



Republic of Yemen

NATIONAL AGRICULTURE AND FISHERIES STRATEGY AND INVESTMENT PLAN NAFSIP – 2024-2030



Yemen NAFSIP. Draft version – July 2023, for validation.

NAFSIP 2024-2030. Prepared by the Technical Coordination Committee, under the chairmanship of the Ministry of Agriculture, Irrigation and Fisheries

The Technical Coordination Committee (TCC) comprises two technical groups that supported the design of the NAFSIP, namely: the Technical Committee (TC) and a Technical Working Group (TWG), operating under the chairmanship of the Ministry of Agriculture, Irrigation and Fisheries (MAIF), including membership from the Ministry of Water and Environment (MWE), Ministry of Planning and International Cooperation (MoPIC). The two groups had been established in subsequent moments: the TC at first, smaller in composition and aimed to start the update of the national agriculture sector strategy (NASS); the larger TWG was formed later, to include broader set of fields, including other ministries besides agriculture, irrigation, and fisheries. The preparation of the NAFSIP and the TCC have benefited of technical support from the Food and Agriculture Organization of the United Nations.

The **National Agriculture and Fisheries Strategy and Investment Plan 2024-2030 (NAFSIP)** reflects agreed priorities, with targets and budget for strategic investment, based on analytical evidence and defined through discussions and consultations with public and private, national and international stakeholders between 2020 and 2023. It has been developed with technical support from the Hand-in-Hand initiative, a global thrust led by FAO in collaboration with national stakeholders to support the 2030 agenda, specifically SDG 1 (poverty reduction) and SDG 2 (no hunger).

The **NAFSIP 2024-2030 is a living document, but a firm commitment**, receiving inter-ministerial support, under the chairmanship of the Ministry of Agriculture, Irrigation and Fisheries (MAIF). Through regular monitoring, reviews and validations, it aims to refocus on longer term developmental objectives and support mobilizing resources accordingly.

=== **Yemen NAFSIP 2024-2030. Draft version for Endorsement, September 2023** ===

[Photo credits on cover page: Food and Agriculture Organization of the United Nations]

Contents

ACRONYMS	v
FOREWARD	i
1. INTRODUCTION	1
2. THE NAFSIP	5
2.1 What is the NAFSIP?	5
2.2 Principles and founding elements of the NAFSIP	6
3. SITUATIONAL ANALYSIS: THE AGRI-FOOD SECTOR AT THE CROSSROADS	8
3.1 Agriculture performance and key outcomes	11
3.1.1 Growth and productivity.....	11
3.1.2 Food security and nutrition.....	13
3.1.3 Job creation, incomes, and food affordability	15
3.2 Natural resources and climate change	17
3.2.1 Climate change, water sector and agriculture.....	17
3.2.2 Water resources and management	17
3.2.3 Water sector performance and governance.....	18
3.3 Gender and youth	19
3.3.1 Main gender and youth inequalities in Yemen.....	19
3.3.2 Gender, nutrition and food security	20
3.3.3 The role of women and youth in the agrifood sector.....	21
3.4 Access to financial services	23
3.5 Public financing and private investments	24
3.6 Breaking out of fragility	26
4. THEORY OF CHANGE	28
4.1 Rationale	28
4.2 NAFSIP vision and objectives	28
4.3 Pathways of change	30
4.4 NAFSIP investments	32
5. NAFSIP STRATEGIC PILLARS AND INVESTMENT PROGRAMMES	36
Pillar 1. Diets and feeding practices of vulnerable households are sustainably improved	36

Programme 1.1. Increased household's capacity to produce, process and preserve food products.	37
Programme 1.2. Improved knowledge of nutrition and dietary practices at household level.....	37
Programme 1.3. Increased stability of stocks of key strategic food commodities	38
Pillar 2. Increased performance and competitiveness of nutrition-sensitive crop, livestock and fishery value chains	38
Programme 2.1. Increased adoption of improved agricultural technologies and practices	40
Programme 2.2. Increased access to production and market information.....	40
Programme 2.3. Improved value chain actors' access to agricultural inputs, services, and technologies.....	41
Programme 2.4. Improved value chain actors' access to harvest, post-harvest, processing, and marketing facilities.....	41
Programme 2.5. Improved farmers' business, organizational, and marketing capacity	41
Pillar 3. Improved the sustainable and climate-resilient management of natural resources	42
Programme 3.1. Local authorities' knowledge and governance capacities for improved management of natural resources and climate adaptation are strengthened.....	44
Programme 3.2. Increased adoption of climate-smart technologies and practices along the value chains	44
Programme 3.3. Increased smallholders' access to large/ medium/ small scale community water infrastructure	45
Pillar 4. Increased socio-economic inclusion of vulnerable actors along the agrifood system	46
Programme 4.1. Improved coordination, targeting and coverage of social protection and agricultural livelihood rehabilitation interventions	47
Programme 4.2. Increased access to off-farm employment and income generating opportunities for vulnerable households.....	47
Pillar 5. Improved governance and enabling environment for SDG1 and SDG2.....	48
Programme 5.1. Enhanced HDP nexus coordination and implementation within Government and with non-state stakeholders for SDG 1 and SDG 2	49
Programme 5.2. Improved national monitoring, evaluation and learning capacity for effective evidence-based decision-making.....	49
Programme 5.3. Strengthened national research and development capacities to support sustainable development of key sub-sectors	49
Programme 5.4. National food safety surveillance and diagnostic capacity strengthened	50
6. NAFSIP GOVERNANCE	51
6.1 Implementation arrangements.....	51
6.2 NAFSIP institutional implementation.....	54
6.2.1 Results Architecture.....	54

6.2.2	Monitoring process.....	56
6.2.3	Communication and advocacy.....	57
6.2.4	Resource mobilization.....	58
7.	RISKS AND MITIGATION MEASURES.....	59
8.	NEXT STEPS TOWARDS IMPLEMENTATION.....	63
9.	OUTSTANDING ISSUES	64
	Annex – NAFSIP Results Framework.....	65
	Annex – NAFSIP budget by Pillars and Programmes.....	69
	Annex – list of Investment Oriented Diagnostics.....	70
	Annex – ODA to Yemen reclassified per NAFSIP Pillars and Programmes.....	71

ACRONYMS

ACC	Agricultural Collection Centers
CC	Climate Change
COVID-19	Coronavirus disease 2019
CSA	climate-smart agriculture
CSO	Civil Society Organization
DIEM	Data in Emergency
DLRP	Desert Locust Response Project (World Bank Group)
EPA	Environmental Protection Authority
ERRY	Enhanced Rural Resilience in Yemen Programme
ESFNA	Emergency Food Security and Nutrition Assessment
ESMP	Environmental and Social Management Plan
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	FAO statistics database
FSAC	Food Security and Agriculture Cluster
FSIS	Food Security Information System
FSSC	Food Security Steering Committee
GBV	Gender Based Violence
GDP	Gross Domestic Product
GIS	Geographic Information System
GOY	Government of Yemen
GRM	Grievance Redress Mechanism
ha	Hectare
HDI	Human Development Index
HDP	Humanitarian-Development-Peace
HiHI	Hand-in-Hand Initiative
IDP	Internally Displaced Persons
IFAD	International Fund for Agricultural Development
IFI	International Financial Institution
ILO	International Labour Organization
IPC	Integrated Phase Classification
ITCZ	Monsoonal Inter-Tropical Convergence Zone
LFS	Labour Force Survey
M&E	Monitoring and Evaluation
MAI	Ministry of Agriculture and Irrigation (former ministry, currently in MAIF)
MAIF	Ministry of Agriculture, Irrigation and Fisheries
MENA	Middle East and North Africa region
MFI	Microfinance Institutions
MFW	Ministry of Fisheries Wealth (former ministry, currently in MAIF)
MLA	Ministry of Local Administration
MOPIC	Ministry of Planning and International Cooperation
MOSAL	Ministry of Social Affairs and Labour

MSME	micro, small, and medium enterprises
MWE	Ministry of Water and Environment
NAFSIP	National Agriculture Sector and Fisheries Strategy and Investment Plan
NASS	National Agriculture Sector Strategy
ND-GAIN	Notre Dame Global Adaptation Initiative
NWASA	National Water Resources Authority
POA	Plan of Action
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
ODI	Overseas Development Institute
OECD	Organization for Economic Co-operation and Development
Pin	Person in Need
PPE	personal protective equipment
PPP	Public-Private Partnerships
RES	Renewable Energy Sources
RIMA	Resilience Index Measurement Analysis
RSCZ	Red Sea Convergence Zone
SCFS	Supreme council for food Security
SDG	Sustainable Development Goal
SEAH	Sexual Exploitation and Abuse and Harassment
SMART	Specific; Measurable; Achievable; Relevant; Time-bound
TC	Technical Committee
TCC	Technical Coordination Committee
TCP	FAO's Technical Cooperation Project
TWG	Technical Working Group
UNDP	United Nations Development Programme
UNICEF	United Nations Children Fund
UNMAS	United Nations Mine Action Service
UNSDCF	United Nations Sustainable Development Cooperation Framework
USD	United States Dollar
UXOs	Unexploded Ordnance
VC	Value Chain
VGGT	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests
WDI	World Development Institute
WFP	World Food Programme
WHO	World Health Organization of the United Nations
WNR	water and natural resources
WUA	Water Users Association
YDNA	Yemen Dynamic Needs Assessment

FOREWARD

Message from H.E. Salem Abdullah Issa Al-Soqtari, MAIF Minister, on behalf of the Technical Committee to all NAFSIP stakeholders

I am pleased to present here the **National Agriculture and Fisheries Strategy and Investment Plan 2024-2030 (NAFSIP)**. In the current context of protracted crisis, the NAFSIP represents Yemen's commitment to respond with **a long-term developmental sight**, maintaining due care of the people in need for humanitarian assistance, but restructuring capacities and mobilizing investment for long lasting development targets.

Yemen's agricultural sector is at a crossroad. Years of protracted crisis and conflict have been reducing its potential, passing from the degrading natural resource base, but also through the human capital of Yemeni households and their capacities to produce, harvest, preserve and market food and agrifood products, to adapt to a changing environment exacerbated by climate change, and ultimately to participate in the socio-economic life.

The NAFSIP 2024-2030 represents the instrument to shed light on agreed developmental and investment priorities and provide direction in investment to address longer term sustainable agricultural development, yet paving the road for the country's long-term food and nutrition security. the NAFSIP summarizes **agreed priorities defined by a wide set of stakeholders, grounded on the evidence of technical analysis**, carried out with support from the Food and Agriculture Organization of the United Nations under the Hand in Hand Initiative.

The NAFSIP is a living document, with a clear accountability framework, timebound results and costs. The authorities that are presenting it work under the Technical Committee umbrella, comprising the Ministry of Agriculture, Irrigation and Fisheries (MAIF) as chair, as well as the Ministry of Planning and international Cooperation (MoPIC), the Ministry of Water and Environment (MWE), and the Ministry of Social Affairs and Labour (MoSAL). The NAFSIP is committed to represent all stakeholders. It has an **inclusive governance, to ensure the participation of all interested stakeholders.**

The NAFSIP is a technical document for agriculture and fisheries, with cross-sectoral perspectives. Its Vision is to have a competitive and climate-resilient agrifood sector that contributes to economic growth, job creation, poverty alleviation, and food and nutrition security.

It addresses developmental priorities structured in five pillars, each of them composed of **selected investment programmes** identified through the investment-oriented diagnostics and corroborated through successive consultations with national and decentralized stakeholders north and south in the country. The five pillars include: (a) diets and feeding practices of vulnerable households are sustainably improved; (b) increased performance and competitiveness of nutrition-sensitive crop, livestock and fishery value chains; (c) improved the sustainable and climate-resilient management of natural

resources; (d) increased socio-economic inclusion of most vulnerable players along the agri-food sector; and (e) improved governance and enabling environment for SDG1 and SDG2.

The cost of the investments for the initial period of 2024-2027 is estimated in about 1,330 million USD.

Out of this, the development financing estimated to be mobilized from international resource partners to the NAFSIP areas of interest for the same period is about 498 million USD, while the remaining 832 million USD is the estimated financial gap (63 percent of the total).

The NAFSIP's success depends on the capacity to catalyze interest, consolidate durable partnerships and mobilize necessary resources, coordinating actions for an improved humanitarian development and peace Nexus. Defining priorities is only the initial part of the thrust, while **implementing the NAFSIP and keeping its content alive and relevant is even more essential.**

I wish the NAFSIP to have tremendous success as a game changer, I wish it to be a legacy to the current and future generations, with an eye at the crisis but a sight at a longer term development.

With this endorsement, I emphasize our institutions' commitment to support the NAFSIP roll out, and I wish the entire country, and all stakeholders in the government, civil society and private sector, and international resource partners to successfully work together to achieve jointly the goals we jointly set.

H.E. Salem Abdullah Issa Al-Soqtari

Minister for Agriculture, Irrigation and Fisheries, MAIF

On behalf of the **Technical Committee**

Aden, September 2023

1. INTRODUCTION

1. One of Yemen's most significant economic sectors is the agrifood industry, which includes agriculture, fisheries, and livestock. Even though agriculture value added only made up about 17% of the GDP in 2018, it accounted for 28% of all employment in 2021 (30% in 2018) and provided the primary means of subsistence for more than 60% of the population.¹ Nearly 36% of households in Yemen state that agriculture is their primary source of income (80% have no other sources), and despite women participation in the labour force is as low as 5% (World Bank Group, 2022²), 87% of the women work in agriculture in some capacity³. By providing a means of subsistence through agricultural output, fishing, breeding, and commerce, the sector helps to alleviate poverty in rural communities and meets a sizable portion of the population's nutritional needs. Around 11.3% of the agricultural GDP, or 1.7% of the national GDP, is contributed by the fishing industry (World Bank Group, 2022).⁴ Another significant portion of exports comes from the agri-food industry. Following oil products as the second largest contributor to exports in 2020, agricultural and food items made for roughly 24.6% of all exports. Around 11% of Yemen's total exports, or 45% of all agrifood exports, were fisheries in 2020 (Chatham House, a.k.a. The Royal Institute of International Affairs, 2020).⁵

2. Despite the sector's importance and potential, access to inputs, markets, transportation, and distribution networks has been severely interrupted by the conflict, and agricultural production remains low. Yemen's agriculture industry had already deteriorated prior to the conflict, and the nation was heavily dependent on food imports to meet its needs for food security. Over the past decade domestic production of wheat, which is a major staple crop in Yemen, only represented between 5 to 10% of the total food utilization. Yemeni farmers operate around 1.2 million farms with an average landholding of less than 1.5 hectares per farm (FAOSTAT, 2022). About 75% of agricultural production comes from the highlands, home to 60% of the population. While productivity has historically been low, conflict has made production conditions worse. As a result, there is now less access to high-quality inputs like seeds, fertilizer, and fuel. Additionally, irrigation systems, storage facilities, agricultural machinery, and storage facilities have all suffered damage. These disruptions have prevented the sector from contributing more to rural incomes and addressing food trade imbalances, along with the relatively small and fragmented landholdings, limited agricultural land, and water resources. Weak marketing systems, subpar infrastructure, and improper agri-logistics have made the low availability of inputs and the high level of post-harvest losses worse.

