support the agreed research initiatives. As part of the reform, an integration framework agreement (IFA) signed in early 2023 outlines how the CGIAR will act in a unified and integrated way to tackle the complex challenges to food, land and water systems and their inter-relationships with climate change mitigation and adaptation.

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# Danish organisation strategy for the CGIAR Partnership 2023-2025

## 1. Objective

This Strategy for Denmark's cooperation with the CGIAR forms the basis for the Danish contribution and is the central platform for dialogue and partnership with the CGIAR. It sets out the priorities for performance within the overall framework established by the CGIAR research and innovation strategy, towards 2030. In addition, it outlines specific goals and results that Denmark will pursue in cooperation with the organisation. Denmark will work closely with like-minded countries towards the achievement of results through its efforts to pursue specific goals and priorities.

The CGIAR is a global research partnership dedicated to reducing poverty, enhancing food and nutrition security, improving the management of natural resources and the provision of ecosystem services. The CGIAR system comprises a network of international centres, where research is conducted in food and agriculture, nutrition and health, fisheries and water resources, land and natural ecosystems. Denmark has contributed to and participated in the CGIAR since the 1970s. A contribution from 2023 to 2025 will enable Denmark to continue to play a role in ensuring high quality research to underpin the transformation of food systems in the global south.

The strategy for the partnership with CGIAR is anchored in Denmark's Strategy for Development Cooperation, *The World We Share* (2021) as well as in the Danish Government's *Global Climate Action Strategy: A Green and Sustainable World*. Furthermore, it is guided by the How-to-Note on the *Green transformation of agri-food systems – agro-food production, business and food security*, describing pathways for the implementation of *The World We Share*.

## 2. The organisation

The CGIAR partnership has emerged from a network originally set up in the early 1970s in order to develop international food and agriculture research. The organisation aimed in particular to promote and expand on the successes of the "green revolution", when high yielding crop varieties and improved production systems were introduced on a large scale in many regions of the global south (particularly in Asia and Latin America). A fully documented comprehensive review of the results and impact of CGIAR research over 50 years was undertaken in 2021.<sup>1</sup>

According to the recent 2030 Research and Innovation Strategy (CGIAR 2030), the vision pursued through the CGIAR partnership is of "a world with sustainable and resilient food, land and water systems that deliver diverse, healthy, safe, sufficient and affordable diets, and ensure improved livelihoods and greater social equality, within planetary and regional boundaries." This vision translates into a science and innovation effort that "advances the transformation of food, land and water systems in a climate crisis."

Building on earlier reforms from the start of the new millennium designed to enhance governance and management towards a centralised model and to promote large, "system-wide" research programmes, a new round of reforms was launched in 2019. The aim is to consolidate the research carried out through the 12 CGIAR Centres in accordance with a common transformative approach known as "One CGIAR." An important initial step in this process was agreement on a new research and innovation strategy towards

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<sup>1</sup> See: <https://www.cgiar.org/cgiar-at-50/>

2030, drafted and approved in 2020-21. The strategy encompasses five impact areas with an associated performance and results framework:<sup>2</sup>

- Climate change adaptation and mitigation
- Poverty reduction, livelihoods and jobs
- Nutrition, health and food security
- Gender equality, youth and social inclusion
- Environmental health and biodiversity

Across these impact areas, the CGIAR aims to identify and develop innovative solutions that are relevant, affordable, and accessible to small-scale producers and other stakeholders within the food systems. Special efforts are made to address the needs of women and youth.

Having agreed on the overall strategy, the different entities in the CGIAR system (see below) proceeded to prepare a series of new global and regional research initiatives, which were subsequently approved in 2021-22. An Independent Science Development Council (ISDC) provided guidance by thoroughly reviewing all the research proposals prior to approval. Towards 2030, research is being undertaken in three main scientific action areas: genetic innovation, food systems transformation and resilient agri-food systems. These are complemented by six “regional integrated initiatives” and five global platforms cutting across all the research initiatives with a view to mainstreaming, of which gender is particularly important.<sup>3</sup> Around half of CGIAR research is undertaken in Africa, about 30 per cent in Asia and 20 per cent in Latin America. Climate change impacts as well as the dynamics of food and nutrition (in)security are critically important considerations in focusing the research efforts.

As noted above, the **CGIAR Centres** constitute the foundations of the organisation. Following extensive consultations through the reform process from 2019 to 2022, an Integration Framework Agreement (IFA) was signed by all participating “Parties” (entities) – i.e. the Board chairs of each Centre and the **CGIAR System Organisation** – at the beginning of 2023. The Agreement brings together the different legal entities of the system on the basis of the CGIAR Charter, with an integrated matrix structure.

The new structure is “an operational tool intended to help the Parties deliver on the research and innovation strategy.” The matrix includes a **Senior Leadership Team** with the Directors of the Centres, the Executive Director of the System Organisation as well as the leaders of global and regional research groups.<sup>4</sup> As such the leadership is responsible for a research partnership with around 9000 staff and activities in around 90 countries.

The System Organisation itself comprises a **Management Board**, which is the main governing body, as well as a **Management Office** responsible for day-to-day operations and facilitation of the collaboration across the organisation. The Office is located and legally registered in Montpellier, France. The management arrangements are complemented by independent advice and assurance functions, with dedicated advisory and evaluation services.

