

Republic of The Sudan



Sudan Pathway: Food Systems Summit 23 September 2021

Develop a resilient, equitable, sustainable and resilient food system, leaving no one behind

Vision: Develop sustainable food systems that leaves no one behind so as to put to an end all forms of food insecurity and malnutrition in line with Sudan's commitment to SDGs.

Main goal; To transform food system to an equitable, sustainable and resilient system to achieve the SDGs

Specific objectives;

1. Ensure access to safe and nutritious food for all through;

- Developing game - changing and systemic solutions to increase production and make nutritious food more available, affordable, and safer for all.
- Ensuring access to nutrient dense foods and healthy diets to address triple burden of malnutrition including; stunting, wasting, under nourishment, micronutrient deficiencies, and overweight/obesity especially among vulnerable groups- children, and women.
- Putting in place and expand food safety and quality systems to assure access to safe and quality food for all.
- Establishing appropriate infrastructures- roads, transportation, storage, solar power, processing facilities, market linkages and cold-chain systems.

2. Shift to sustainable consumption patterns through;

- Promoting consumption of healthy foods through innovative Social & Behavioural Change and Communications (SBCC)
- Encouraging local production of safe and quality foods by improving direct access of consumers to farmers produces
- Supporting and facilitating catalytic financing of SMEs engaged in food production, processing, marketing and distribution.
- Promoting and expanding production and fortification of appropriate complementary foods for infant and young children.
- Value addition of staple foods using biofortification and food fortification.
- Putting in place legal framework and food laws to disincentivise production of ultra-processed foods with unhealth levels of sugar, salt and fat and outlaw marketing, production and importation of Breast Milk Substitutes (BMS).
- Building an accurate and up to date nutrition information system on dietary consumption patterns by updating the national food composition table and dietary guideline and by putting in place robust nutrition surveillance system.
- Strengthening anti-poverty programmes (making them nutrition sensitive) using enhanced and wide reaching national social protection programs.

- Promoting and scaling appropriate technologies to reduce crop loss using improved food storage, preservation, processing, and transportation facilities

3. Change to nature -positive food production system by;

- Preventing & mitigating desertification and identifying and scaling technologies environmental-friendly for arid and semi-arid ecosystems.
- Restoring natural or modified ecosystems that address societal challenges effectively and adaptively to climate change and other shocks, providing human well-being and bio diversified healthy production.
- Promoting endogenous and local food systems
- Promoting and putting in place legal framework to ensure women's land ownership rights
- Promoting and scaling sustainable livestock systems such as poultry

4. Advance equitable livelihoods through;

- Promoting decent and productive work, employment and income generating activities for all along the food sector especially for women, and youth.
- Developing innovative social protection system to build resilience for wealth creation among people living at the base of rural and urban areas
- Promoting and scaling workplace nutrition and eliminating exploitation in the workplace.
- Addressing the inequitable access to resources and distribution of value.

5. Build resilience to vulnerabilities, shocks and stress through;

- Following the systemic and nexus approach and consider all the resilience interlinked factors that can be influenced by multiple systems, a variety of sectors and stakeholders, at different levels.
- Putting in place robust Early Warning Systems (EWS) to respond to humanitarian crisis and mitigate the impact of shocks in a timely manner.
- Putting in place multi-sector (food, health, WASH etc) rapid response mechanisms to reach vulnerable communities affected by shocks especially the most vulnerable groups including children, women and elderly.
- Putting in place pandemic resilient food systems.
- Strengthening the disaster management capacities including early warning and response systems.
- Creating income generation opportunities for host populations, IDPs and refugees.

1/ Opportunities

1. Transitional Government priorities and achievements;

Consolidation of the peace agreement among different parties and factions in Sudan, and subsequent lifting of sanctions are top priorities of the country, which in turn is expected to stimulate the national economy and different sectors along the food system. The opening up of the country and removal of loans is expected to contribute to the transformation of the countries investment and macroeconomics by attracting flow of investment and new FDI's that would immensely leapfrog Sudan to attain SDGs..

The transition Government. Commitments. As part of its commitment to the WHA Global Nutrition targets including reducing the number of stunted children by 40% by 2025 and 50% by 2030 in line with its SDG commitment. The government of Sudan reiterated its commitment by joining the SUN Movement to make nutrition as one of the national priority agenda. Since then concerted effort were made to putting the right policies in place, mainstreaming nutrition in country strategies and plans, collaborating with partners to implement programs with shared nutrition goals, and mobilizing resources to scale up nutrition, which requires ongoing effort to continue investing on nutrition and expanding such investment for wider impact.

- The institutional document which represent the country priorities.