3. For many years, Yemen has been one of the world's poorest nations. The humanitarian crisis in Yemen is one of the worst and most complex in the world, resulting from the compounded effects of the long-lasting conflict the nation has been involved in since 2014, which has been made worse by the recent COVID-19 pandemic, the rise in the price of food and energy caused by the conflict in Ukraine, and other factors. In such context, the link between poverty, vulnerability and hunger is critical. Recent estimates show that between June and December of 2022, about 19 million people were expected to face severe

¹ Source: <https://data.worldbank.org/indicator/SL.EMP.TOTL.SP.FE.ZS?locations=YE>

² Source: <https://data.worldbank.org/indicator/SL.EMP.TOTL.SP.FE.ZS?locations=YE>

³ Source: <https://yemen.un.org/en/203542-leaving-no-one-behind-yemen-steps-towards-better-production-nutrition-environment-and-life>.

⁴ World Bank Group. 2022. World Development Indicators (WDI). In: World Bank Data. Washington, DC. Cited 13 September 2022.

<https://data.worldbank.org/indicator>

⁵ Chatham House (a.k.a. The Royal Institute of International Affairs). 2020. In: Resourcetrade.earth. London. Cited 31 October 2021. <https://resourcetrade.earth/>

food insecurity, including 7.1 million people in emergency (IPC Phase 4) and 161,000 people in catastrophe (IPC Phase 5).⁶

4. In addition to structural issues in the agrifood industry, Yemen is vulnerable to new problems, particularly water scarcity and climate change, which pose a further threat to the nation's food security. The average annual temperature is predicted to rise by 1.2°C to 3.3°C by 2060, having an impact on both interior regions and coastal areas. As a result of increased coastal flooding and potential ecosystem and infrastructure damage, sea level rise will have an effect on agricultural lands and the diversity and abundance of fish. Climate change has already triggered the strongest alterations in water temperature in the Indian Ocean in the past 60 years (World Bank Group, 2021b).⁷ Warmer seas may also create more extreme and erratic rainfalls and stronger and more frequent cyclones, which will tend to increase the frequency of flash floods and make access to the sea more difficult for small fishers, especially during monsoon fishing season.

5. Because of decreased groundwater recharge and deteriorating water infrastructure, climate change is already making the water shortage worse. Being the seventh most water-scarce country in the world (only 80 cubic meters per capita per year), climate change will generally make water more scarce and have a negative impact on water quality (Environmental Protection Authority, 2015). Available records report an overall decline in precipitation in Yemen between 1981 and 2018, and predictions foresee an average decline of 1.6 mm every decade in the near future. Between 1981 and 2018, there was a downward trend in monthly rainfall for the months of January, February, March, April, July, September, and December. May and October saw only a small increase, while August saw a significant increase. Climate change predictions indicate that the increased variability in rainfall will make it more challenging to predict and develop coping mechanisms in rural areas. With fewer rainy days and more rain each rainy day, an increase in the concentration of rain could result in higher runoff, less groundwater recharge, and less evapotranspiration. Generally, reduced evapotranspiration are linked to lower plant growth and reduced yields (World Bank Group, 2010).⁸ Climate change will also have an impact on groundwater depletion due to higher temperatures, decreased rainfall in some months of the year, and/or drought events, which will lead to unsustainable groundwater extraction levels.

6. A number of recent significant shocks have exacerbated the current crisis, including the COVID-19 pandemic, the sharp reduction in development and humanitarian aid, the worsening of the conflict in 2021, the rise in global food and energy prices, and the sporadic difficulties with fuel imports. The conditions for recovery have also been made worse by a number of additional factors, such as the prevalence of livestock diseases and natural disasters like floods and desert locust invasion. Conservative assessments for financing short- and medium-term recovery and reconstruction needs have been estimated by the World Bank Group to be between USD 20 and 25 billion over five years.⁹ Agriculture sector recovery is important for the medium- and long-term resilience of Yemeni people. Continuous urgent measures are needed to support the recovery of agricultural and food production and to prevent further losses in agrifood production at a time when humanitarian funding is unstable and unpredictable, and the nation is highly vulnerable to international shocks that restrict imports and hamper humanitarian

⁶ IPC Global Platform. 2022a. Yemen: Acute Food Insecurity Situation January–May 2022 and Projection for June–December 2022. In: IPC. Bonn, Germany. Cited 1 July 2022. www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1155479/?iso3=YEM

⁷ World Bank Group (2021). Yemen Food Security Response and Resilience Project. <https://projects.worldbank.org/en/projects-operations/project-detail/P176129>

⁸ World Bank Group. 2010. Yemen - Assessing the Impacts of Climate Change and Variability on the Water and Agricultural Sectors and the Policy Implications. © World Bank Group. <http://hdl.handle.net/10986/2943>.

⁹ World Bank Group, 2020. Yemen Dynamic Needs Assessment (updated). <https://documents1.worldbank.org/curated/en/490981607970828629/pdf/Yemen-Dynamic-Needs-Assessment-Phase-3-2020-Update.pdf>

assistance. Agri-food resources are not only getting scarcer; their meagre capacity is also in jeopardy. Going forward, efforts of the international community need to consider transitioning from an emergency focus to a medium- to long-term peace and resilience building development approach, which will lead to a reduction in the humanitarian caseload and an increase in the resources available development financing.

7. Yemen has a long history of comprehensive agricultural production strategies, beginning with the Ministry of Agriculture and Irrigation (MAI) Aden Agenda in 1996, which was formally adopted in 2000. Subsequently, a number of agricultural policies and strategies were implemented between 2005 and 2009, culminating in the National Agriculture Sector Strategy (NASS) for the years 2012 to 2016. Although no longer in effect, the NASS provided solid strategies and served as a comprehensive guide to the development of the agriculture sector in Yemen, based on studies and evidence-based approaches to address food security, climate change, water resources, and the role of government in developing the agriculture sector. The NASS also provided a broad picture of the sector and challenges that were relevant in 2011. In March 2012 (and through its interim update in May 2013), the Council of Ministers adopted the NASS, which focused on three main objectives aligned with the National Food Security Strategy (NFSS): (1) raising domestic food production; (2) increasing rural incomes and employment, and (3) ensuring sustainability of the environment and natural resources.

8. The conflict's resurgence in 2014 disrupted the NASS's implementation. Due to the suspension of most government operations, donor organizations, resource partners, and International Financial Institutions (IFI) reduced their support for development initiatives and increased their attention to humanitarian aid. As of 2015, the country entered a vicious cycle of protracted crisis, which significantly affected all aspects of life, especially that of rural families who rely on agriculture production activities as the main source of livelihood.

9. As part of the Hand-in-Hand Initiative (HiHI), the Yemeni authorities recently expressed their willingness to participate in the creation of a new strategic framework. They also resurrected their earlier plans to create a longer-term vision, along with strategic directions and an investment strategy to operationalize it. Recently, the Yemeni authorities expressed willingness to engage in the development of a new strategic framework to reconstruct and revitalize the agrifood sector in the country, as part of the Hand-in-Hand Initiative (HiHI) and revived the intention of **developing a longer term vision**, with strategic directions and an investment plan to operationalize it. The HiHI is an evidence-based, country-led, and country-owned initiative supported by the Food and Agriculture Organization of the United Nations (FAO) to accelerate agricultural transformation and sustainable rural development to eradicate poverty (SDG 1) and to end hunger and all forms of malnutrition (SDG 2).

10. The process is led in-country by the technical committees interfacing an array of technical experts and decisionmakers from different Ministries and Authorities. These efforts resulted in the development of this **2030 National Agriculture Sector and Fisheries Strategy and Investment Plan (NAFSIP)**, intended to address the main needs of the agrifood sector, interface with other National Multi-sectorial Development Plans, and support the process of concerted reconstruction and recovery efforts, combining humanitarian response with more longer-term development interventions.

11. The economic situation in Yemen calls for the key role for resource partners - in parallel with humanitarian work - in limiting the economic repercussions. According to the data from Global Network

Against Food Crisis (2022),¹⁰ over the period 2016-2020, the Humanitarian financing has been 10 times higher than Development Financing.¹¹ This reflects on one side a persistent humanitarian caseload, and on the other side the need to rebalance the financing around agreed priorities.

12. **An inclusive process.** In this the NAFSIP intends to be a catalytic instrument. The preparation of the NAFSIP has been highly **inclusive** to guarantee **ownership** of the various stakeholders and to ensure its **relevance** and institutional **sustainability**. The preparation derived from a broader process of transparent knowledge and evidence generation, including the publication of a geospatial platform – as a repository of data and information, and the full availability of the ten thematic investment-oriented diagnostics.¹²

13. **Ownership.** In order to ensure sustainability, the design process has been supported by the establishment of a dedicated inter-ministerial Technical Working Group, and a Technical Committee (their roles are described in Section 6, NAFSIP GOVERNANCE, page 51)

14. **In-country consultations.** Consultations and interviews with key informants, including public and private sector representatives, have been carried out both in an initial preparatory phase (to define the investment-oriented diagnostics) as well as an instrument to consolidate the identification and definition of strategic directions of the NAFSIP. Discussion workshops with the Technical Working Group and the Technical Committee appointed by the counterpart Ministry of Agriculture, Irrigation and Fisheries (MAIF) and Ministry of Planning and International Cooperation (MoPIC) were carried out through missions and remotely between October 2020 and July 2023.

¹⁰ Global report on food crises 2022, <https://www.fao.org/3/cb9997en/cb9997en.pdf> (data available in FAO repository).

¹¹ Respectively they represented 1.1b\$/year, compared to 0.1b\$/year, in the last 4 years.

¹² All the knowledge products are available upon request at MAIF and FAO for review and consultation; feedback from stakeholders were addressed and integrated during the preparatory phase.

2. THE NAFSIP

2.1 What is the NAFSIP?

15. The National Agriculture and Fisheries Strategy and Investment Plan (2024-2030) is a strategic document, comprehensive and cross-sectoral, centred around the agrifood system. It provides policy and investment recommendations, pursuing the **vision** to endow the country with a comprehensive policy and investment framework for agriculture, food security, resilience and poverty reduction, and the **objective** to sustainably increase agriculture-led economic growth towards improved household food and nutrition security and resilience.

16. Such ambitious targets require a long-term vision and urge the NAFSIP to go beyond a simple programmatic document, requiring it to be instead a **living and accompanying process** with progressive ownership growth, and catalytic effect on planning and resources mobilization in the country. Starting from its preparation, the NAFSIP itself has contributed to achieve phased results. *At first*, on a short-term basis, it contributed to **generate evidence and foster transparency**: the preparatory phase ensured to the country a ready-made access to information and data on the agriculture sector, as well as on available financing, able to stimulate informed decision-making processes, generating a positive momentum among stakeholders around planning. *Secondly*, through the approval of the Strategy and Investment Plan, the process **stimulates aid effectiveness and harmonization**: through its results framework and results oriented budget, the NAFSIP represents an accountability mechanism that supports an improvement of resource allocation to meet the agreed targets. The execution of the NAFSIP requires a continuous process of institutional capacity development, that will reinforce the enabling environment and institutional / individual capacities of public actors for an effective governance of SDG 2 and SDG 1, ultimately strengthening the mechanisms of coordination, alignment and harmonization. *Finally*, on a longer term perspective, by stimulating mobilization of public and private investments for SDG 2 and SDG 1, prioritized around emerging needs, existing gaps, potentials, and demand, the NAFSIP aims to **contribute maximizing development financing**.

17. The NAFSIP reflects national priorities emerging from evidence and consultations, and is composed of: **(a)** a theory of change, defining the key priorities, and the pathways that lead to achieving the vision; **(b)** a results-framework, with specific targets for each priority and for their investment programmes; **(c)** a results-oriented budget, identifying currently available resources and the financial gap; and **(d)** a clear governance mechanism, to ensure implementation and maintaining relevance.

18. The NAFSIP is **led by the Ministry of Agriculture, Irrigation and Fisheries (MAIF)** in close coordination with the **Ministry of Planning and International Cooperation (MoPIC)**, and builds on existing coordination mechanisms. Within the Government, these include the Technical Working Group and the Technical Committee, as well as related coordination mechanisms such as the Supreme Council for Food Security (see Section 6). Outside the government, relevant institutional elements include the Yemen Humanitarian Country Team, the Food Security and Agriculture Cluster (FSAC), other clusters, Yemen Resource Partners coordination groups, and other platforms that are involving civil society and private sector, and other bodies supporting the humanitarian-development-peace (HDP) nexus.

19. The **investment framework** of the NAFSIP is consistent with the national priorities in terms of food and nutrition security, livelihoods, resilience and socio-economic inclusion. It is structured in five Investment Priorities in turn composed of a combination of complementary short and medium-term programmatic investments. The plan is to be used as a scalable platform for broad-based short and medium-term support to reduce poverty and strengthen food security in the country (SDGs 1 and SDG 2).