Representatives of the funders (donors) and developing countries meet as the **CGIAR System Council** in order to review the strategy, mission, impact and continued relevance of the organisation. In the period from 2020-23 Denmark has been an observer (invited guest) at the System Council meetings, since the

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<sup>2</sup> In the overall theory of change, these impact areas lead to impact pathways in terms of capacities developed, innovations introduced and food and agricultural policies pursued, forming the basis for scientific action (in terms of transformation, resilient agri-food systems and genetic innovation). The impact areas are also common “platforms” for the CGIAR system organisation and are further summarised in annex A (below) together with the agreed indicators in the results framework.

<sup>3</sup> The 33 approved global and regional research initiatives are summarised in annex B.

<sup>4</sup> The 12 participating Centres in One CGIAR are listed in annex C. It is worth noting that in accordance with provisions in the IFA, the organisation is open to additional partners, including the three CGIAR Centres (CIFOR, ICRAF, and ICRISAT), which have not so far signed up to the common research strategy and initiatives. The new matrix structure is outlined at: <https://www.cgiar.org/senior-leadership/cgiar-organizational-chart/>

contribution was not sufficient to qualify for a permanent or temporary seat. The proposed multi-year contribution will enable Denmark to become a voting member.

There are three different modalities for funding international food and agriculture research through the CGIAR:

- Pooled (“Window 1”) funds are held by the CGIAR Trust Fund and allocated for the whole portfolio of investments as approved by the System Council;
- Window 3 funds are held by the CGIAR Trust Fund for individual and specific projects, carried out by the Centres and managed by the Centres or by global science groups in alignment with system wide investments;
- Bilateral funds are for individual and specific projects, where a Centre is contracted to deliver activities paid directly by a funder (not limited to System Council members) and administered separately from the CGIAR Trust Fund.

Total contributions to the Trust Fund in 2022 amounted to almost USD 480 million, equivalent to slightly more than half of the financial resources available to the CGIAR entities. Adding all contributions over the past ten years, the largest funders are the United States of America, the Bill and Melinda Gates Foundation, the United Kingdom, the World Bank, the Netherlands, Sweden, Australia, Switzerland, Norway and Canada. The DKK 49 million Danish contribution to the Trust Fund for 2020-22 amounted to around 1 per cent of the pooled resources.

For the period 2023-25, the Danish core contribution of DKK 90 million will be slightly above 1 per cent (1.3) since Window 1 funding is projected to increase. As shown in the table below, bilateral project funding for research undertaken through the Centres is also significant, amounting to over USD 370 million in 2022.<sup>5</sup> It is worth noting that the increase in funding over the five-year period 2020-2024 is mainly due an increase in pooled funds, if projections for 2023 and 2024 hold. This is overall seen as a positive development.

#### **Funding of the CGIAR, 2020-24 in million USD (projections for 2023 and 2024)**

	2020	2021	2022	2023 (proj.)	2024 (proj.)
Pooled (W1)	188	189	283	303	342
Window 3	199	199	193	211	211
Bilateral	336	368	374	363	363
Total	723	756	850	877	916

Source: 2023 Financial Plan & Budget

Finally, it is important to note that the CGIAR Centres and research initiatives are involved in numerous partnerships with a wide range of national agricultural research and extension services (NARES), universities, private sector businesses and non-governmental organisations (NGOs) as well as civil society. There is also extensive collaboration with regional and international organisations, notably the UN Food and Agriculture Organisation (FAO), the International Fund for Agricultural Development (IFAD), the World Food Programme (WFP) and the World Bank. CGIAR representatives participate in the Conferences of the Parties to the Climate Change (UNFCCC) and Biodiversity (CBD) conventions. A recent high-level panel convened by the management has examined the “strategic engagement” of the CGIAR entities with partners, coming up with a series of recommendations to ensure “a visible process for inclusive agenda setting, co-design and co-ownership of One CGIAR’s programmatic efforts.” These include, inter alia: i) strengthening the participation of stakeholders from the global south in CGIAR governance; ii) transparent modalities for the design of research initiatives; and, iii) strengthened collaboration with national research and innovation systems.

<sup>5</sup> Funding information can be found on dashboards at: <https://www.cgiar.org/funders/trust-fund/>



### 3. Lessons learned, challenges and opportunities

The CGIAR has recognised the need for adjusting its original mission – to solve hunger – in order to address wider 21<sup>st</sup> century challenges as indicated in the renewed mission statement in the new CGIAR Strategy 2030 – ‘to deliver science and innovation that advance transformation of food, land and water systems in a climate crises’. Several factors have combined to underline the need for renewed research efforts within the area of agriculture and food systems. Food insecurity, hunger and poverty are on the increase in particular affecting poor and vulnerable groups, not least due to the recent food and energy price increases caused by the Russian war in Ukraine as well as the aftermaths of the Covid-19 pandemic. A projected global population of nearly 10 billion in 2050 adds to the pressure on food systems. In addition, climate change and degraded ecosystems undermine food and water systems. Other factors including conflicts, displacement and migration also drive food insecurity. Zoonotic diseases and food safety concerns are on the increase. Food loss and waste is growing, thereby also affecting supplies and adding to the climate and environmental crises.

A sustainable food system is one that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security, nutrition and health for future generations are not compromised. It looks on the one hand at all the activities relating to the production, processing, distribution, consumption patterns, utilisation and disposal of food, and on the other hand at the outcomes of these activities in terms of food security (including nutrition), socio-economics (income, employment) and the environment (biodiversity, climate). Transformation to more sustainable food systems is therefore crucial for increasing resilience (including adaptation to climate change), reducing poverty, improving health and effectively mitigating climate change in terms of reduced greenhouse gas (GHG) emissions.<sup>6</sup> Addressing these complex challenges and promoting the required transformation underpin the research agenda defined in the CGIAR strategy 2030.