Sudan is identifying game-changing solutions & priorities along the food system at national and sub-national levels & develop a multi-sector national action plan to meet its commitment to the global nutrition targets. This

will be done through extensive consultations and mobilizing of key sectors and stakeholders around the common national nutrition goals and set out clear road map and national action plan endorsed by all sectors. The country will also agree and endorse a common framework of accountability and governance for food and nutrition.

.2. Institutional set up Institutional Set up for FS&N at the National Level & states, headed by the Prime Minister; Food Security Technical Secretariat, MoAF and Technical Working groups

The main objective is to gather all FSN actors to coordinate for sustainable food security, working to achieve food security based on food system and SDGs.

3. Agriculture

- Remains a crucial sector in the economy as a major source of raw materials, food and foreign exchange.
- Vast Lands, waiting!!, diversity in climate, crops. The traditional rain-fed sector has occupied an average of 70% of the total cultivated land and employed more than 70% of the agricultural population. This sector is characterized by low productivity mainly driven by lower technical efficiency, so introduction of innovation in both sectors is a crucial demand to maximize the benefit. Rained agricultural ventures achieving increased grain production through expansion of the cultivated area mainly. Need for innovation and technologies to enhance vertical expansion.

4. Livestock

- Sudan has a livestock wealth of more than (103) million heads, including poultry, equine and fish.
- The livestock provides supply of essential foods and contributes to food diversity.
- Recent growth patterns for major animal herds showing modest growth of about 0.9% year

5. Forests

- Suitable environment for forest production. Land is available for forest. No. of forests need to be controlled and managed by legislations.
- There is ample potential to introduce fruit tree as good agroforestry practice and nutrition sensitive agriculture (NSA) along the river basins of Sudan.

6. Water sources

- Availability of water for drinking and irrigation is recorded but it needs improvement in quality and quantity.

7. The strategic location of Sudan. Sudan bridges Africa, the Middle East and Europe with strong potential for exporting agricultural produces- horticultural foods and become a hub of healthy foods (nuts, fruits & fiber rich dates).

8. A new agriculture and livestock census should be conducted to provide a more realistic and updated picture.

9. Adding value to the country's exportable agricultural commodities is strongly encouraged.

10. Diversified livelihood systems in the country.

12 Engaging Research Centres. Research work and evidence is key to identify and scale up priority nutrition sensitive agriculture technologies and multi-sector packages of interventions to meet the SDG targets. National and global academic and research institutes do play important role in generating such evidences and knowledge.

2/ Cross cutting issues contributing to the food system in the country;

1. Youth and food system

Young people are recognized as agents of change, entrusted with fulfilling their own potential and ensuring a world fit for future generations.

In Sudan youth are considered as the productive group in the country. In the past, little attention was paid, but now there is a strong movements from youth groups, government and other parties towards more involvement of youth in agriculture and other productive sectors, making use of them to introduce innovation to these sectors. Youth hold a vital role in addressing the challenge of food security. This places the youths at the centre of food system.

The youth labour market is characterized by low participation and employment rates, thus, policy-makers must devote attention to the quality of jobs created in the economy. A successful example to enable youth to entrepreneurship contributes in involving youth in production cycle (funded from AFDB) but it needs to be expanded in other areas.

2. Communities

Communities in Sudan play an important role in Food System, There are three primary areas of community food system development that include Production, processing, coordination, and markets. These development areas are defined and depicted as:

-Production Practices; Producer Cooperative/associations owned and controlled by the agriculture and livestock small producers who use products, supplies or services aimed to help producers assure markets and supplies, achieve economies of scale, gain market power through jointly marketing, bargaining, processing, and supplies and services.(30000 associations

- Community Garden: that is cultivated by a group of people rather than a single family or individual.
- Organic farmers produce products using methods that preserve the environment and avoid most synthetic materials, such as pesticides and antibiotics.(e.g Tokar organic farm in Red Sea state).
- Home gardens (jubraka) surrounding the house and owned by women to support HH food security.

-Coordination Practices: Community Kitchen: commercial kitchen available to local users on a contract/ time-share basis.

- Contract Processing: Outsourced production by an external party that provides the labor, materials, and sometimes the raw ingredients for a food product.
- Food Hub: A business or organization that is actively coordinating the aggregation, distribution, and marketing of source identified locally or regionally grown food products from primarily small to mid-sized producers.
- Food Innovation Center: A service center created to assist entrepreneurs with processing of value-added products
- Food Safety Program: A documented set of steps that a farm operation or food business puts into practice that aims to prevent problems with food safety before they occur, rather than relying on a reactive approach once problems have already occurred.