20. **Its investment plan** is composed of ongoing development financing and the expected available resources for development based on past trends (estimated available resources), and the gap in financing required to achieve the targets (financial gap). The NAFSIP considers the available resources as investments mobilized for the project and programmes and financed by the public sector (Government, donors, International Financial Institutions, etc.) or private entities (foundations, private contributions, private investors, etc.). They represent the backbone of the Strategy to generate future financial, economic, social, environmental returns.

21. **Audience of the NAFSIP.** The NAFSIP is a strategic and programmatic document that serves as more than just a means of defining mutually agreed-upon technical priorities for the agriculture and fishing industries. The NAFSIP is primarily a tool for dialogue because achieving the targets calls for coordinated action and cooperation between stakeholders. As detailed in Section 6, its monitoring and communication process will stimulate advocacy for improved results and higher participation of the private sector. As such, the NAFSIP is addressed to all stakeholders in the country active in the agriculture and fisheries sector, including: ministries and government entities, development and humanitarian resource partners and agencies, national and international non-government organizations involved in development, civil society and private sector actors.

2.2 Principles and founding elements of the NAFSIP

22. With the idea to establish an inclusive and evidence-based process of planning and strategic investment options, the principles inspiring the design of the NAFSIP represents also the guiding ones for its implementation and have a role in contributing to its Vision. They include:

- **Alignment and consistency.** The NAFSIP responds and is fully integrated in the existing strategic framework for Yemen and builds on existing the country's policies and strategies from relevant and interconnected sectors. This refers to existing and active sectoral strategies, as well as broader frameworks. The most recent relevant ones include the Food Security Crisis Preparedness Plan¹³ (FSCPP), the UN Economic Framework for Yemen and the UNSDCF (addressing food security as one of its Pillars), and the forthcoming Food Security Strategy.
- **Ownership and inclusion.** This is ensured by systematically involving key players from the public and private sectors, as well as the agricultural industry, civil society, and resource partners. The NAFSIP's governance fully incorporates the inclusion process, which is a key component.
- **Harmonization and accountability.** The NAFSIP facilitates the convergence of aims and intents between various stakeholders (government, donors, private sector, farmers and their

¹³ Envisaged to be developed by World Bank Group and FAO within the framework of a GAFSP-funded "Yemen Food Security Response and Resilience Project", under finalization.

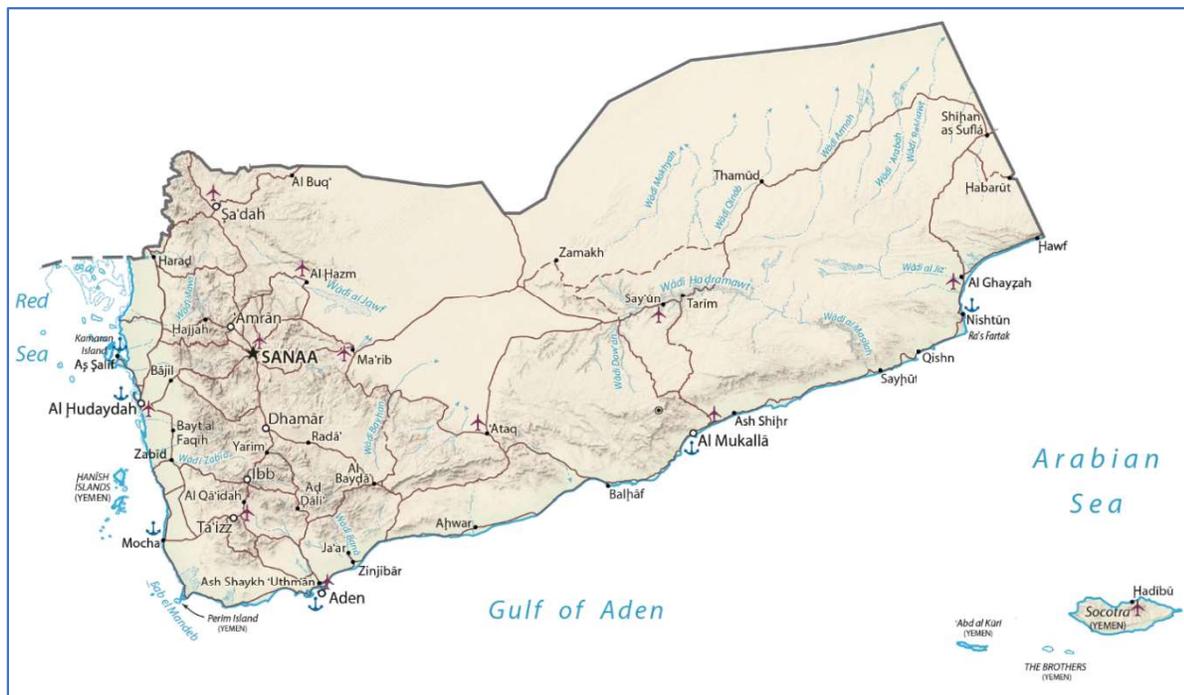
representatives, civil society, etc.) around the emerging priorities, and mutual accountability for investment decisions.

- **Relevance.** The NAFSIP, which is a living framework, enables prompt response to a changing environment and adjustment to changes in the needs of the population. The priorities can be reviewed and updated thanks to the NAFSIP's regular reviews and engagement with all stakeholders.
- **Fostering national leadership,** the NAFSIP develops a shared vision of investment priorities under the guidance of the technical relevant ministries, and the process has included capacity development elements to ensure institutional sustainability (and will continue to include it to ensure adequate roll out capacities).

3. SITUATIONAL ANALYSIS: THE AGRI-FOOD SECTOR AT THE CROSSROADS

23. Yemen is an arid country located in the south of the Arabian Peninsula, sharing borders with Oman and the Kingdom of Saudi Arabia. Its coastline (more than 2,000 km) borders the Red Sea, the Gulf of Aden, and the Arabian Sea (Indian Ocean). The country's climatic regions include hot and humid areas along the west coast; temperate areas in the western mountains, which receive seasonal monsoon rains; and an extraordinarily hot, dry, and harsh desert climate in the east.¹⁴ It has a total land area of 527,968 km² and geographically consists of five main regions, specifically the: (i) coastal plains; (ii) mountain highlands; (iii) mountainous basins; (iv) plateau areas; and (v) desert areas. The climate is however influenced by the different geographical and topographic features that contribute to the formation of five main agro-ecological zones that are characterized by different levels of temperature, humidity, and precipitation: coastal plain, temperate highlands, high plateaus, desert interior, and the islands archipelago.¹⁵ The unique blend of geophysical, weather, and socio-economic conditions increases the country's risk of hazards, including earthquakes; flash floods; floods (coastal storm surge and tsunami); droughts; landslides; rockslides; cyclones; sand and dust storms; locust infestations; pest, plant and animal diseases; and volcanic eruptions. Oil and gas are the country's main natural resources, along with rich reserves of gold, copper, lead and nickel. Arable land comprises only 3% of the total national territory and is located almost exclusively in the west, whereas national territory in the east is occupied by the Rub al Khali, one of the largest sand deserts in the world.

Figure 1. Map of the Republic of Yemen (2021)



Source: Geography Map (2021)

¹⁴ For full details on the climate in Yemen, please refer to the supporting investment diagnostic, "Water sector assessment and analysis of natural resources management, disaster risk reduction and climate change adaptation needs/options in Yemen", available upon request.

¹⁵ Source: USAID, 2016 - Climate risk profile: Yemen, 2016. <https://www.climatelinks.org/resources/climate-change-risk-profile-yemen>

24. Yemen's population is estimated to be 30.8 million people as of December 2021¹⁶, the majority of which are young (40% under the age of 15; median age of 20 years) and living in scattered, rural areas (62% of the population).¹⁷ Most Yemenis live in the western part of the country given its arable land, particularly in the Asir Mountains (part of the larger Sarawat Mountain system). Yemen is the poorest country in the Middle East and North Africa (MENA) region and one of the world's poorest nations, ranking 177 out of 189 nations on the UNDP Human Development Index. Yemen also has very high rates of food insecurity (66 percent), malnutrition (25%), illiteracy (30.9%), and maternal and infant mortality. In addition, more than two thirds of Yemenis struggle to access safe drinking water, and the country has one of the lowest per capita water availability rates in the world (150 m³ per year).¹⁸

25. Due to a lack of available agricultural land and water resources, as well as poor agricultural practices, only about 15–25% of Yemen's food needs are met by agriculture. The most significant non-oil sector of the Yemeni economy, however, is agriculture, which includes fisheries and livestock. Agriculture is the foundation of Yemeni livelihoods. Terraced agriculture for coffee, fruits, grains, and qat as well as extensive livestock production are the main agricultural systems in the rainfed highlands. While Yemen is self-sufficient in some cereals (sorghum, millet, and barley), 90% of the wheat and up to 85% of all locally consumed foods are imported. These imported foods are primarily wheat, rice, oil, sugar, and milk. The agricultural sector supports livelihoods through horticulture, livestock products, and particularly fisheries, which account for a sizable portion of non-oil domestic exports.

26. **Crops:** the main crops cultivated in Yemen are sorghum, maize, wheat, millet, pulses, and horticultural products (fruits and vegetables), which are predominant in the plains using primarily spate irrigation and groundwater for irrigation. Yemen also cultivates a number of significant high-value crops, including sesame, cotton, tobacco, and coffee. Qat (khat), a flowering plant whose leaves act as an addictive stimulant when chewed, is the main cash crop in the nation. It has a high and steady demand in the nation. Farmers are continually drawn to qat production due to its popularity, high demand, and profitability, which significantly reduces the amount of land and water that can be used to grow other food crops that go into household food baskets. Qat cultivation uses a lot of water. Qat is thought to make up 60% of Yemen's cash crop cultivation, and it is responsible for 32% of the country's groundwater withdrawals. Sorghum crops are considered the main cereal crop in Yemen, which adapted to be grown in the different agroecological zones with variation of landraces under the rainfed system. It is the first crop among the cereal's family in area and production. However, productivity landraces productivity is low due to many factors among them are the climate change, low seed quality, soil fertility, pests, and lack of knowledge in practicing the good agricultural practices. Sorghum is grown for two purposes for food and livestock feed. Wheat is a strategic crop grown in the highlands under rainfed and supplementary irrigation and in the eastern areas under groundwater irrigation. The productivity is low and research should develop an increasingly diverse portfolio of varieties of an extensive range of crops to adapt production systems to climate change. An effective agricultural extension system and a responsive seed delivery system are needed to enable farmers to access quality seeds and planting materials of well-adapted crop.

27. **Qat (khat):** a flowering plant whose leaves act as an addictive stimulant when chewed, is a key cash crop for which there is a high and consistent demand in the country. The popularity and high profitability

¹⁶ United Nations Department of Economic and Social Affairs - World Population Prospects (2019). URL: <https://population.un.org/wpp/>

¹⁷ Further details on demographics can be found in the complementing diagnostics on "Socio-Economic Challenges & Inclusion" and "Prospects for Financial Inclusion in Yemen".

¹⁸ World Bank. 2020a. Yemen: overview. Washington, D.C., World Bank Group.

of this crop, constantly attract farmers to move into its production considerably reducing the land and water available for food production of other food crops that contribute to household food baskets. As a result, it is estimated that 60% of cash crop cultivation land in Yemen is dedicated to growing qat. While the country should prioritize the promotion of other food crops, it is important not to ignore that qat cultivation is highly water intensive and that 32% of groundwater withdrawals is due to qat production. Improved irrigation technologies could contribute to a better use of the scarce water resources that qat cultivation is depleting year after year.

28. **Livestock:** Despite difficulties with water availability and the resulting lack of fodder (and decreased fodder quality), livestock is a major source of income for many smallholder farmers. Sheep, goats, camels, cattle, and chickens are commonly reared in Yemen, though the number of the first two (sheep and goats) decreased by 40% between 2014 and 2018 due to the ongoing conflict. The productivity and profitability of livestock activities are significantly impacted by the lack of veterinary services, the prevalence of related pests and diseases (such as pests des petits ruminants, sheep and goats pox, and foot and mouth disease), and these factors together. The meat and dairy value chains for cattle and small ruminants play a significant role in rural households' ability to support themselves. There are approximately 1.8 million cattle in Yemen, with nearly half of them raised for milk production. Cattle are the main source of milk in Yemen. There are roughly nine million sheep and nine million goats in the small ruminant herd. According to the MAI Statistics Book, a total of 132,260 tons of milk and 69,330 tons of meat are produced annually. According to FAOSTAT data, the production of goat meat fell by 9.7% from 2014 to 2019, and that of sheep meat suffered an even more sudden decrease, by around 23.4%. The production of goat's milk fell by 34.3% from 2014 to 2019, and that of sheep milk fell by 41.1%, over the same period. The poultry sector is another important commercial sector which attracts high investment (billions of USD) from private actors. The value chain employs more than 200,000 HHs and supplies the market with 100% of the need for table eggs and more than 60% of poultry meat. This sector is also being negatively impacted by the crisis.

29. **Fisheries:** this subsector is one of the most promising sectors in Yemen, providing an opportunity for economic diversification, and creating jobs, especially for the poorest. Yemen's coastline is about 2,500 km long, and spread over 10 of the 22 governorates, providing biodiversity and fish wealth that could cater to local and global preferences. Yemen's fishing area is constituted of three distinct fishing regions (Red Sea which includes Bab el-Mandeb Strait, Gulf of Aden, and the Arabian Sea which includes Socotra Archipelago), covering around 40,000 km². Due to high productivity and a long fishing tradition, Yemen is classified as a major regional fish producer, accounting for more than 50% of fish production and exports across the Red Sea and Gulf of Aden. After Morocco and Egypt, Yemen is one of the top producers and exporters of fish in the Arab world. Small-scale businesses account for the majority of the fishing industry and provide jobs for an estimated 115,000 small-scale fishers and 1,000,500 members of their households. Fisheries support 18% of coastal communities (total population of 9.4 million), up to retail, including service providers and the enabling environment, and another half million people along the value chain. Fish processing, canning, and lobster processing plants are just a few of the businesses that produce and market products from the fishing industry.