In particular climate change has become a significant driver of transformation. Adapting farming systems to higher temperatures, drought and floods due to fluctuations in precipitation is critical. At the same time, agriculture, forestry and other land use account for around 22 per cent of GHG emissions, while food systems as a whole contribute to even a larger share of emissions.<sup>7</sup> Yet there is a potential for agriculture to be a global carbon sink. In addition, food systems account for large impacts on land and water resources, as well as for the loss of biological diversity as emphasised in the CGIAR strategy.

In the face of these global challenges to food systems and agriculture, the relevance of high quality research to encourage food system transformation is evident. The CGIAR has been providing innovative solutions through food, agriculture and ecosystem research for many years. Together with partners in crop breeding, agronomic practices, plant and animal health, fisheries, nutrition, land and water management and so on, it is estimated that research investments have had a ten-fold

#### CCAFS research for “climate smart” innovation

- Agronomic practices and improved varieties of beans, maize and potatoes tested and “climate ready” (as well as resistant to pests and diseases), with up to 400 per cent yield increases;
- Dissemination of improved seeds in Kenya and Tanzania prompting significant yield increases;
- Improved animal feeding and husbandry practices tested, leading to significant income increases as well as reduced food shortages during the “hungry season”;
- Drought resistant tree seedlings tested and supplied for agro-forestry systems;
- Improved seasonal forecasting and access to climate information services developed, relevant for farm decision making in six African countries;
- Collaboration with a range of national research institutions and non-governmental partners ensuring that investments improve women’s access to productive assets and financial resources.

Source: CCAFS-CGIAR reports

<sup>6</sup> Danida How-to note on the green transformation of agri-food systems, 2023

<sup>7</sup> IPCC, Sixth Assessment Report (AR6) 2023

return. For example, the CGIAR's climate change, agriculture and food security (CCAFS) programme – initially based at Copenhagen University – that operated from 2009 to 2021, invested USD 350 million in participatory, action-oriented research and reached an estimated 20 million farmers with training and assistance in production practices and technologies to reduce climate related risk (see box above).<sup>8</sup> Other examples of applying research results to transform food systems “on the ground” include testing digital technologies for use in farm decision-making, intensifying production with high yielding varieties, experiments with a view to increasing plant-based “meat” production and the expansion of inclusive rural financial services. Selected case studies outlining research results are included in annex D.

Furthermore, accelerating the green transition through structural changes in government spending also provides opportunities for tackling complex challenges, as recently highlighted in research published by the CGIAR (see box on the right).<sup>9</sup>

In the 2020 MOPAN assessment of the CGIAR it was noted that the strengths of the partnership include flexibility, professional leadership and the conceptual basis of the research programmes thereby “ensuring significant coverage and delivery from a results perspective.” The global genetic resources held by the CGIAR gene-banks and breeders were also found to be considerable assets. Nonetheless, the MOPAN study identified some areas for improvement, including the complex governance and management architecture, reaching consensus with funders on how to align the “vision and operational realities” and the need to integrate “an evidence informed gender analytical lens across the research and workplaces” (Centres). Strengthened monitoring, evaluation and reporting were also recommended.

Research published by IFPRI (CGIAR) and the World Bank finds that “repurposing” a portion of government spending on agriculture each year to develop and disseminate more emission-efficient technologies for crops and livestock could reduce overall emissions from agriculture by more than 40 per cent. Meanwhile, millions of hectares of land could be restored to natural habitats. The economic payoffs to this type of repurposing would be large. Redirecting about USD 70 billion a year, equivalent to one per cent of global agricultural output, would yield a net benefit of over USD 2 trillion in 20 years.

The CGIAR has addressed the findings of the 2020 MOPAN assessment in several ways. The development of a new strategy, the strengthening of partnerships, the enhancement of monitoring and evaluation systems, and the improvement of transparency and accountability are all positive steps towards improving performance. With regard to gender-related issues, one of the key steps taken is the adoption of a Gender Equality Policy in 2020. This aims to address gender inequalities within the organisation and its programmes, as well as to promote gender equality in agriculture and food systems. In addition, CGIAR has established a dedicated platform responsible for providing leadership and technical support for the organisation's gender-related activities. Furthermore, CGIAR has conducted gender assessments in several of its research programmes and training has been provided to staff and partners in order to enhance their understanding of these issues and improve their ability to mainstream gender across both research and operations.

As noted above, the reform of the CGIAR system launched in 2019 aims to consolidate and improve the coherence and operational efficiency of the food systems research undertaken through the entire partnership. A main concern has been to find a balance between the arrangements for “system wide” decision making pertaining to common research priorities and programmes with the interests and mandates of each CGIAR Centre. An agreement was reached at the end of 2022 on a new matrix structure for the partnership, in which the roles and responsibilities of the Centres, the regional research

<sup>8</sup> The World Bank has funded follow up to the CCAFS in six African countries through Accelerating impacts of CGIAR climate change research for Africa (AICCRA). See: <https://aiccra.cgiar.org>

<sup>9</sup> Repurposing agricultural policies and support: Options to transform agriculture and food systems to better serve the health of people, economies, and the planet, World Bank & IFPRI, 2022



programmes and the scientific platforms are specified as well as institutional decision-making, communications and outreach. This led to signature of the Integration Framework Agreement (IFA) that constitutes the legal basis for the continued operations of the CGIAR System Organisation.<sup>10</sup> At the same time, the financing plan for 2022-24 and budget for 2023 have been agreed, including plans to explore potential new sources such as climate change funds and private, philanthropic finance.