- Market Practices; Farmers Market: A physical retail market featuring food sold directly by farmers to consumers that typically consist of booths, tables or stands, outdoors or indoors, where farmers sell fruits, vegetables, meats, plants, flowers and sometimes prepared food and beverages. Mobile Market: A mobile retail market housed in automobile that features farm-fresh food. Natural food store: A type of grocery store that primarily sells health foods, organic foods, local produce, and often nutritional supplements

-Endogenous practices; Endogenous knowledge in rainfall estimation, Early Warning, production systems, home food manufacturing, food storage, ways of cooking.

-Food laws: Food legislation frameworks with regard to marketing, importation and distribution of breastfeeding substitutes (BMS), mandatory fortification of salt, wheat flour and edible oil are considered along other food safety and quality directives and maternity leave legislations, which Sudan is taking as a national agenda.

3. Climate change; Observed climate change is already affecting food security through increasing temperatures, changing precipitation patterns, and greater frequency of some extreme events. Studies have shown that yields of some crops have been affected negatively by observed climate changes. Fruit and vegetable production, a key component of healthy diets, is also vulnerable to climate change Declines in yields and crop suitability are projected under higher temperatures (wheat).

About 21–37% of total greenhouse gas (GHG) emissions are attributable to the food system. These are from agriculture and land use, storage, transport, packaging, processing, retail, and consumption.

Reduction of food loss and waste could lower GHG emissions and improve food security (need for FLW strategy).

Other variables that affect agricultural production, processing, and/ or transport are solar radiation, wind, humidity
Among livestock systems, pastoral systems are particularly vulnerable to climate change.

Direct impacts of climate change in mixed and extensive production systems are linked to increased water and temperature stress on the animals potentially leading to animal morbidity, mortality and distress sales.

Sudan is exploring its big potential for generating solar energies that is environmental-friendly, which is critical for the food sector at all levels. Most of the horticultural produces in Sudan would require extensive solar cold-chain systems and such energies are cost-effect as well in food processing and preservation along different value chains.

3/ Key drivers of the current food insecurity situation:

1.Rain fall: above average rains and floods, resulted on damage of infrastructure and household's assets.

2. Economic Crisis in Sudan: Economic decline and inflation; Impact on food and nutrition security.

Devaluation of local currency, high inflation rates. Soaring food and non-food prices and poor purchasing power
Inflation and high food prices remain the main driver of food insecurity. This has triggered deterioration in food security, as households struggle to maintain adequate access to food.

3.COVID – 19; increased food insecure people with high malnutrition rates, Need to keep food supply chains alive and mitigate the pandemic's impacts across the food system.

The constrained food supply chain system affected food stability and aggravated food insecurity shocks.

4.Conflict and displacement/ security situation: Influx of refugees from different countries. Displacement/ migration are expected to continue due to internal conflicts Inter-communal conflict incidents and sporadic attacks on villages increase IDPs influxes.

5.Pests and diseases; in crops, animals and humans related diseases. The impact of COVID19 in the food systems were significant especially at the beginning of the pandemic and still recovering from the global, regional and national shocks to the economy as a result of the pandemic.

5/ Challenges, Priorities and Way foreword

Tracks	Challenges & Key contributing or triggering factors	Key priorities and Way foreword	Synergies between tracks and alignment with SDGs
<p>1; Food safety and Nutrition</p> <p>a. Food safety</p>	<p>-Limited adoption of good agricultural practices and good manufacturing practices</p> <p>The existing Acts and related regulations and standards that delegate various powers are not updated. (MoH, MoAF, MoAR and SSMO).</p> <p>-Poor coordination in sampling and analysis of food products by various Control Authorities.</p> <p>- Lack of integrated system to report food borne diseases (FBDs) and respond to food safety emergencies</p>	<p>-Support extension services to adopt good agricultural practices, and, good manufacturing practices ,</p> <p>-Establish traceability system among the value chain and updating and amending laws and legislations related to food safety and SPS.</p> <p>-Review and streamline the inspection, sampling and analysis of food products by various Control Authorities in order to reduce duplication, and reduce costs, (one harmonized window system)</p> <p>- Conduct food-borne diseases surveillance and create a comprehensive database for food-borne-related illnesses.</p> <p>- Introduce innovation in food laboratories and build the capacities of public and private facilities</p> <p>-Improve food storage and food handling at household level Ensure the safety and quality of locally produced foods, including specialised nutritious food for treatment of child wasting and locally produced and imported complementary foods.</p>	<p>All tracks :</p> <p>SDG1, SDG 2; SDG 6; SDG 7; SDG 9; SDG 10; SDG 11; SDG 12; SDG 13; SDG 16; SDG 17</p>
<p>b. Nutrition</p>	<p>-Low diversified consumption of plant sources of Vitamin A-rich and other micronutrients.</p> <p>-Infections & illnesses due to food borne diseases & contaminations & other preventable illnesses</p> <p>-High level of poverty & household food insecurity)</p> <p>limited availability of fortified or specialized nutritious food publicly.</p> <p>-Weak M&E System and</p>	<p>-Supplementary feeding program and Vitamin A supplementation, school health and nutrition (school feeding, gardens, education).</p> <p>-Nutritional counselling and education</p> <p>Ante-natal and post natal care (iron/folate supplementation) and Food based approached to prevent malnutrition among pregnant and lactating women and children (e.g. Fortified complementary foods)</p> <p>- technology transfer program for bio fortification and diversity/Food</p> <p>-Strengthen information and M&E System -Vaccination expansion and control</p> <p>-Food fortification of common staple foods (wheat flour, edible oil, salt)</p> <p>-Improve access to age-appropriate nutritious, affordable and sustainable foods through social protection transfers for children and women and making it</p>	<p>Track 2 and 4</p> <p>SDG 1; SDG 2 SDG 3; SDG 4; SDG 6; SDG 9; SDG 10; SDG 16;</p>