30. **Forestry:** Yemen, although predominantly desert, does have some forest resources. The country is known for its mountainous regions, especially in the western part, where you can find the majority of Yemen's forests. The forested areas mainly consist of Acacia trees, including Acacia senegal and Acacia seyal, as well as juniper trees. These forests play a crucial role in Yemen's ecosystem, providing habitats

for various wildlife species and contributing to the overall biodiversity. Additionally, they offer important environmental benefits such as soil conservation, water regulation, and carbon sequestration. Forests account for only 1% of the national territory yet they provide 70% of the country's energy needs and jointly with shrubs they provide more than 50% of livestock fodder. National forest reserves have been considerably depleted due to overcutting of trees and shrubs for fuel production, animal feed, and construction materials. Gaps in national legislation regarding forest ownership and management and limited legislative enforcement capacities have created a vacuum ripe for farmer disputes.

31. **Apiculture:** One of the smallest value chains, beekeeping for honey production is a growing niche agricultural activity. In 2020, traditional beekeeping framers produced nearly 3,000 ton of honey, using rudimentary tools that affect the quality of honey and increase production costs. The total number of beehives has not changed between 2010 and 2019, and honey yield remained relatively low at around 1.9 – 2.1 kg/beehive. Yemen exported 1,094 tons of honey in 2020 for a total value of USD 15.28 million; and imported 991 tons. Yemen mainly exports high quality honey and imports lower quality honey, with a positive price differential in favor of Yemeni honey. Main challenges are traditional beekeeping practices still very dominant; limited access to new technologies for beekeeping, honey harvesting, and honey processing; and lack of technology, equipment, and other facilities.

32. Nearly 90% of all water withdrawals in the nation are used for agriculture. This high number is caused by a combination of ineffective irrigation and water-hungry crops (like qat, which accounts for about 32% of groundwater withdrawals). Irrigation has become an expensive endeavour as a result of rising fuel prices and escalating conflict, and as a result, some investment projects have supported the adoption of solar-powered irrigation. One issue with this is that because surface and groundwater resources are regarded as communal property under national law, they are subject to the tragedy of the commons. Risks associated with unrestricted groundwater extraction include resource depletion and contamination (such as arsenic poisoning). Yemen is the only nation in the Arabian Peninsula with consistent rainfall patterns, but it frequently experiences sand and dust storms, which can cause soil erosion and endanger crops. Additionally, the number of cultivated areas and crop production have decreased by 38% as a result of the ongoing conflict.

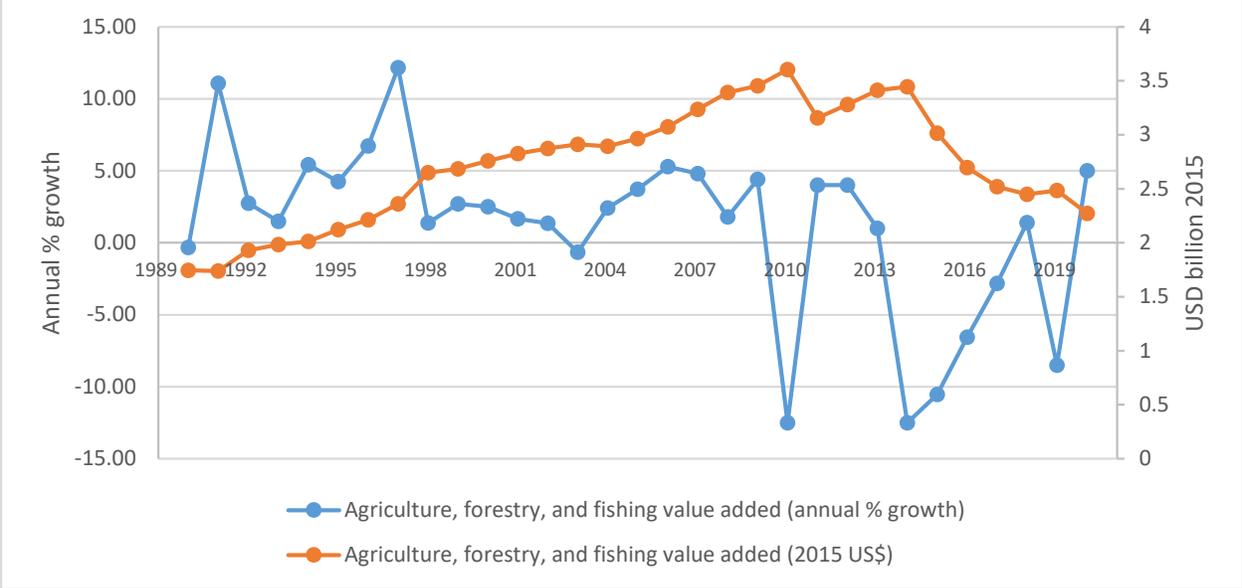
3.1 Agriculture performance and key outcomes

3.1.1 Growth and productivity

33. Notwithstanding the agrifood sector's importance to the national economy, food security, and poverty alleviation, annual growth in the agriculture, forestry and fishing value added has been volatile and tending to decline over the past three decades. Since 2010, the total value of agriculture's value added has experienced a major contraction in real terms, from USD 3.6 billion in 2010 to nearly USD 2.3 billion in 2020 (**Figure 2**). The country still largely depends on imports to fulfil local demand for staple commodities. Approximately 80% of all food consumed is imported while local agricultural production accounts for only 20 percent of overall food availability (World Bank Group, 2017a). Yemen had a food trade deficit of about USD 2.7 billion in 2019 (World Bank Group, 2021a). Imported food consists of staples such as wheat, rice, oil, sugar, poultry, and milk while domestic production consists of red meat, poultry, fish, fruits and vegetables. Total food import reached 5.5 million tons in 2020 with a total value of USD 4.6 billion (World Bank Group, 2021a). Yemen has self-sufficiency in some cereals (sorghum, millet,

and barley) and fish, while 85% of wheat is imported, along with oilseeds, horticulture, poultry meat, and dairy products. The fisheries sector is one of the few local products that offsets Yemen’s severe food trade deficit.

Figure 2. Agriculture, forestry, and fishing, value added (annual growth and total value) in Yemen

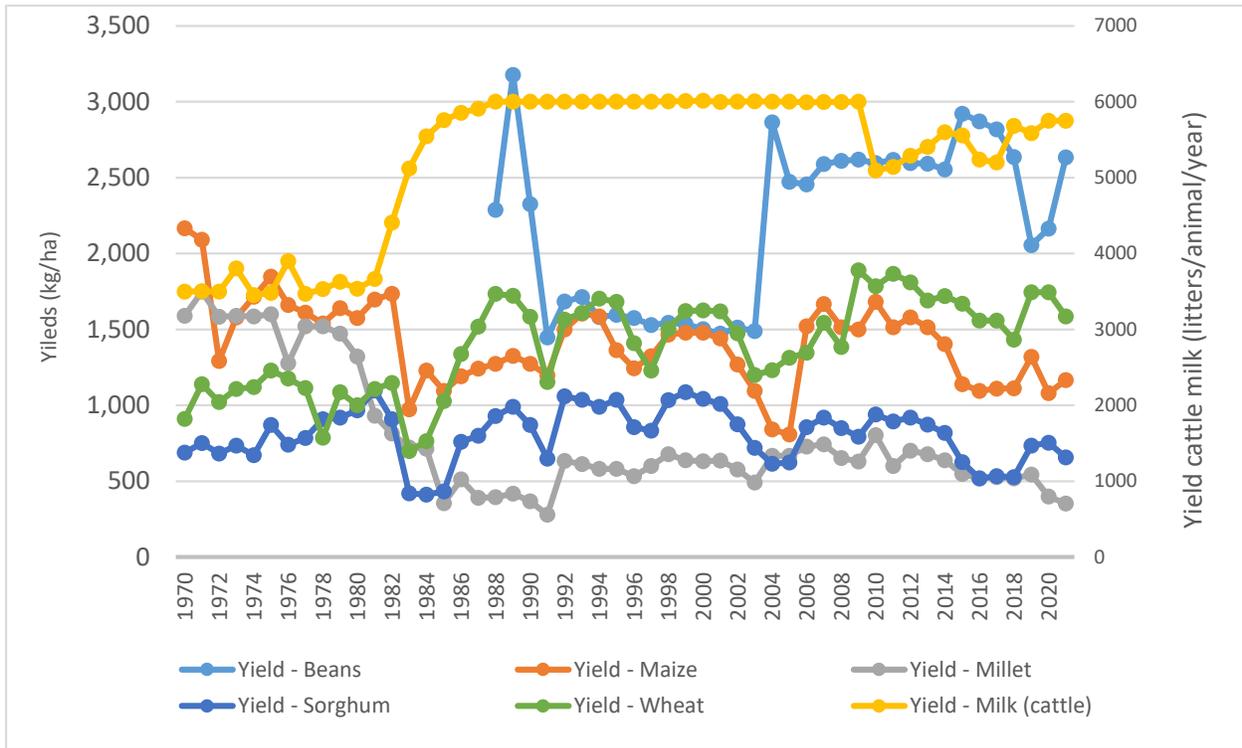


Source: World Bank Group. 2022¹⁹

34. Agricultural Statistics rely heavily on yearly agriculture book updates, with in turn depend on the 2001 estimates, and investing in a solid and high quality data and evidence generation is critical. Nonetheless, the analysis of available data seems to suggest some considerations. Although some agricultural commodity yields have increased over the past few decades, overall yields have stagnated and, in some significant cases, have even tended to decline (Figure 3). Since the early 1970s the yields of cereals, milk, and beans have shown low performance, well below the regional and world averages. Similarly, maize productivity has reduced from about 2.2 ton/ha in 1970 to about 1.5 ton/ha in 2005, and 1.2 ton/ha in 2021. Millet reduced its yields from nearly 1.6 ton/ha in 1970 to less than half ton in the last 5 years. In the last 10 years the decreasing trends of yields have intensified, especially for the four main cereals produced in Yemen (maize, millet, sorghum, and wheat). This, along with other significant consequences of the conflict, have caused farms to grow less quickly in terms of income, which has led to persistently high levels of poverty and food insecurity. Droughts, insufficient and erratic rainfall, water scarcity, inadequate water management, limited adoption of modern agricultural technologies, diminishing and degraded arable land, fragmented landholdings and unequal land tenure, crop losses due to poor harvest, insect damage (especially locust damage), and disease, as well as poorly developed infrastructure, are major factors stifling resource use efficiency (land and water).

¹⁹ In: World Bank Open Data. Washington, D.C. Cited 31 March 2021. <https://data.worldbank.org/indicator/NV.AGR.TOTL.KD?locations=YE>

Figure 3. Evolution of yields for major commodities in the last five decades



Source: authors based on FAOSTAT, 2023

3.1.2 Food security and nutrition

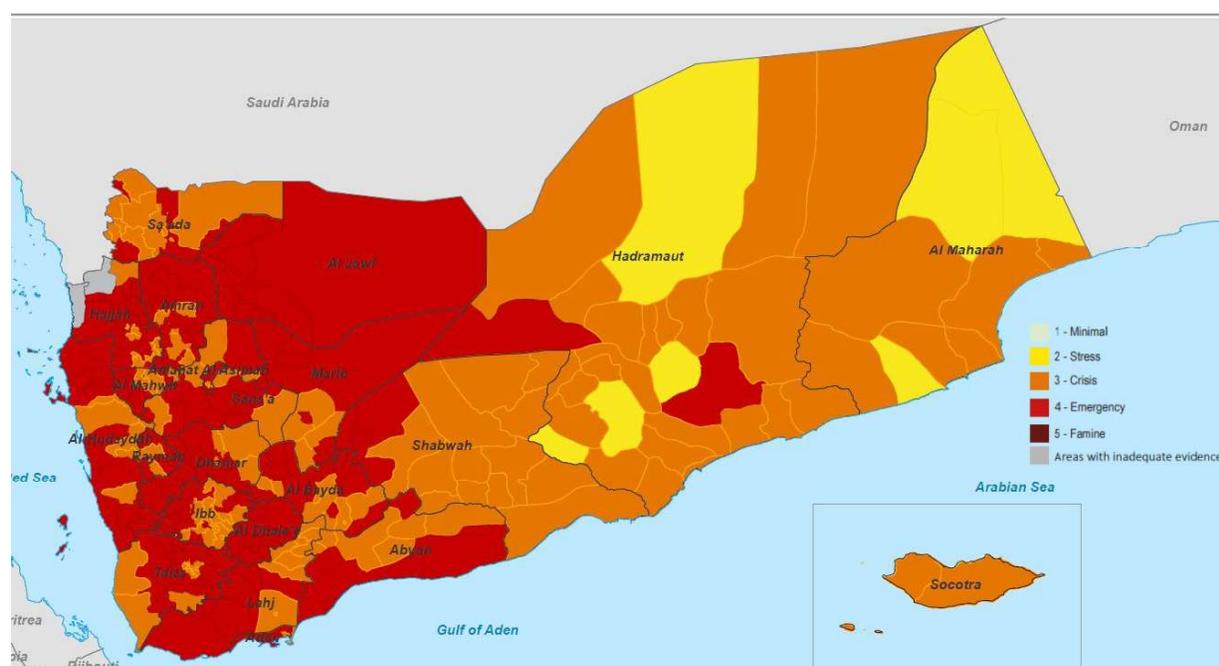
35. Since the conflict's escalation in late 2014, Yemen, the nation with the greatest number of people experiencing acute food insecurity worldwide, has been recording the highest levels of severe acute malnutrition. According to the latest Integrated Phase Classification (IPC)20, around 17 million people in Yemen were likely to experience high levels of acute food insecurity between October and December 2022 (IPC Phase 3 or above). This includes 6.1 million people that are classified in IPC Phase 4, a primary focus of concern. In total 184 of the 331 analyzed districts are classified in IPC Phase 4, 140 districts in IPC Phase 3, and only seven districts are classified in IPC Phase 2. The situation was compounded by an upsurge of COVID-19 cases. The governorates with the highest proportion of IPC Phase 4 districts (>75%) are located in Al Dhale'e, Al Jawf, Hajjah, Marib and Rayma governorates. Each of the governorates of Al Hudaydah, Dhamar, Hajjah, Ibb, Sana'a City and Taizz have more than one million people in IPC Phase 3 (Crisis) or above.