It is important to stress that the One CGIAR reform includes efforts to integrate professional services in data management, business operations, governance and institutional risk management, etc. A review of these services was undertaken in 2022 with a view to realising cost savings. Furthermore, a set of ethics policies was agreed in 2022, including a code of business conduct, prohibition of harassment, provisions for whistleblowing, prevention of sexual misconduct and abuse, etc.

#### 4. Priority areas and results to be achieved

There is considerable convergence between the CGIAR's vision and research agenda (including the five impact areas presented in section 2), and Danish development priorities in supporting the green transition in the food and agricultural sectors towards sustainable food systems. The 2021 strategy for development cooperation *The World We Share* emphasises the promotion of sustainable food systems transformation as a key priority, to be addressed through a number of interlinked priorities (see box on the right).

Of particular Danish interest is to support the development of "climate smart" solutions which include diversification of production with localisation and reduced dependence on mono-cropping and grain imports, together with strengthened resilience and adaptation to climate change - particularly in the face of water stresses - reduced reliance on synthetic fertilizer with better soil management and agro-ecological techniques - also contributing to carbon sequestration in soils and biomass - and reduced biofuel production.<sup>11</sup>

##### **Key priorities of Danish development cooperation related to sustainable food systems transformation:**

- Greening of agri- and food production to increase sustainable productivity, inter alia, through the use of improved seeds, fertilizers and irrigation, climate smart agriculture to support adaptive farming practices, improved access to finance especially for women headed households and the strengthening of farmer's organisations;
- Greening agri-business, through more efficient marketing and agricultural trade, reduced food losses and waste, promotion of agro-ecological methods, digital solutions and "green value chains", as well as support for small businesses in the food sector;
- Targeting the poorest and most vulnerable with assistance to enhance long-term food and nutrition security;
- Supporting improved water resource management, given the considerable use of freshwater in food systems and agricultural production;
- Introducing nature based solutions to address development challenges, notably by preserving and restoring degraded ecosystems.

Source: How-to Note on Green transformation of agri-food systems

<sup>10</sup> The IFA entails: i) "shared ways of working and the deployment of inter-Party teams working together across institutional boundaries and action areas"; ii) Agreement to operate in an Integrated Matrix Structure to be developed and refined by the Senior Leadership Team (SLT); iii) All staff will contribute to both a Center(s)/or the SO and a Global/ Regional Group, while continuing to be employed or contracted by their Center/Alliance/SO; iv) Agreement to collaboratively develop and operate according to common internal rules and practices, and implement common internal business systems; v) Affirmation that Centres are the essential buildings blocks of the Partnership, with that partnership built on the Centres, their governing instruments, and their host country agreements.

<sup>11</sup> Target 2.4 of SDG 2 is particularly relevant: "By 2030 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality."

The rationale for providing research funding to the CGIAR is to accelerate the food systems transformation in the global south, taking the challenges of climate change adaptation and mitigation (reducing GHG emissions) fully on board. The overall and principal objective of providing support to the CGIAR from 2023 to 2025 will thus be **to encourage and enable a green food systems transformation in the context of climate change**. Consequently, Danish funding will be considered to be consistent with the OECD-DAC Rio markers, such that the grant is fully aligned with climate change and environmental objectives and may be considered to contribute 100 per cent to the Danish government's targets for financing development cooperation in the areas of climate and environment.

The focus for the Danish support will thereby in particular contribute to the United Nations sustainable development goals (SDGs) number 2 (zero hunger) and number 13 (climate action), while a number of other SDG's will also be addressed. With respect to SDG 13 as outlined in this organisation strategy, the CGIAR research initiatives are important both in terms of enhanced resilience through adaptation to climate change and reduced greenhouse gas (GHG) emissions.

Based on the CGIAR's own Performance and Results Management Framework 2022-2030 (presented in full in annex A), Denmark will focus on **four thematic priorities for support to the CGIAR**, supplemented by a focus on the **organisational effectiveness of the Partnership** (as shown).

Selected CGIAR impact areas in research & innovation strategy	Selected indicators
<b>1. Adaptation to climate change and greenhouse gas reduction</b> <i>This includes reduction of GHG emissions from food systems and enhanced resilience through the promotion of "climate smart solutions" in production and consumption as well as strengthening adaptive capacities in agriculture and natural resource management.</i>	<i>Number of people benefitting from climate adapted innovations.</i>
<b>2. Poverty reduction, livelihoods and jobs</b> <i>This includes expanding access to productive resources, knowledge, finance and markets, with income-generating opportunities and greater participation in agri-food value chains.</i>	<i>Number of people benefitting from relevant CGIAR interventions.</i>
<b>3. Nutrition, health and food security</b> <i>Targeting improved diets and health with accelerated innovation to diversify and increase food output, manage zoonotic diseases and food safety as well as tackling anti-microbial resistance (AMR) with research into "One health" options.</i>	<i>Number of people meeting minimum dietary energy requirements.</i>
<b>4. Environmental health and biodiversity</b> <i>Aiming to stay within planetary boundaries for water and nutrient use, land use change and the protection of biological diversity, including cost-effective management of water and soils in crop, livestock and fisheries systems.</i>	<i>Hectares of land under improved management (with reduced deforestation for example).</i>
Danish priority on organisational effectiveness	
<b>5. Enhanced organisational effectiveness</b> <i>This includes the progress of One-CGIAR reforms, notably in rolling out the provisions and organisational changes defined in the 2023 Integration Framework Agreement (IFA)<sup>12</sup></i>	<i>Outcome of measures taken to implement the provisions of the IFA</i>