	<p>Insufficient investment in nutrition information</p> <ul style="list-style-type: none"> -COVID-19 adverse effects on food security and nutrition. 	<p>available in retail market for wider consumption</p> <ul style="list-style-type: none"> -Mitigate the impact of COVID19 among the poor through resource transfers & innovative and nutrition sensitive social Safety nets. 	
<p>2; Shift to sustainable consumption patterns</p>	<ul style="list-style-type: none"> -Inappropriate food consumption practices -Severe macroeconomic difficulties affect food access - -Poor households are not able to meet their food needs -High cost of transportation continue reducing market supplies to remote areas. -Food loss and waste. 	<ul style="list-style-type: none"> - Awareness raising and policy-based interventions to reduce overconsumption of sugar-sweetened beverages and ultra-processed food. -Halving per capita food waste at HH in all the chain. -Strengthen connections between consumers and producers of food by fostering development of more robust value chains where feasible. -Increase the availability, accessibility of safe food for healthy diets. -Game changing in food culture towards more diversified consumption and improved productivity. -Sustainable value chain to ensure that international trade facilitates -Improve urban food environment and identifying challenges and opportunities in urban/rural communities. -Conduct a food security strategy. Strengthen storage capacity and post-harvest loss management Strengthen food value chains to improve the availability and affordability of healthy and nutritious diets -Expand SBCC reach using various channels including media to influence consumption patterns including violation inappropriate marketing of unhealthy foods. 	<p>All tracks</p> <p>SDG1;SDG 2; SDG 3; SDG 4; SDG 7; SDG 8; SDG9;SDG11; SDG 12;SDG13; SDG14; SDG15; SDG16; SDG17;</p>
<p>3; Nature - positive food production system.</p>	<ul style="list-style-type: none"> -Limited productivity and production Loss in crops and animals. -Frequent changes in strategies. -Poor enabling productive environment -Limited capacity in agro processing - Few innovative technologies applied -Low diverse food production. -Absence of national land use action plan. 	<p>Pillar 1: protect natural systems and areas by delineating closure areas allowing the land and water to regenerate.</p> <p>Pillar 2: sustainable management of the production systems.</p> <p>Pillar 3: restore and rehabilitate degraded systems for sustainable food production and ecosystem services.</p> <ul style="list-style-type: none"> - Adopt practices to restore, protect and manage natural resources in sustainable manner: including regulations, judicial decrees, or other actions, soil conservation and appropriate water harvesting. -Develop the capacity of small scale producers, and farm advisors. 	<p>All tracks</p> <p>SDG1;SDG 2; SDG 5; SDG7; SDG 8; SDG SDG 12; SDG 13; SDG SDG 15; SDG 16; SDG</p>