36. There is broad agreement that Yemen's limited ability to produce food, unemployment and poverty, illiteracy, the scarcity of clean water resources, and the country's heavy reliance on imports are the root causes of the country's food insecurity. Food insecurity is clearly exacerbated by conflict, as port restrictions have resulted in severe fuel shortages and an increase in the cost of food and necessary non-food items. The conflict has caused more public services to be disrupted and displacement (4.3 million people are currently displaced). The national authorities, as well as the international development and

²⁰ IPC Global Platform. 2022b. Yemen: Acute Malnutrition Situation October–December 2022. In: IPC. Bonn, Germany. Cited 1 July 2022. www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1155480/?iso3=YEM

humanitarian communities, are no longer able to handle the scale of the country's current most pressing and overwhelming challenges, which include hunger, food insecurity, and malnutrition. Nearly 80% of the population –over 24 million people– require some form of humanitarian assistance and protection.²¹ Yemen ranked 177th out of 189 countries in the global Humanitarian Development Index (UNDP 2019a). The conflict has considerably exacerbated both direct causes of malnutrition (e.g disease and inadequate dietary intake) and underlying causes such as inadequate access to food, inadequate care for women and children, who have specific nutritional needs (e.g. for pregnant or lactating women) and insufficient health services (World Bank Group 2019, OCHA 2019).

Figure 4. IPC acute food insecurity projection for October–December 2022



Source: IPC October-December 2022.

37. Food insecurity is most severe in areas of active fighting and in bordering areas, where access to food is more limited. It is particularly affecting Internally Displaced Persons (IDPs) and marginalized groups such as landless and women. Food insecurity is also severe in areas where people survive on low and irregular sources of income and have low access to public services. Agriculture is of fundamental importance to food security and human nutrition in Yemen, both as a direct determinant of household food consumption and through its role in household incomes and employment. There is a growing understanding that agricultural development provides many entry points to improve nutrition. The continuous diversification of interventions to address malnutrition goes hand-in-hand with the recognition that achieving and sustaining appropriate nutrition levels requires multi-dimensional efforts. This is an important path in both humanitarian and development contexts. Studies have shown that even if a comprehensive package of measures specifically addressing malnutrition were scaled up to reach 90% of

²¹UNICEF (2020). Malnutrition surges among young children in Yemen as conditions worsen. Press release. <https://www.unicef.org/press-releases/malnutrition-surges-among-young-children-yemen-conditions-worsen>

population, yet it would only achieve 20% reduction in chronic malnutrition (stunting) and 60% in severe acute malnutrition (wasting) (Bhutta et al, 2017).²² The remaining gap would require other types of nutrition-sensitive measures coming from the agrifood sector. The sector however, has not been able to achieve high levels of performance, which has limited its contribution to poverty alleviation, household incomes, and to improve food and nutrition security.

38. Acute and chronic malnutrition threatens to adversely impact the Yemen's human capital outcomes in the long-term. It is estimated that in 2022 over 2.2 million children under the age of five were expected to be affected by acute malnutrition in Yemen, including 538,000 children that were expected to suffer from severe malnutrition. In addition, 1.3 million pregnant and lactating women were also expected to be acutely malnourished (IPC, March 2022)²³. Malnutrition impacts on children is particularly severe, as it results in long term declines in cognitive development, along with poorer health outcomes in both short and longer terms. This looms as a longer-term societal issue. According to UNICEF, a shocking 46 percent of all children in Yemen are stunted. At this rate, malnutrition will create a lost generation. Undernutrition is particularly prevalent in rural areas, related to lean seasons or food security crises, and in remote areas where food aid does not reach. This suggests that enhanced, rural household-focused nutritional awareness, combined with improved local production are key to improve nutritional outcomes.

3.1.3 Job creation, incomes, and food affordability

39. Beyond its overall importance in the Yemeni economy, agrifood activities constitute a key source of livelihoods, especially for the most vulnerable. Prior to the outbreak of the conflict, the agrifood sector employed more than half (54%) of the workforce and was the main source of income for 73% of the population, either directly or indirectly through services and industries associated with the agricultural economy (Ministry of Fisheries Wealth - MFW, 2012).²⁴ Unlike most countries, economic dependence on agriculture has been growing because of stagnating opportunities in the industrial (primarily oil) and services sectors since 2000. Nevertheless, the agrifood sector still struggles to meet Yemen's food production needs and to continue to play a preponderant role in job creation and incomes. The sector is important for job creation and food security for women, yet women have less access to agricultural assets, resources and services, and are more prone to poverty and food insecurity. Women play an important role in agricultural production, with up to 87% of rural women somehow involved in agricultural activities (FAO Plan of Action, 2022)²⁵. Agriculture remains a key source of employment for women in Yemen, with 45 percent of employed women working in primary agriculture. However, their working conditions are challenging, as women mostly work as unpaid family contributors, with limited access to fundamental agricultural assets, resources, and support services. Women rarely have land ownership rights and commonly relinquish inherited land rights to male family members. Estimations indicate that only around 13% of women are agricultural landholders (United Nations Development Programme, UNDP). High illiteracy rates and mobility constraints, coupled with the security issues further exacerbated by the protracted conflict, also contribute to limiting women's economic opportunities in the agrifood sector (UN Women, 2023)²⁶.

²² Bhutta, Z., Berkley, J., Bandsma, R. et al. Severe childhood malnutrition. *Nat Rev Dis Primers* 3, 17067 (2017). <https://doi.org/10.1038/nrdp.2017.67>

²³ Source: [IPC. March 2022. Yemen: Food Security & Nutrition Snapshot | March 2022](https://reliefweb.int/report/yemen/yemen-food-security-nutrition-snapshot-march-2022-enar) <https://reliefweb.int/report/yemen/yemen-food-security-nutrition-snapshot-march-2022-enar>.

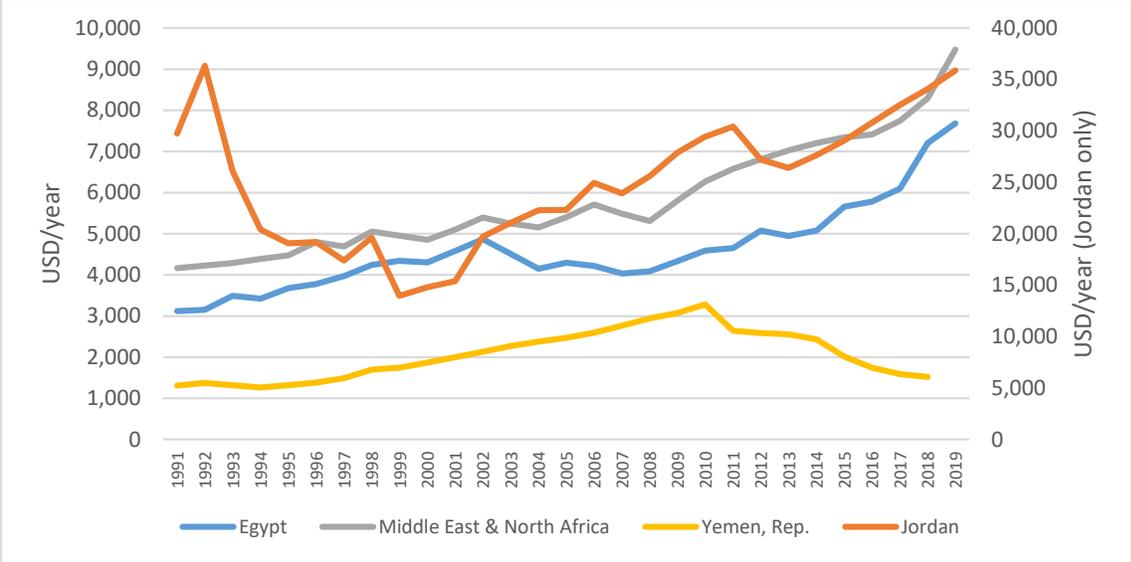
²⁴ While the government has released no updated figures, labour participation in agrifood is estimated to have grown even as the conflict has taken a toll on other economic sectors.

²⁵ FAO (2022). Yemen Plan of Action 2022-2024. Sanaa, Yemen.

²⁶ UN Women, 2023. Country Gender Equality Brief – February 1, 2023.

40. Despite the importance of agricultural activities for employment and income generation, the low levels of performance of agricultural activities in Yemen have contributed to a substantial reduction in agricultural incomes in the last decade. The country experienced steady increase in the agriculture, forestry, and fishing value added per worker (constant 2015 USD) from 1990 to 2010, but since 2010 the annual value added per capita (in 2015 constant value) have declined from about USD 3,280 per worker in 2010 to only USD 1,515 in 2018 (Figure 5).²⁷ Even before the escalation of the conflict, the country had already seen agricultural incomes on a declining trend. The situation in Yemen contrasts with the overall trend in the MENA region (excluding high-income countries) and countries like Egypt and Jordan, which particularly experienced fast growth in agricultural value added per worker in the last decade.

Figure 5. Agriculture, forestry, and fishing, value added per worker (constant 2015 USD)



Note: the average for the MENA region excludes the high-income countries in the region.
 Source: WDI cited 2023

41. Reduction of agricultural incomes has had an even more significant impact on household food security given the surge in domestic food prices, which have affected food affordability, and driven, inter alia, by the consequences of the war in Ukraine. According to the June 2022 Monthly Food Security Update from the WFP, the price of the minimum food basket increased by 80% in the South of Yemen and 40% in the North between May 2021 and May 2022. Given that they spend a larger percentage of their income on food staples, the poor are particularly hard hit by sudden increases in food prices. Along with fewer opportunities for employment, Yemeni government employees frequently go months without receiving a paycheck, and Yemen's national currency has continued to depreciate against other currencies. The latter is particularly damaging to household purchasing power, forcing more households to resort to drastic crisis-coping techniques that have long-term effects. One of the coping strategies used by households going through a crisis or worse (IPC3+) is to use up their assets for their means of subsistence. In addition, it takes a lot of time and money for households to rebuild their lost means of subsistence, which goes beyond basic humanitarian aid. The number of people in Yemen who are currently experiencing severe

²⁷ Note that the fluctuations in currency exchange has also influence in this decline, however the declines is also cause by the reduction in economic activity in the sector.

food insecurity has been rising over the past few months, which is already a result of the ongoing loss of assets that support livelihoods. This results in an ongoing cycle of increased vulnerability.

3.2 Natural resources and climate change

3.2.1 Climate change, water sector and agriculture

42. Yemen is endowed with hot and humid areas along the west coast, temperate areas in the Western mountains that also receive seasonal monsoon rains, and an extraordinarily hot, dry, and harsh desert climate in the East. Average temperatures range between 15°C and 35°C depending on location, altitude, and season, extreme temperatures may be below 0°C and well above 40°C. Precipitation range from 50mm and 800mm per year depending on the zone. About 45% of land in Yemen is used for agriculture, with irrigation covering 6,800 km². Rainy seasons occur during the spring and the summer, and the rainfall depends on two main mechanisms: the Red Sea Convergence Zone (RSCZ) and the monsoonal Inter-Tropical Convergence Zone (ITCZ). The RSCZ is active from March to May. Its influence is most noticeable at the higher altitudes in the western parts of the country. The ITCZ reaches Yemen in July-September, moving North and then South again so that its influence lasts longer in the south. Rainstorms observed in the winter months of December and January are attributed to the influence of the Mediterranean Sea.

43. Beyond structural difficulties of the agrifood sector, Yemen is susceptible to emerging challenges, primarily climate change and water scarcity, which further threaten food security. Yemen is ranked as highly vulnerable to climate change, while also showing low readiness for climate change adaptation and for disaster preparedness. Yemen ranks 172 out of 181 countries in the ND-GAIN index ranking²⁸ due to its high vulnerability (22nd most vulnerable country) and low readiness (14th least ready country) to climate change. Expected climate change impacts in the water sector include a greater rainfall variability in the future, potentially leading to increased drought periods, and more rapidly diminishing water supplies. Similarly, increased temperatures could lead to higher heat stress and evapotranspiration rates,²⁹ further slowing the replenishment of water sources. Additionally, overexploitation of groundwater resources and rising sea levels due to climate change increase the likelihood of salt-water intrusion. By 2060, mean annual temperature is expected to increase by 1.2°C to 3.3°C, affecting both interior regions and coastal areas³⁰. Sea level rise will result in increased coastal flooding and possible damages to infrastructure and ecosystems, also impacting fish diversity and quantities. Climate change has already triggered the strongest alterations in water temperature in the Indian Ocean in the past 60 years (World Bank Group, 2021b). Warmer seas also create more extreme rainfall as well as stronger and more frequent cyclones, making access to the sea more difficult for small fishers, especially during monsoon season.

3.2.2 Water resources and management

44. The water situation in Yemen is well described by FAO (2008)³¹ and updated by FAO (2021)³². The population, including water-using sectors (mainly agriculture and domestic use), depend on groundwater and rainfall runoff. Rainfall availability and respectively spate flows that are the main contributors to irrigation are highly variable and unequally distributed over the country. Annual rain volume all over the

²⁸ The ND-GAIN ranking summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience.