Furthermore, as a mainstreamed priority cutting across the impact areas, a focus on gender equality and inclusive development in food systems will be emphasised. Women play a significant role in smallholder

<sup>12</sup> This constitutes the basis for ensuring that relevant, efficient and effective research is undertaken through the CGIAR system in collaboration with a wide range of local, national, regional and international partners. Ensuring transparency and adhering to codes of business conduct and social responsibility are important considerations in these reforms (as noted in section 3, above). See also footnote 10 for a summary of the main provisions in the IFA.

farming in Africa and elsewhere, as well as in the commercial sectors and in processing of agricultural products, in natural resource management, etc. However, women have fewer options to acquire food production assets, are more prone to the effects of climate change, have less access to finance and land, and are less connected to food value chains. The work of the CGIAR gender “platform” addresses these issues. Key indicators of progress include the number of women benefitting from relevant CGIAR interventions and assisted to exit poverty.

It is also important to emphasise that the CGIAR is renewing efforts to provide both capacity building and analytical inputs to enhance transformation in regions affected by conflict and in fragile states where research and innovation institutions are weak. There is considerable correlation between food insecurity, poor economic and social progress and political unrest. This has been apparent across the globe in the aftermath of the Covid-19 pandemic in particular. Responses through international food systems research can be highly beneficial in terms of designing appropriate policies and measures.

Furthermore, in line with the Danish emphasis on human rights based approaches to development, issues associated with the right to food are on the CGIAR research agenda. Improving resilience and rural livelihoods also entails focusing on concerns such as equitable land rights. In general, CGIAR research builds on the needs, interests and human rights of farmers and rural communities.

Through the identified priority areas, and associated research initiatives, Denmark will pursue opportunities for making use in Danish development cooperation of relevant knowledge and research produced by the CGIAR centres in liaison with relevant MFA units (see section 5 below for further details). From prior experiences, some centres may be more relevant than others: e.g. IFPRI in relation to “policy-relevant” analytical work, both at global as well as country levels.

Tracking and measuring results in these priority areas are defined in the overview of impact areas and in each of the research initiatives.<sup>13</sup>

The CGIAR system organisation is updating communication and databases with a view to improve access to critical information, insights, analyses and data. Regular feedback to funders (donors, including Danida) on research outcomes and notable results will be valuable. An improved monitoring and evaluation function, linked to regular reporting on results and impact will be essential.

#### *Danish engagement in CGIAR research programmes*

Over the years there have been numerous Danish participants in CGIAR research programmes, from fisheries and rice-based farming systems research in Asia to collaboration on the investigation of dry land farming systems in the Sahel and elsewhere in Africa. An interesting example in connection with the empowerment of women in farming communities in Bangladesh was collaboration with IFPRI (CGIAR) scientists to support training in “farmer field schools” and to measure the impact of these programmes. Danish researchers also make use of the CGIAR partnership and the Centres in the global south for developing collaborative programmes.

## **5. Danish approach to engagement with the organisation**

Based on the priority areas specified above, and with a strong focus on CGIAR’s performance and results, Denmark, through the Department for Evaluation, Learning and Quality (ELK) of the MFA, will continue to pursue an open and constructive dialogue with CGIAR in particular through the CGIAR System Council. The System Council is a strategic decision making body of the CGIAR which includes twenty voting members with up to fifteen representatives of funders and five developing country representatives. As a voting member of the System Council it will be possible to exert influence on the selection of research initiatives to be funded, to participate in the evaluation of proposals and to engage fully in the reform process aimed at streamlining the organisation.<sup>14</sup> Denmark will continue to cooperate closely with key donors including the EU, Nordic and other like-minded countries, through regular (on-

<sup>13</sup> See annex A (the overview of the 2030 impact areas and indicators) and annex B (summaries of the research initiatives).

<sup>14</sup> Denmark will initially be given one of the five temporary seats in the System Council as all permanent seats are currently filled.

line) meetings among others with a view to ensure coordination prior to important discussions and decision-making in the System Council.

There are also opportunities for cooperation with like-minded donors through the European Initiative for Agricultural Research for Development (EIARD). This network brings together representatives of the agencies and organisations contributing to the CGIAR system. Over the years it has been a valuable forum for exchange of ideas and proposals pertaining to food systems development and research, principally targeting the CGIAR and coordinating efforts to reach common agreements on the way forward with research programmes and reform.

Monitoring of results and progress will furthermore take place through annual reporting by the CGIAR and through the annual financial statements. Furthermore, the CGIAR has developed a comprehensive set of dashboards, including results dashboards, which are important tracking tools. A summarised theory of change pertaining to the application of food systems research results is as follows:

**If** research results aimed at the transformation of food systems in the global south - notably with respect to the challenges arising through global warming - are adequately tracked, **if** successful research outcomes are reported and **if** food system changes are fully documented in research publications available in the public domain, **then** development agencies (such as Danida) will be equipped with data and evidence to underpin programmes and policies in the spheres of food, agriculture and natural resource management.

Under the umbrella of *Doing Development Differently* the MFA aims to strengthen the relevance and effectiveness of its development cooperation among others through a holistic approach creating synergies across various instruments and types of cooperation. As high quality research and innovation can inform and improve Danish development efforts, ELK will pursue engagement with relevant units across the MFA. At **bilateral level** engagement will be pursued with embassies in particular in countries where Denmark has an expanded partnership including support for food systems transformation. Engagement with those responsible for other bilateral instruments may also be relevant, such as the Strategic Sector Cooperation, P4G etc. Opportunities in relation to **multilateral programmes and organisations** will be pursued through relevant units at headquarters as well as multilateral representations. This includes in particular the Rome-based institutions including the WFP and IFAD as well as a number of other UN organisations. Opportunities for synergies with Danish support for global climate and environment funds as well as the recent World Bank Food Systems 2030 programme may furthermore be pursued.