	<ul style="list-style-type: none"> -Ineffective & inefficient extension services especially in remote areas. -Negative environmental impacts (climate change-erosion floods-drought). -Limited funding for food & nutrition. -Misuse of pesticide and insecticides and Animal drugs. 	<ul style="list-style-type: none"> -Promote & scale up, marketing of healthy foods -Create & support industries & SMEs to process foods. -Increase policy coherence, and adequate governance & accountability. -Strengthen actions and information on sustainable nutrition and food diets. - Establish and strengthen rural areas/ cross-farm co-operations, -Put in place robust Risk management plans (fires, floods..etc) Adopt organic agriculture, and encouraging zero tillage practices in the harsh areas. Introduce improved seeds and animal breeds to improve productivity. -Adapt mixed farming system and discourage mono cropping farming. -reduce Crop and food losses 	
4. Advance Equitable livelihood	<ul style="list-style-type: none"> -inadequate policies governing the right to work, land ownership. -Inequality among landowners, and partnerships between them and unequal gender norms. -Environmental and natural disasters such as floods, droughts, desertification, removal of vegetation -The impact of conflicts on loss of work and land ownership -Displacement of the main unpaid contributors to household income and food production. 	<ul style="list-style-type: none"> - Provide chances for gender participation in decision-making in state legislatures, parties and community-based organizations (CBOs). Ensure women's equal rights and promote their equal access to and control over productive assets such as land labour, and finance. -Building productive capacity of producers. - Strengthen agricultural support services in terms of innovation, research, technology transfer and extension, agricultural education, markets, information. -Build strategic partnerships to have better access to new technology, Actions to support equality in livelihoods namely: Stakeholder capacity upgrading, Food-based nutrition. Peace, stability building and voluntary guidelines for land tenure. -Develop the knowledge, skills, and talent of youth and women groups by investing in smallholder to provide viable livelihoods for all future generations. 	<p>All tracks SDG 1; SDG 2; SDG 4 SDG 5; SDG 8; SDG 9; SDG 16; SDG 17</p>
5. Build resilience to vulnerability, shocks and stress	<ul style="list-style-type: none"> -Limited awareness on climate-related hazards; Social unrest; fragile economic situation and lack of shocks-risks-hazard mapping/information. -Natural resources deterioration. 	<ul style="list-style-type: none"> -Support decision making through partnership-based capacity development - Provide tools to guide resilience /vulnerability mapping and analysis; -Coordination with media for awareness raising; -Enhance coordination mechanism; -Capacity building for staff in FS analysis; -Improve access to agricultural inputs and extension services to enhance food 	<p>All tracks SDG1;SDG 2; SDG 3; SDG 5; SDG 6; SDG 7; SDG 8; SDG 9; SDG 10; SDG 16; SDG 17</p>

<ul style="list-style-type: none"> -Traditional food production systems; less applied research -Limited institutional capacities and response triggering mechanisms in disaster risk management and. early warning system. -Climate variation/ climate change and extreme events. - -Limited access to agricultural inputs, services and skills; -Shortage of water among the livestock routes; -Lack of legislations in access to land and natural resources; -Low standard for data collection, analysis on resilience in Sudan. -Limited employment/ low income. <p>The negative impact of COVID -19 in food system.</p> <p>Poor coordination between development an humanitarian parties</p>	<p>security access ;</p> <ul style="list-style-type: none"> -Organize dialogues between farmers and herders -Secure availability of integrated services of water, fodder and pasture along stock - routes to markets, including cross-border routes. -Implement projects of common interest to support peace building; -Establish early warning system and community disaster management strategy -Develop climate change adaptation strategy to reduce the impact.. -Support institutional and natural resources governance. -Vulnerability mapping and analysis to support resilience building; -Support the integration of livelihood related interventions in the design and delivery of emergency and resilience building programmes -Stand to shock responses, and social protection interventions in areas with food insecurity -Improve food programmes to provide nutritional needs of children, adolescent girls and pregnant and breastfeeding women -Development and adoption of climate-resilient agriculture introducing diversified climate/ hazards tolerant crops and minimizing water usage whilst ensuring nutritional needs are met -Development of community-based decision-making mechanisms on land rights, access and control 	
---	---	--

Other food system synergies

<p>Food reserves (strategic and HI</p>	<ul style="list-style-type: none"> -Low capacities -Traditional and unsafe storage -Poor cold stores; 	<ul style="list-style-type: none"> -Modernization of storage at national and HH levels. -Control measurement for safe stored food -Availability of cold stores for perishable food; 	<p>Track 1, 2,3, SDG 8;</p>
---	--	--	-----------------------------

Transportation	Deteriorated infrastructures -Insufficient cold transport -High cost means high food prices	- Rehabilitation , modernization - Quality control	All tracks
Marketing	-Infrastructures -Weak marketing structures	-Rehabilitation of infrastructures - Policies and legislations	All tracks
Processing	-Limited Innovations -Poor standards -Poor infrastructure	-Applications of innovations -Quality control -Rehabilitation of infrastructure -Support applied Researches	Tracks 1 & 2

Main drivers to develop the food system;

❖ *Political and institutional drivers, economic and market drivers, biophysical and environmental drivers, demographic drivers: Socio-cultural drivers, innovation and research drivers.*