²⁹ Climate trends show increasing temperatures of 1-2°C per century (Investment-oriented Diagnostic)

³⁰ Ministry of Foreign Affairs, Netherlands, 2018: Climate Change Profile – Yemen

(<https://www.government.nl/binaries/government/documenten/publications/2019/02/05/climate-change-profiles/Yemen.pdf>)

³¹ [FAO Country profile \(2008\)](#)

³² [FAO Country profile \(2021\)](#)

country varies between 67 and 93 km³ (FAO, 2008).³³ Precipitation generally decreases from West to East, with the lowest values in the Rub Al Khali Desert. Rainfall generally result in flood flows running off in wadis. The limited groundwater resources are increasingly been depleted, which may also be highly affected by the predicted greater rainfall variability in the future, potentially leading to increased drought periods, and more rapidly diminishing water supplies.³⁴

45. Surface water resources have been estimated at 1 km³/year (FAO 2021), but this quantity corresponds to the runoff from major rivers and does not include the runoff produced within the smaller catchments. Renewable groundwater resources have been estimated at 1.5 km³/year of which a large part probably comes from infiltration in the river beds. Total internal renewable water resources are thus estimated at around 2.1 km³/year. Surface runoff to the sea as measured in some major wadis is estimated at 270 million m³/year and groundwater outflow to the sea at 280 million m³/year. The current annual renewable freshwater resources in Yemen are estimated at 80 m³ per capita versus an 8,900 m³ per capita globally. Yemen therefore falls well below the absolute scarcity threshold of 500 m³ per capita.³⁵ Similarly, increased temperatures could lead to higher heat stress and evapotranspiration rates, further slowing the replenishment of water sources. Furthermore, overexploitation of groundwater resources and rising sea levels may lead to salt-water intrusion, which may have heavy impact on crop productivity.

46. Water harvesting has been strongly promoted in Yemen, maximizing the use of rainwater through water harvesting techniques, especially in the rural areas. This includes rehabilitating agricultural terraces, and conservation of trees and vegetative cover. Rain-fed agriculture has been very popular in Yemen historically, however, as a result of large-scale introduction of pumps to abstract groundwater, the rain-fed agriculture has suffered a serious setback and the rain-fed areas of over one million hectares in 1970 now stand at 506,539 ha. There is large demand for rehabilitation of abandoned terraces and traditional water harvesting structures comprising underground cisterns and open pits for collecting rainwater to recharge the aquifer during the spates and for on-farm water storage tanks for collecting rain water for drinking water supply for humans and animals. The terraces support the poorest of the poor and low rainfall and low productivity are the main causes of neglect of maintenance of terraces. Terraces along with plantation also help in preventing soil erosion of the hill slopes resulting from rapid run-off in the upper wadi catchments and along wadi courses threatening the agricultural lands and the rural communities and resulting in decrease in groundwater recharge.

3.2.3 Water sector performance and governance

47. The authorities in Yemen recognize the criticality of the water situation in the country and is undertaking different actions to deal with it. Several water sector strategies, legislations and policies have been prepared, and the implementation of some of them has begun. The Water Law that was enacted in 2002, and amended in 2006 has given a major thrust to the issue of water conservation. The critical situation of the water sector is well recognized in the main legal documents including the National Water Strategy and National Irrigation Strategy. The institutions involved in integrated water resource management and drought, include the Ministry of Water and Environment (MWE), the National Water

³³ [FAO Country profile \(2008\)](#)

³⁴ Between 1990 and 2000 total water withdrawal increased from 2.9 km³/year to 3.4 km³/year. FAO (2021) reported water use of 3.9 km³/year. In 2000, 90% of water withdrawal was used for agricultural purposes, 8% for municipal use and 2% for industrial use. Most of the water withdrawn was groundwater (from wells and springs), resulting in groundwater depletion as withdrawal exceeded the annual groundwater recharge. The rate of decline of the groundwater levels is alarmingly high in many zones, especially in the highlands, where a decline of 2 to 6 m/year is commonly observed.

³⁵ Dire Straits: The Crisis Surrounding Poverty, Conflict, and Water in the Republic of Yemen, World Bank Group, 2017.

Resources Authority (NWASA), the General Rural Water Authority, and the Environmental Protection Authority (EPA). This in addition to other stakeholders such as the Ministry of Local Administration (MLA), and the Ministry of Agriculture, Irrigation and Fisheries (MAIF).

48. However, the ongoing conflict has had a significant negative impact on Yemen's government institutions. Organizations working in the water sector currently have very little funding, and they barely manage to pay their staff salaries. Although there are institutions for the water sector, they only operate to a limited extent and are not performing their primary function. Compared to government authorities, tribal authorities have more control over water resources. International organizations operating in the nation play a significant role and have taken over some of the government's former initiatives. As a result, Yemen's development planning is largely influenced by the population's immediate survival needs, which limits the government's ability to invest in longer-term strategies for the development of a sustainable water sector and the mitigation or reduction of climate change risk. Rapidly declining groundwater levels as a result of unrestrained groundwater exploitation pose a threat to water supply. Drilling deeper would be more difficult and would worsen the overall situation by contributing to the aquifer's depletion. The Qat industry is a major driver of water depletion as a water-intensive cash crop that allows farmers to generate reasonable profits and invest into deeper wells as compared to other farmers. Concerning surface water use, common infrastructure like storage dams or main canals, fall short to meet needs, and the existing infrastructure are not any longer maintained by government. Less sustainable solutions are implemented where possible on smaller scales.

3.3 Gender and youth

3.3.1 Main gender and youth inequalities in Yemen

49. Gender relations in Yemen are shaped by diverse religious, cultural, social and political traditions. They are complex and vary across the North and South, urban and rural, different tribes and generations. Historically, women in Yemen have had much less power in society than men, and this is visible in several areas, which include education, access to employment and other services, access to food and nutrition, and low representation in institutions and organizations at all levels. All elements are interlinked and contribute to the current situation of gender inequality in Yemen (UN Women, 2023; FAO, forthcoming; Oxfam, Care and GenCAp 2016).³⁶

50. Several indices point towards a significant gender gap in Yemen, with women having a lower standard of living than men, and less access to education, health care, employment opportunities, making them extremely vulnerable to poverty and food insecurity (World Bank Group, 2014).³⁷ In 2021, the Gender Inequality Index (GII) measured Yemen's value as 0.820 versus the world average of 0.465³⁸, one of the lowest in the world. Yemen also ranked last in the World Economic Forum Global Gender Gap Report from 2006 to 2021, as little to no improvement was observed in the four dimensions assessed by the index, namely: Economic Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment.³⁹ Only 20 percent of adult women have reached at least a secondary level of

³⁶The study From the ground up: Gender and Conflict analysis in Yemen, built on CARE's and OXFAM's gender assessment tools and used a combined methodology including a secondary data review, 544 household interviews, 40 Focus Group Discussions, and 32 in-depth interviews with significant individuals and officials. The assessment was supplemented by case studies/stories collected from participants and civil society to validate and exemplify the research findings. The geographical scope of the assessment included the areas in Yemen with the most severe needs - Aden, Taiz, Hajjah, and Abyan governorates. It is available at: <https://policy-practice.oxfam.org/resources/from-the-ground-up-gender-and-conflict-analysis-in-yemen-620112/>

³⁷ World Bank Group (2014). The Status of Yemeni Women: From Aspiration to Opportunity: <https://openknowledge.worldbank.org/handle/10986/20547>

³⁸ Gender Inequality Index: <https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index#/indicies/GII>

³⁹ The Global Gender Gap Report 2022: <https://www.weforum.org/reports/global-gender-gap-report-2022/>.

education compared to 37 percent of their male counterparts. In 2011, the adult literacy rate was 80% for men and 45% for women, and for youth aged 15-24, these rates were 96 and 72, respectively.⁴⁰ Women hold a very low percentage of parliamentary seats in Yemen, and continue to be dramatically underrepresented in rural organizations and institutions, as members and, especially, as leaders. This under-representation contributes to perpetuate the bias in the delivery of agricultural support services, which remain mostly targeted at men and tailored to their productive roles.

51. Based on official data, 45% of women work in agriculture (versus only 27% of men).⁴¹ Yet far fewer women participate in the labour market and in productive employment, with only 6% of women participating in the labour force compared to 72% of men. Income inequality is also high, as for every dollar a man makes in Yemen, a woman makes only 30 cents.⁴² Women are usually engaged in subsistence agriculture where they perform most of the work, often as unpaid family contributors, while men dominate cash-based agriculture in which they are the main actors and decision-makers. Women's participation in market-oriented agriculture is mostly as agricultural laborers, often hired at half the wages of men, and for the most strenuous and labor-intensive tasks (World Bank Group, 2009).⁴³

52. Eight years of conflict have left millions of women, men, boys, and girls suffering from the compounded effects of armed violence, an economic crisis, and the disruption of public services, including basic health and education services. These have affected the lives of large segments of the population, particularly women and girls, marginalised groups, and certain socioeconomic categories. The conflict is affecting men, women, boys, and girls differently. Men and boys comprise the vast majority of direct victims of armed conflict, recruitment, and arbitrary detention. Women and girls are left to bear the burden of running their households and disproportionately suffer gender-based violence (GBV). At the same time, it must be noted that the social dynamics in Yemen have also changed over time, including gender roles within households and communities, with more and more women entering the labour force to support the household need (FAO, forthcoming).

3.3.2 Gender, nutrition and food security

53. According to the *Emergency Food Security and Nutrition Assessment* (ESFNA) female-headed households are generally more at risk of food insecurity, as their coping capacities in times of food shortage are significantly more limited, due to the gender gaps highlighted above. They are also often unable to ensure adequate nutrition to household members, especially infants and children below 5 years of age. More female-headed households (56%) had to resort to food related coping strategies, compared to those headed by men, an indication of their higher vulnerability level, even if the difference is not large (ESFNA, 2017)⁴⁴. When food is scarce, women are the first to eat less as a coping mechanism, even though they continue to carry out hard physical activities such as working in the fields. Households headed by women also tend to have less acceptable diets compared to male-headed households (ESFNA, 2017). According to OCHA, escalation of conflict may increase the number of female-headed families, having less access to income opportunities and less money to ensure good nutrition practices. In conflict affected areas the

⁴⁰ World Bank Group: data.worldbank.org/country/yemen-republic.

⁴¹ World Bank Data: <https://data.worldbank.org/indicator/SL.AGR.EMPL.FE.ZS?locations=YE&view=chart>

⁴² The Borgen Project.

⁴³ World Bank (2009). Land Tenure for Social and Economic Inclusion in Yemen: Issues and Opportunities. <https://openknowledge.worldbank.org/handle/10986/12298>

⁴⁴ Emergency Food Security and Nutrition Assessment (ESFNA), available at: <https://reliefweb.int/report/yemen/yemen-food-security-and-nutrition-assessment-efsna-june-2017>

services collapse, the number of female staff decreases, and women and children face more difficulties to access the nutrition services (OCHA website, 2020)⁴⁵. Poverty and food insecurity also are a common driver of child marriages, a harmful practice which is estimated to have increased in the past years Yemen, due to the compounded effects of the multiple shocks and crises affecting the country⁴⁶.

54. Young aged 10 to 24 years make up 33% of the Yemen population, with nearly 11% of them being teenagers between 15 to 19 years of age. An estimated 1.4 million of these teenagers are girls. The 2013 Demographic Health Survey revealed that nearly 32% of girls in Yemen are married off before their 18th birthday, 9.4 percent before they are 15 years. In addition, 8.1% of these teenage girls have given birth before they reach 19 years of age. The escalating conflict in Yemen has meant the disruption and breakdown of institutions, systems and community and family structures that often support girl's development, protect them from violence and uphold their human rights. This has been exacerbated by the displacement of more than 2.8 million people, half of them being women and 40 to 50% of them below 18 years of age. Around 1.3 million pregnant and lactating women are acutely malnourished. Anemia among women of reproductive age (15 to 49 years) is high as 69.6 percent, 25 percent of women have a body-mass index (BMI) less than 18.5 kg/m (Government of Yemen et al. 2013). Yemeni mothers' nutritional status has a strong association with their children's nutritional status, for all indicators: stunting, underweight and wasting. Undernourished teenage girls have a greater likelihood of becoming undernourished mothers, who in turn have a greater chance of giving birth to low birthweight babies, perpetuating intergenerational cycle of malnutrition. This cycle can be compounded further in young mothers, especially adolescent girls who being childbearing before attaining their own adequate growth and development.

3.3.3 The role of women and youth in the agrifood sector

55. ILO estimates (2014) prior to the conflict suggested that between a quarter and an eighth of the Yemeni workforce were unemployed, with these numbers substantially higher for youth and women (26.1%), which is more than twice the rate of men (12.3%). Based on the available data, women's unemployment has remained around this percentage for the past few years.⁴⁷ The ILO survey found that of the 293,000 women employed before the conflict, around half worked in agriculture, either as dairy and livestock producers or field crop and vegetable growers, while around one third were employed in the service industry. More than one-third of women worked in family businesses, compared with less than one-tenth of men. On average female agricultural workers earned 30% less than men (ILO, 2014). In the case of women, the crisis hit all age groups, but especially those at the two extremes of the age ladder, youth and the elderly.⁴⁸

56. As in many other countries, the gender division of labour is organized by commodity, type of production and technologies (rainfed, irrigated, spate irrigation for agriculture production). Men are generally responsible for tasks related to the cash crops (e.g., coffee, qat, fruit trees, potatoes and tomatoes). In the coffee, fruit and vegetables value chains, women typically contribute to harvesting and processing. Women's agricultural responsibilities are primarily in animal husbandry, collecting fodder,

⁴⁵ Gender Considerations in the Humanitarian Response in Yemen, Info available at: <https://www.humanitarianresponse.info/en/operations/yemen/gender-considerations-humanitarian-response>

⁴⁶ UNFPA-UNICEF. Global Programme to End Child Marriage. Yemen Country Profile 2020. <https://www.unicef.org/media/111411/file/Child-marriage-country-profile-Yemen-2021.pdf>

⁴⁷ World Bank Group website, data available at: <https://data.worldbank.org/indicator/SL.UEM.TOTL.FE.ZS?locations=YE>

⁴⁸ FAO recent assessments, developed to inform ongoing projects and programmes, confirm these findings.

husking maize, and processing grain. They are typically involved in agricultural tasks that are manageable in the homestead or in the proximity of their households, due to their mobility and time constraints. Other tasks, such as harvesting cash crops other than qat or lucerne, threshing (other than sorghum), or winnowing may be performed by men, women or men and women together. While prior to the conflict, male outmigration led to an increased role of women in certain agricultural sub-sectors, recent analyses also point out of to the compounded impacts of the protracted conflict and economic crises on gender roles and dynamics. Due to the absence of men and the dire economic needs of the households, more and more women are involved in income-generating activities and employment opportunities in the agriculture sector, as a coping strategy to complement the household's needs (FAO, forthcoming). The challenge is that the evolution of women's economic role is not necessarily accompanied by a recognition of their rights (i.e. access to land) and needs related access to extension and other key information.