Opportunities to engage with Danish academia and research partners in food, land and water systems will also be pursued including through relevant research projects under Danish support for development research as well as the Building Stronger Universities programme.

The concrete synergies with other Danish programmes, instruments and actors to be pursued will be specified in the annual action plan in consultation with relevant MFA units. Coordination among MFA units at headquarters and embassies in relation to the CGIAR will be integrated into the existing coordination work on food systems led by the Department for Green Diplomacy and Climate (GDK).

## 6. Budget, 2023-25

Denmark will provide a multi-year grant to the pooled fund (Window 1) of the CGIAR, as non-designated core funds allocated to research programmes by the CGIAR's System Council. Over the years Denmark has been a leading advocate for an increase in funding through unrestricted, pooled funding to the CGIAR as a way to enhance effectiveness and promote system-wide research programmes. This will continue to be the preferred modality.

As shown in the table below, DKK 89 million of the total allocation of DKK 90 million will be transferred to the CGIAR Trust Fund managed by the World Bank according to standard procedures and agreements. In the first year a sum of 1 million DKK has been allocated to cover the costs of

monitoring and performance tracking for three years possibly with external support. This amount will be managed by the MFA.

Modality	Finance Act code	2023	2024*	2025*
Pooled window 1 contribution	§ 06.34.01.75	29	30	30
Monitoring costs	§ 06.34.01.75	1	0	0
Total, million DKK		30	30	30

\* Subject to annual parliamentary approval.

With regard to the organisation's efforts to combat corruption and misuse of funds, a number of safeguards and policies have been developed to address these issues, which are found to adequately address the risks entailed.

## 7. Risks and responses

The CGIAR implements a comprehensive risk management framework, based on its risk management policy, which operates at all levels in the organisation. CGIAR's risk management strategy is designed to address contextual, programmatic and institutional risks. At the overall level, the System Management Board (assisted by an Audit and Risk Committee) is responsible for overseeing the organisation-wide approach to effective risk management. Reporting from the System Organisation on developments in key risk factors and on how risks have been managed is included as part of the report on annual audited financial statements. Furthermore, the System Organisation will report to the System Council on major risks and the mitigating measures taken. Programmatic risks are reported through the organisation's research programmes and centres, which regularly assess and report on the risks associated with their respective research activities.

Denmark will track and monitor a number of risk factors that may affect the CGIAR in reaching its objectives if not adequately mitigated, as summarised in the following.

- Limited funding: CGIAR relies on funding from donors to carry out its research and development activities. Funding constraints can limit the organisation's ability to conduct the planned research and provide support to local partners and communities.
- Political instability and conflicts: Political instability and conflicts in the regions where CGIAR operates can disrupt operations of centres and affect the ability to work effectively with local partners.
- Limited capacity building: CGIAR's work is dependent on the skills and capacity of its staff and partners. Limited capacity building can limit the organisation's ability to carry out its work effectively.
- Limited adoption of research findings: The effectiveness of CGIAR's research and innovation activities depends on the adoption of its findings by intended target groups and other partners and policymakers. Limited adoption of research findings can limit the impact of CGIAR's work.
- Climate change and natural disasters: Climate change and natural disasters can have significant impacts on agricultural productivity and food security, which can affect CGIAR's ability to achieve its objectives.

In addition, a number of risks have been identified in moving forward with the One CGIAR reforms, including difficulties in implementing the arrangements outlined in the Integration Framework Agreement, with failure to manage expectations associated with common programmes, and difficulties in driving effectiveness and efficiency across the organisation as envisaged.

Finally, as noted (in section 3, above) a set of ethics policies agreed in 2022, including a code of business conduct, prohibition of harassment, provisions for whistleblowing, prevention of sexual misconduct and abuse, etc. all contribute to minimising risks arising within these areas.

Through its engagement in the System Council and based on the reporting from the CGIAR System Organisation, Denmark will monitor the development in risk factors and assess whether adequate mitigating actions have been taken by the organisation.



## Annex A - CGIAR 2022-30 results framework

<b><i>Impact areas in research &amp; innovation strategy</i></b>	<b><i>Global 2030 targets</i></b>	<b><i>Common indicators attributable to CGIAR</i></b>
Adaptation to climate change and greenhouse gas reduction	<p>Implement national adaptation plans and nationally determined contributions (NDCs) to UNFCCC (Paris agreement)</p> <p>Equip 500 million small-scale producers to be resilient to shocks with adaptation solutions available through national innovation systems</p> <p>Turn agriculture and forest systems into a net carbon sink by 2050 with emissions from agriculture decreasing by 1Gt per year from 2030 and reaching a floor of 5 Gt per year by 2050</p>	<p>Number of tonnes of CO<sub>2</sub>e emissions</p> <p>Number of plans with evidence of implementation</p> <p>Number of climate adaptation investments</p> <p>Number of people benefitting from climate adapted innovations</p>
Poverty reduction, livelihoods and jobs	<p>Lift at least 500 million people living in rural areas above the extreme poverty line of 1.9 USD/day (2011 purchasing power parity)</p> <p>Reduce by at least half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions</p>	<p>Number of people benefitting from relevant CGIAR interventions</p> <p>Number of people assisted to exit poverty</p>
Gender equality, youth and social inclusion	<p>Close the gender gap in rights to economic resources, access to ownership and control over land and natural resources for over 500 million women who work in food, land and water systems</p> <p>Offer rewardable opportunities to 267 million young people who are not in employment, education or training</p>	<p>Number of women benefitting from relevant CGIAR innovations</p> <p>Number of youth benefitting from relevant CGIAR innovations</p> <p>Number of women assisted to exit poverty</p>