57. Women can also be found as active players in several nodes of the agriculture value chain and in the agribusiness sector. This is particularly true for traditional commodities (livestock and poultry, dairy) but also for areas where women emerged only recently (i.e., beekeeping). Several market assessments have been conducted as part of development programmes, which have clearly stressed that the key concerns for women in the agribusiness sector include cultural barriers, lack of training and skills, lack of collective action (i.e., cooperative/organizations), and access to capital and financial services. The market assessment conducted as part of the Supporting Resilient Livelihoods and Food Security in Yemen Joint Programme (ERRY) by UNDP (2020)⁴⁹, describes the types women participation in seven important sectors, namely handloom and textile, food industry, meat and poultry, fishery, beekeeping/honey, pottery, and solar energy. The results of the study are summarized in **Box 1** below.

Box 1. Synthesis report on micro small and medium enterprise in Yemen (2020)

Based on the findings of the study, the situation of women's participation and the constrains and opportunities they face are described as following:

- **Food sector:** 90% of the food business actors have not employed women, but 78% believe that working in the food sector can be an opportunity for income generation for vulnerable women, particularly as producers and distributors. Nearly 67% believe that the food sector is a good opportunity for vulnerable women to start-up their own business.
- **Meat and poultry industry:** women are part of the value chain as they work side-by-side with men. Women have clear roles in livestock and poultry breeding as a homestead livelihood activity. However, only 18% of the respondents employ women in their enterprises. Women's lack of skills are presented as challenges and the opportunities seen are limited to raise cows, sheep and goats. The **poultry sub-sector** offers opportunities of wider engagement for women.
- **Fishery:** the study revealed that there is no female employment in the fishery industry. About 95% of the actors think that the fishery domain is not suitable for women to start their businesses. Nearly 54% of respondents believe that women are capable of working in the fishery sector, but family, society and fishery sector norms are forbidding. Potential parts of the value chain seen as suitable for women are post-catch and include marketing and exporting.
- **Apiculture:** 84% of the beekeepers have not employed women in their business. Yet, 55% agreed to empowering women to work in the honey sector for income generation, especially in breeding bees in beehives around their houses. A limitation related to socio-cultural norms is that travel with beehives looking for new pastures as men do.
- **Opportunities for young women:** furthermore, as part of the same program, another specific market assessment was conducted in 2016 by UNDP to identify market gaps and opportunities in micro-business start-ups and highlight potential threats or opportunities related to business operations for women and youth specifically in the target districts in Hajjah (Abs and Aslam districts) and Hodeidah (Bajil and Al-Zuhrah districts)⁵⁰. The market assessment identified the

⁴⁹ UNDP (2020). A synthesis report o micro small and medium enterprises in Yemen. https://www.arabstates.undp.org/content/rbas/en/home/library/Sustainable_development/a-synthesis-report-on-micro-small-and-medium-enterprises-in-yem.html

⁵⁰ UNDP (2026). Market Assessment: Enhanced Rural Resilience in Yemen Programme (ERRY). Document available at: https://procurement-notices.undp.org/view_file.cfm?doc_id=154244

following sectors as relevant for engagement of young women: livestock (goats, sheep), beekeeping, poultry, growing high value crops such as medicinal plants, spices and essential oils; growing and selling vegetables.

- **Dairy sector:** where women play a critical role in the dairy sector, from production to market sales. Activities include cattle rearing and breeding; milk, laban, and cheese production and processing; and often as sellers in the markets. However, the limited production capacities together with minimal technical and business skills currently impede realizing their business potential.

Source: UNDP, 2020 - UNDP, 2020

3.4 Access to financial services

58. Recent accounts suggest that there are 17 commercial banks active in Yemen (both local and international) that manage a total network of about 328 branches and roughly a 1000 ATMs, alongside 10 microfinance institutions (MFIs) with 90 branches. The vast majority of financial provision activities on the part of the formal banking and MFI sector is concentrated in urban areas, where only 30 percent of the population resides (Reviakin, 2020; Al-Shaibani, 2020). Historically, the Yemeni banking sector has been defined by a high level of risk aversion, with commercial banks having invested most of their capital in treasury bills issued by the Central Bank (more than 60 percent of banks' assets are in government paper). As a result, the vast majority of banks' loans to private actors have gone to large-scale businesses that were well-known in the market and could satisfy strict collateral requirements. This had critical repercussions both on the side of the demand, as the micro, small, and medium enterprises (MSME) have been left largely unserved by formal FIs, and on the side on the supply, as commercial banks have not had real incentives to compete among each other, target new market segments, or invest in the development of new products (Al-Shaibani, 2020).

59. Beyond these "foundational" flaws, a series of critical challenges have threatened the stability of Yemen's financial sector in recent years, caused mainly by the effects of the conflict. A key event in this sense took place in 2016, when the national Central Bank was "split" between two head offices in the southern city of Aden and one in Sana'a. The fierce competition between these two factions over the administration of the national banking sector has generated substantial confusion in the financial ecosystem and aggravated an already dire financial and economic scenario. Given the strong loss of confidence (both domestic and international) in Yemeni banks, mass withdrawals of deposits on the part of the population and a general shift from formal to informal financial providers, contributed to a major liquidity crisis that the country entered. Furthermore, as most foreign banks refused to move money either in or from Yemen in order to comply with anti-money laundering and financial counterterrorism laws, Yemenis are resorting increasingly more to traditional money brokers (hawaladars)⁵¹ to send or receive money internationally. Finally, as a consequence of the strong fluctuations in the YER's value, Yemenis have relied heavily on informal money exchangers to change their rials to US dollars (or other stable foreign currencies), in order to preserve value and benefit from the growing purchase power of these currencies in the country (Al-Muslimi, 2020).

60. The last country-level effort to gauge the state of financial inclusion among Yemenis was the 2014 iteration of the Global Findex database, which was carried out before the civil war made it unfeasible to realize other exercises of this scale and complexity. The Findex data paints a stark picture of widespread

⁵¹ The hawala system is an informal value transfer system that is part of the Islamic tradition, and is common in the MENA Region, South Asia and the Horn of Africa. Halawadars are traditional money brokers responsible for transferring money, either domestically or internationally, outside of formal banking and remittance channels. Some of the most prominent hawala families have been operational in Yemen for centuries. The hawala system is completely honour-based, and leverages the hawaladars' vast network of contacts (both in-country and abroad) to transfer money from one broker to another (while earning a small commission), without the need to exchange promissory notes. Compared to formal FIs, halawadars have considerable more outreach in rural areas, thanks to their vast networks (ACAPS, 2020).

financial exclusion and overwhelming informality across the country, with scarce growth over time and strong inclusion gaps associated to gender and young age. Overall, Yemen ranked last in the Arab World (both in 2011 and 2014) in terms of the share of the total population that held an account at a formal FI, or had an active loan with such an institution. According to this data, in 2014 only 6.4 percent of Yemenis over 15 years old held an account at a formal financial institution (FI), a 3 percent increase from 2011. A strong gender-based gap was also registered, as 1.7 percent of women owned a formal account compared to 11.4 percent of men, together with a considerable age gap, as only 1.7 percent of young adults (aged 15-24) held an account compared to 9 percent of older adults.

61. Regarding informal savings mechanisms, 6 percent of adult women and 3 percent of men stated having used a village savings association to set aside money. In general, only roughly 20 percent of adults in both rural and urban areas had declared having managed to save any money, either formally or informally, over the course of the year, showcasing a scenario where setting money aside for whatever goal is considerably challenging. In terms of credit provision, the available indicators illustrate a scenario of overwhelming informality. While 66 percent of adult Yemenis reported having borrowed money in 2014, only 0.4 percent stated they had done so at a formal FI, while 51.7 percent said they had borrowed from family members or friends. Interestingly, no substantial gender-based, age-based, or location-based (i.e. rural/urban) gaps in credit provision were registered, most likely because the rates of formal credit access are so low in general that vulnerability-based barriers to access become practically meaningless.

62. The microfinance sector in Yemen is considerably underdeveloped compared to its potential, marred by a series of institutional, regulatory, and infrastructural challenges that constrain its growth, and deeply affected by the social and economic unrest that has characterized the country in the past decade. A first, core distinction has to be underlined in what concerns the composition of Yemen's microfinance sector: the sector is composed, on one side, by three registered microfinance banks (Al-Amal, Al-Tadhamon, and Al-Kuraimi), which are regulated by the 2009 Microfinance Banks Law and fall under the authority of the Central Bank; on the other, there are seven MFIs constituted as foundations and programmes that do not fall under the Central Bank's supervision, and are instead regulated by the 2001 Law on Public Associations. According to the law, only microfinance banks are allowed to mobilize their clients' savings to finance their activities and their credit provision, which gives them a clear competitive edge in the microfinance market. On the other hand, this regulatory constraint makes MFIs completely reliant on external funding, strongly reducing their ability to expand their infrastructure, attract human and capital resources, or design innovative products.

3.5 Public financing and private investments

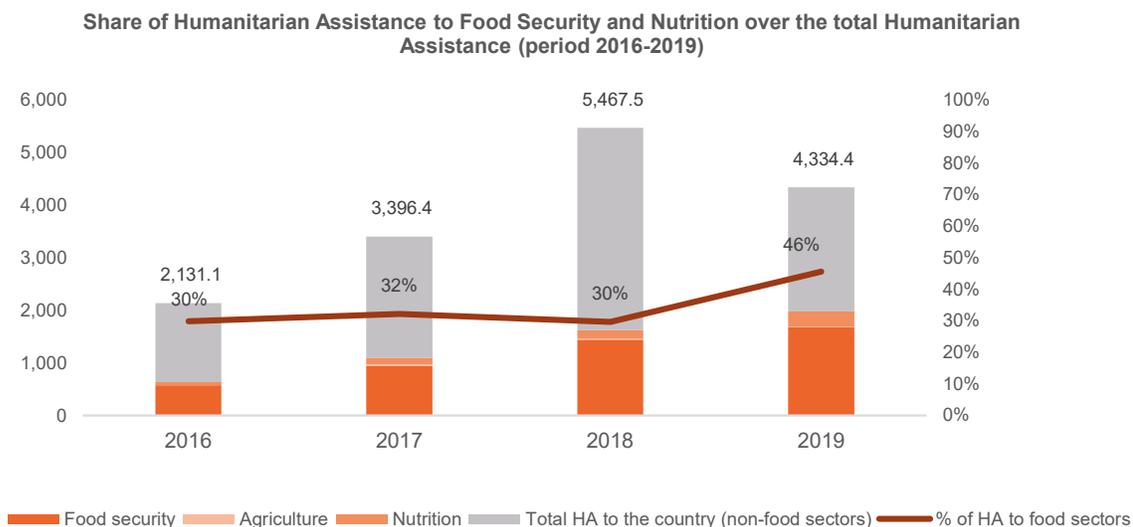
63. The agrifood industry has a significant potential to contribute to the recovery of the Yemeni economy. Comparing it to other economic sectors, the sector has overall demonstrated greater resilience throughout the conflict; however, there are still significant structural constraints, which are made more difficult by the social and economic shocks brought on by the internal conflict, the COVID-19 pandemic, and the effects of the war in Ukraine. The poverty and food insecurity conditions in Yemen urge for coordinated efforts and public and private sector investments, to fill immediate food and nutrition security gaps, and secure lasting developmental outcomes. Previous attempts led by resource partners and the government to start a reconstruction process had limited success, and distilling lessons from these efforts will be critical. More progress demands a shared vision for recovery and building back better, and

catalyzing public investments and the participation of a broad spectrum of stakeholders, including government institutions, civil society, private sector and external donors and financiers.

64. Yemen’s public finances, have been ill-prepared to investment in instructional strengthening and strategic investments, especially including the agrifood sector. Even before the conflict, the country’s public finances struggled with the overdependence on energy exports, a low tax collection rate, and chronic budget and balance of payments deficits, which were often funded through domestic debt instruments from the central bank and foreign loans. In addition, general expenditures have dominated government spending relative to capital investments, highlighting the country’s weak capacity to support development initiatives and to de-risk private investments.⁵² This situation has only deteriorated since 2015, leaving the country in the hands of resource partners and to a limited extent the private sector to drive the types of investments required to foster resilience and growth in the agrifood sector.

65. A recent analysis carried out by the Global Network Against Food Crisis in collaboration with OECD, highlighted how the humanitarian assistance to the agrifood sector and food security and nutrition has more than tripled in the years immediately after the conflict started. It jumped from USD 636 million in 2016 to approximately USD 1.98 billion in 2019. This increase is in line with the emerging trends from the IPC and the alarming trends of acute food insecurity in the country (**Figure 4**, above). Conversely, the development assistance to fund longer-term efforts on agriculture and food and nutrition security has been significantly lower, even though it has seen an almost fourfold increase during a similar period, passing from USD 36.7 million in 2016 to USD 178 million in 2018. About 70 percent of the allocation was classified as “development food assistance”, which includes “funds classified as non-humanitarian providing cash or in-kind support to improve food security, including social protection schemes”. Specific allocation to ‘agriculture’ category represents only 5 percent (**Figure 6**).

Figure 6. Trends in humanitarian and development assistance to Yemen



⁵² [Restructuring Public Finances in Yemen \(2019\)](#)

66. The private sector is critical to mobilize firm-level investments in agriculture that may conduct the sector towards more productivity, competitiveness, and sustainability. However, the in the past decades foreign trade (especially imports) have been much more attractive for investors than agricultural investment, which has had detrimental consequences in yields. The bulk of capital investments in the sector has not been driven by the formal private sector, rather by family remittances. The country's main commercial conglomerates and the commercial banks, have little engagement with agriculture.⁵³ Investors have often seen the agrifood sector in Yemen as a highly risky endeavour given its vulnerability to climate vagaries, low levels of technology adoption, and the complexities of land ownership, labour and markets. The overall climate for investments in the country has reached one of its lowest points. From an already weak position in the "ease of doing business score" in 2015 (38), the country has impoverished its performance to 32 in 2019.⁵⁴ When private banks were more solvent before the conflict intensified, only a small share of total loans and investments from private sector commercial and Islamic banks were dedicated to agriculture (3%), and this situation has not changed much since.