Nutrition, health and food security	<p>End hunger for all and enable healthy diets for the 3 billion people who do not currently have access to safe and nutritious food</p> <p>Reduce cases of foodborne illness (600 million annually) and zoonotic disease (1 billion annually) by one third</p>	<p>Number of people benefitting from relevant CGIAR innovations</p> <p>Number of people meeting minimum dietary energy requirements</p> <p>Number of people meeting minimum micronutrient requirements</p> <p>Number of cases of communicable and non-communicable diseases</p>
Environmental health and biodiversity	<p>Stay within planetary and regional environmental boundaries: consumptive water use in food production of less than 2500 km<sup>3</sup> per year (with a focus on the most stressed basins); zero net deforestation; nitrogen application of 90 Tg per year (with redistribution towards low input farming) and increased use efficiency; and phosphorus application of 10 Tg per year</p> <p>Maintain the genetic diversity of seeds, cultivated plants and domesticated animals and related wild species, including through soundly managed genebanks at national, regional and international levels</p>	<p>Number of hectares under improved management</p> <p>Number of km<sup>3</sup> consumptive water use in food production</p> <p>Number of hectares of deforestation</p> <p>Number of Tg nitrogen applications</p> <p>Number of plant genetic accessions available and safely duplicated</p>

## Annex B - 2022-24 research initiatives (from investment prospectus)

<i>Science group</i>	<i>Name</i> - summary of research objective
<b>Genetic innovations</b>	<b><i>Accelerated breeding</i></b> – to develop better performing, farmer preferred crop varieties, decrease average age of varieties in farmer’s fields and provide real-time adaptation...
	<b><i>Breeding resources</i></b> – to improve the genetic, economic, social and environmental performance of breeding programmes...
	<b><i>Genebanks</i></b> – to support the global system for the conservation and use of plant genetic resources for food and agriculture...
	<b><i>Market intelligence</i></b> – to maximise returns on investment in breeding, seed systems and other initiatives, based on reliable and timely market intelligence...
	<b><i>Seed equal</i></b> – to support the delivery of seed of improved, climate resilient, market preferred, nutritious varieties of priority crops...
<b>Systems transformation</b>	<b><i>Agroecology</i></b> – to develop and scale agro-ecological innovations with small-scale farmers and other agricultural and food system actors...
	<b><i>Climate resilience</i></b> – to transform the climate adaptation capacity of food, land and water systems in six low and middle income countries
	<b><i>Digital innovation</i></b> – to develop and support digital innovations to stimulate the inclusive sustainable transformation of food, land and water systems that allow more people to take action against risks...
	<b><i>Foresight</i></b> – to offer better insights into alternative transformation pathways that can inform choices and sharpen decision-making...
	<b><i>Fruit and vegetables</i></b> – to use an end-to-end approach to increase fruit and vegetable intake and improve diet quality, nutrition and health
	<b><i>Gender equality</i></b> – to address four dimensions of gender inequality by applying transformative approaches...
	<b><i>Low emission food systems (Mitigate +)</i></b> - to equip key actors with knowledge, information and tools to make evidence based decisions
	<b><i>National policies and strategies</i></b> – to improve lives by identifying ways of building stronger policies and strategies...
	<b><i>NEXUS gains</i></b> – to realize gains across water, energy, food and ecosystems in selected trans-boundary river basins...
	<b><i>Rethinking food markets</i></b> – to provide evidence on types of bundled innovations, incentive structures and policies for creating equitable sharing of income and employment opportunities...
	<b><i>Sustainable healthy diets</i></b> - starting from an innovative, consumer-focused perspective, to identify effective policy options through research, strengthen capacity and develop robust metrics and tools...
<b>Resilient agri-food systems</b>	<b><i>Aquatic foods</i></b> - to build the resilience of aquatic food systems and realize the full potential for nature, people and climate....
	<b><i>Excellence in agronomy</i></b> - to deliver an increase in productivity and quality per unit of input for smallholder farming households in prioritized farming systems by 2030, with an emphasis on women and young farmers...

	<b><i>Livestock and climate</i></b> - to identify solutions and to co-create and deliver innovations that quantifiably help producers, businesses and governments adapt livestock agro-food systems to climate change and reduce greenhouse gas emissions...
	<b><i>Mixed farming systems</i></b> - to provide equitable, transformative pathways for improved livelihoods of actors in mixed farming systems through sustainable intensification...
	<b><i>Nature positive solutions</i></b> – re-imagine, co-create and implement nature positive solutions based agro-food systems...
	<b><i>One health</i></b> - to demonstrate how One Health principles and tools integrated into food systems can help reduce and contain zoonotic disease outbreaks, improve food and water safety and reduce anti-microbial resistance (AMR)...
	<b><i>Plant health</i></b> – protect agriculture-based economies from devastating crop pest incursions and disease outbreaks...
	<b><i>Sustainable animal productivity</i></b> – to transform livestock sectors in target countries...
	<b><i>Resilient cities</i></b> – to strength the vibrant, largely informal urban and peri-urban agro-food sector...
<b>Regional integrated initiatives</b>	<b><i>Fragility to resilience in Central and West Asia and North Africa</i></b> - applying, scaling and supporting effective, <i>resilience-focused solutions</i> , reducing fragility and conflict, and empowering all...
	<b><i>Diversification in East and Southern Africa</i></b> - helping millions of smallholders intensify, diversify and <i>reduce risks in maize-based farming</i> through improved extension services, small and medium enterprise development, supporting governance frameworks and increased investment with a gender and social inclusion lens...
	<b><i>AgriLAC resiliente</i></b> - to increase the <i>resilience</i> , sustainability and competitiveness of Latin American and Caribbean agro-food systems
	<b><i>Transforming agri-food systems in South Asia</i></b> - support equitable access to sustainable healthy diets, improve farmer livelihoods and <i>resilience</i> , and conserve land, air and groundwater resources...
	<b><i>Asian mega-deltas</i></b> - to create <i>resilient</i> , inclusive and productive deltas, which maintain socio-ecological integrity, <i>adapt to climatic and other stressors</i> , and support human prosperity and wellbeing...
	<b><i>West and Central African food systems transformation</i></b> - to improve nutrition, incomes and food security within the context of climate change in West and Central Africa through nutritious, <i>climate-adapted</i> and market-driven food systems.

## Annex C - CGIAR Centres

### **Signatories (Parties) to the 2023 Integration Framework Agreement (IFA):**

- Africa Rice Center (AfricaRice), Abidjan, Ivory Coast
- Alliance of Bioversity International, Rome & the International Center for Tropical Agriculture (CIAT), Cali, Colombia
- International Center for Agricultural Research in the Dry Areas (ICARDA), Beirut, Lebanon
- International Food Policy Research Institute (IFPRI), Washington DC, USA
- International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria
- International Livestock Research Institute (ILRI), Nairobi, Kenya
- International Maize and Wheat Improvement Center (CIMMYT), Texcoco, Mexico
- International Potato Center (CIP), Lima, Peru
- International Rice Research Institute (IRRI), Los Banos, Philippines
- International Water Management Institute (IWMI), Colombo, Sri Lanka
- International Center for Living Aquatic Resources Management (ICLARM) also known as WorldFish, Penang, Malaysia
- the CGIAR System Organisation (the “System Organisation”), Montpellier, France

### **Centers that are currently not signatories to the Integration Framework Agreement:**

- Center for International Forestry Research (CIFOR), Bogor, Indonesia
- World Agroforestry (ICRAF), Nairobi, Kenya
- International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, India

## **Annex D - Results of CGIAR research on the ground – six case summaries**

### **Climate smart maize in sub-Saharan Africa**

Maize is an important staple food in many sub-Saharan African countries, grown by millions of farmers throughout the continent. However, the crop is often affected by severe droughts. Since the 1980s, CGIAR researchers have worked with national agricultural research and extension services to breed drought tolerant maize varieties. Genetic selection of maize that survives and yields grain under drought conditions on nitrogen-depleted soils has resulted in over 200 varieties developed and released by public and private sector partners.

### **An index of women's empowerment in agriculture**

Women's empowerment is critical for the food system transformation in developing countries. But statistical surveys have often focused on "heads of households" thereby capturing male perspectives rather than the full picture. In 2012 researchers at IFPRI developed the women's empowerment in agriculture index (WEAI). This measures women's involvement in production, in the ownership and access to resources, in income, leadership and time allocation. The index has been used in 56 countries and demand is so large that a distance e-learning module has been developed for training purposes.

### **Securing women's rights to land**

In order to reclaim degraded land for productive uses by communities in the West African Sahel, a gender sensitive approach called "bio-reclamation" was developed by CGIAR (ICRISAT). Research entailed combining water harvesting, the application of manure and compost waste and the planting of fruit trees in order to reclaim plots that could be cultivated. At the same time, allocating tenure rights to female members of the communities ensured that benefits from the land reclamation accrued to them.

### **Pan-African bean research**

In 1996 CGIAR's Bioversity in collaboration with CIAT formed a pan-African bean research alliance. The aim was to undertake plant breeding with a view to producing iron-rich "bio-fortified" bean varieties. The alliance has contributed to improved food security and better nutrition; resilience to climate change and greater gender equality in over 30 countries and the research has reached an estimated 30 million farmers. The improved varieties are early maturing, high in iron and zinc content and tolerant to droughts, pests and diseases.

### **Pro-poor dairy policies**

In East Africa most milk was produced by smallholders owning few cows and sold unprocessed. Between 1995 and 2002 CGIAR researchers (at ILRI) worked with Kenyan researchers to develop "micro-dairy" enterprises. Training and certification programmes with producers and traders enabled the consolidation of these enterprises, with the establishment of dairy "hubs", comprising chilling and processing facilities. These are used by significant numbers of producers, consumers and vendors.

### **Zero tillage in rice-wheat cropping rotations**

Burning rice straw has been a major air pollution problem in northern India for many years. A toxic haze chokes the inhabitants and contributes to greenhouse gas (GHG) emissions. To tackle the problem an ecologically friendly technique has been developed through CGIAR research. Zero tillage uses machines that chop the rice straw and spread the residues as mulch, such that wheat crops can be planted directly without ploughing or clearing the land by burning. GHG emissions may be cut by 75 per cent and zero tillage is also found profitable.

*Source: CGIAR, 50 years of innovation that changed the world. <https://www.cgiar.org/cgiar-at-50/>*