3.6 Breaking out of fragility

67. Yemen's economy has been devastated by the conflict that will zoom complete a decade, which has also sparked an extraordinary humanitarian tragedy. The primary source of government revenue and foreign currency, oil exports, virtually ceased in 2015 as a result of ongoing attacks on crucial infrastructure and rising unrest. Due to the widespread suspension of essential governmental services and the payment of civil service salaries that followed, fast currency depreciation, and shortages of imported products, the non-hydrocarbon sector was weakened, and a large share of the Yemeni population was left without a consistent source of income. According to the United Nations Development Programme's 2017 report, more than 50% of Yemenis between the ages of 18 and 24 were unemployed in 2017. Towards the end of 2018, a liquidity crisis struck the nation, causing the local currency to depreciate dramatically and food costs to rise to the point where many people could not afford to buy food. In 2019, foreign aid helped stabilize the economy by funding the import of food and other basic goods, however by the beginning of 2020, it had largely been used up and foreign reserves had not been replenished. This left the country with no option other than reaching to IMF finance for some relief in 2020.

68. Because of the division of administration into different zones of power, the macroeconomic policy environment varies geographically. The government's hydrocarbon earnings continue to be eroded by the low price of oil. Due to the COVID-19-related trade slowdown, desert locust outbreaks, and unusually heavy rainfalls that resulted in severe flooding, infrastructure damage, and human casualties in 2020, non-oil economic activity has suffered severely. Spending has been constrained as a result of the acute revenue shortfall. Salary payments to public sector employees have experienced many delays since the beginning of 2020. Payables to suppliers (primarily to energy suppliers) have continued to build up, disrupting the importation of fuel and electricity. There have been two exchange rates in Yemen since December 2019, which has complicated trade and financial flows there. This is because using brand-new banknotes is completely prohibited.

69. The country's economic conditions and longer-term support for the agriculture sector will remain unpredictable given the current political and security climate. While the end of hostilities and eventual political reconciliation are necessary for reestablishing the economy and reviving the sector, escaping

⁵³ [ODI \(2022\)](#)

⁵⁴ [WDI \(2023\)](#). The ease of doing business score benchmarks economies with respect to regulatory best practice, showing the proximity to the best regulatory performance on each Doing Business indicator. The score ranges from 0 to 100, where 0 represents the worst performance.

fragility will also require longer-term development support to strengthen resilience and break the cycle of growing vulnerabilities. As stated in the World Bank's recent guidance note on responding to crises, there will never be a better chance to build resilience, which is necessary to avoid setbacks on development goals and to lay the foundation for sustainable growth in the agrifood industry.⁵⁵ In order to sustain domestic food production at the family level, it is critical to strengthen assistance for resilience and livelihood restoration in the farm and food sector. However, the sector has recently been severely impacted by recurrent climate-related hazards (heatwaves, floods, etc.), poor public service delivery during the war, destruction and deterioration of the productive infrastructure. Crop yields and livestock productivity have significantly declined as a result of these factors. Today, this industry is plagued by a severe lack of access to agricultural inputs and services as well as a dearth of necessary expertise, making it challenging to resume domestic food production. In addition, the production and health of livestock have drastically declined due to a lack of animal health services, restricting households' access to a consistent source of high-quality domestic protein and increasing their susceptibility to climate change.

70. Moving forward, this NAFSIP aims to direct the efforts of the government authorities and the international community to concentrate on a more holistic approach that shifts from an emergency focus to a medium- to long-term peace and resilience building development approach for food and nutrition security, which will ultimately result in a significant decrease in the number of humanitarian cases and an increase in the resources available for development financing. This will also allow to build the resilience of Yemeni households to food security shocks and improve household food security and nutrition, by addressing key elements of food security and resilience, including measures to improve household incomes (improved food access), restoring, and expanding agricultural production (improved food availability), and enhancing nutrition at the household level (improved nutrition). These will indeed require strengthening key systems through technical assistance, policy reforms, and investments, as well as adopting principles of country ownership and leadership, despite the current challenges.

⁵⁵ World Bank Group. 2022. Navigating Multiple Crises, Staying the Course on Long-term Development: The World Bank Group's Response to the Crises Affecting Developing Countries. Washington, DC. World Bank Group. <https://openknowledge.worldbank.org/handle/10986/37826> License: CC BY 3.0 IGO.

4. THEORY OF CHANGE

4.1 Rationale

71. As a fragile country affected by a protracted conflict, vulnerable to climate change threats, and heavily exposed to extreme weather events and international health and market shocks, Yemen needs intensified efforts to transition from emergency relief support to long-term peace building and resilience activities. While acknowledging the challenges that the country currently faces and the importance of sustaining humanitarian support to address the urgent food security needs of the population, the NAFSIP places a more holistic focus on developing, based on the context-specific requirements, the foundations to sustainably increase the performance of the sector, build resilient and diversified rural livelihoods, reduce rural poverty, and ultimately sustainably increase food and nutrition security.

72. Recognizing the crucial role of both the public and private sectors in Yemen's agrifood sector development prospects, the NAFSIP particularly identifies strategic public investments to be mobilized by the Government and the resource partners, while also promoting further engagement of the private sector across the agrifood sector. It makes a bold effort to surmount the difficulties that the country face, and to promote private sector-led solutions related to infrastructure, employment generation, value addition, and lay the groundwork for recovery.

73. This NAFSIP is a living document operating in an ecosystem of priorities and strategic documents, to maximize its impact in the agrifood system. It has a critical role in the broader domain of the Food Security Strategy, and in the food security and agriculture humanitarian interventions.

4.2 NAFSIP vision and objectives

74. This strategy and investment plan responds to a shared vision for recovery and building back better the agrifood sector and rural livelihoods in the country. Its successful implementation requires the participation of a broad spectrum of stakeholders, including government institutions, civil society, private sector, and external donors and financiers (see Governance, in Section 6). The NAFSIP is structured as a comprehensive policy and investment framework for agriculture, food and nutrition security, and resilience, with an increased focus on the sustainable recovery of the rural economies and agrifood production capacity of priority agrifood subsectors.

Vision: a competitive and climate-resilient agrifood sector that contributes to economic growth, job creation, poverty alleviation, and food and nutrition security.

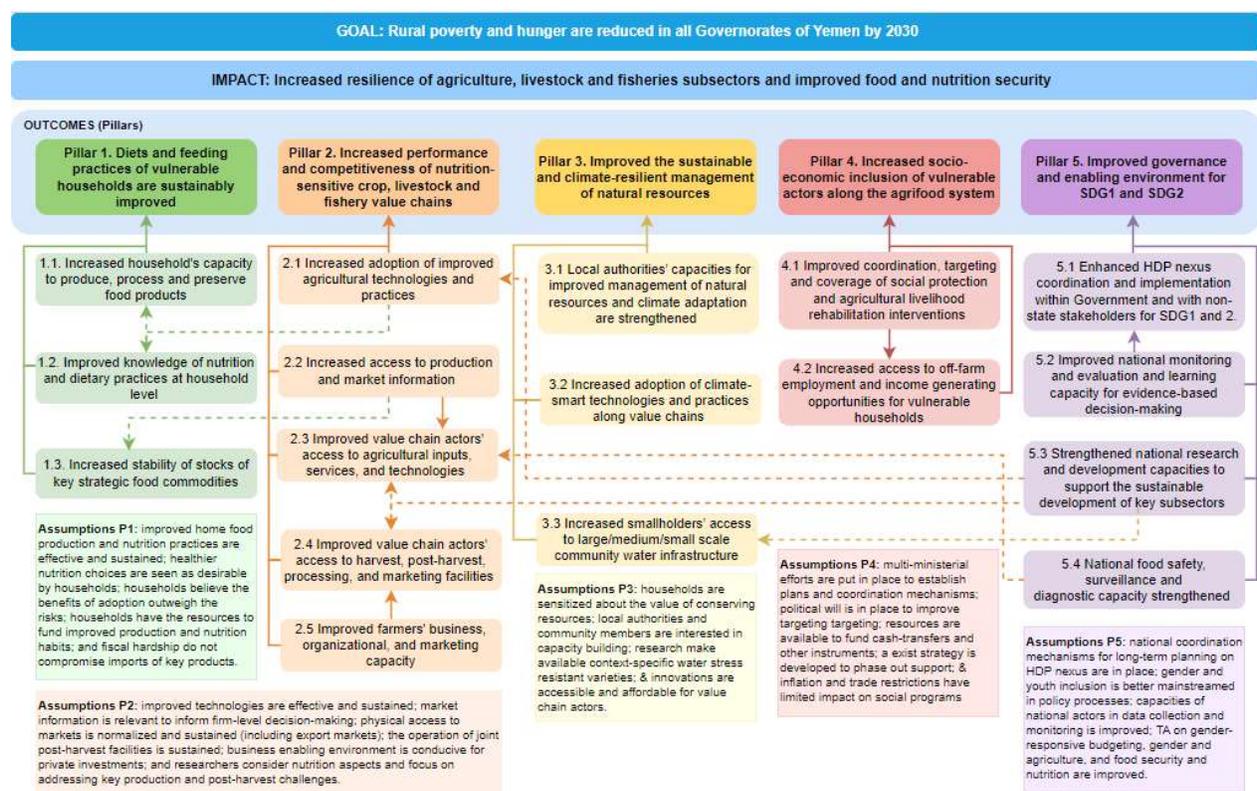
Goal and main impact outcome: NAFSIP is expected to contribute to the *reduction of rural poverty and hunger in all Governorates of Yemen by 2030 (goal)*, which in turn will be achieved through **increased resilience of crops, livestock and fisheries subsectors and improved food and nutrition security (impact)**.

NAFSIP pillars: the NAFSIP is grounded on 5 pillars which corresponds to the strategic priorities identified through the investment-oriented diagnostics and corroborated through successive consultations with national and decentralized stakeholders north and south in the country. These pillar outcomes head the five main **pathways of change**, which describe the causal chain of changes from activities that belong to

investment programmes from within the same pillar, but also from other pillars that also contribute to the attainment of impact level outcomes in each pillar. These pillars are organized in 17 programmes, comprising several strategic investments, that have been identified and budgeted as part of the plan. The pillars include: (1) diets and feeding practices of vulnerable households are sustainably improved; (2) increased performance and competitiveness of nutrition-sensitive crop, livestock and fishery value chains; (3) improved the sustainable and climate-resilient management of natural resources; (4) increased socio-economic inclusion of most vulnerable players along the agri-food sector; and (5) improved governance and enabling environment for SDG1 and SDG2.

Priority subsectors: the value chains prioritized are **sorghum, fruits and vegetables** (banana, hot pepper, onions, and tomatoes), **livestock** (small ruminants, and cattle dairy and meat), **poultry** (including commercial), **apiculture**, and **export-oriented products** (fisheries and coffee). These value chains that are largely produced locally and make up a good share of household diets in Yemen, have been selected based on their economic growth potential, importance for household food and nutrition security, environmental sustainability, and gender inclusion. These were analyzed through three comprehensive value chain studies conducted by FAO to inform the NAFSIP, which in total analyzed more than 20 value chains in the country and were largely confirmed through consultations with key value chain actors and agrifood stakeholders along the process.

Figure 7. NAFSIP theory of change



4.3 Pathways of change

75. The outcomes related to each pillar will be achieved through a chain of changes generated from the investment programmes within the pillars, and from programmes that belong to other pillars but that are essential to enable the achievement of the expected changes in that pillar. These chains of results and pre-conditions are described below in the form of five pathways of changes and illustrated in **Figure 8**.

Figure 8. Main pathways of change towards NAFSIP priorities



76. The NAFSIP's five pillars, representing the five main outcomes that it aims to achieve by 2030, are connected to the pathways of change. The underlying change logic across the five pillars reflects the intertwined nature of their investments and interventions. To maximise the impact of the programs implemented as part of individual pillars and of the investment plan as a whole, the NAFSIP has been

designed based on **five foundational elements**, which are both the **building blocks for the pathways of change** that are formed across the five pillars leading up from activities to investment programmes and the pillar level outcomes and **the driving forces for achieving lasting changes and high performance** in the agrifood sector and rural livelihoods in Yemen, building a resilient and competitive agrifood sector, and reducing household food insecurity and malnutrition. These five elements include: supporting institutional and governance strengthening, promoting gender and socio-economic inclusion, integrating climate-smart agriculture (CSA) and climate sensitive practices, ensuring restoration and construction of productive and post-production infrastructure, and facilitating private sector development.

- (a) Supporting institutional and governance strengthening:** given the major disruptions caused by the conflict and the acute underinvestment in agriculture public institutions, the NAFSIP is set to mobilize strategic investments to strengthen the capacity of GoY's institutions to enhance HDP nexus coordination and implementation, and agricultural support services delivery. It also considers investments aimed at strengthening the regulatory framework supporting the agrifood sector, improving agrifood governance, and increasing value chain actors' access to public goods such as policy planning, agricultural extension services, research and development, weather and market information, quality assurance and certification services, combating the livestock major disease epidemics, ensuring food safety, surveillance and diagnostic capacity.
- (b) Promoting gender and socio-economic inclusion:** considering women as agents for positive change to prevent or remove drivers of crisis, investing in adaptation strategies and supporting moves towards peace represents an opportunity for the NAFSIP. Under this rationale, the NAFSIP mainstreams a perspective of gender equality throughout all its pillars. Gender-sensitive investment programmes that build women's and men's skills and confidence equally and remove discriminatory cultural barriers, are key to maximizing the capacity of individuals and collectives to work through crises where formal employment is unavailable. The whole NAFSIP investment need to be gender-sensitive. They integrate specific actions to address gender disparities, discrimination and the key constraints that limit women's participation in economic opportunities and undermine their role in the society. All investments under the NAFSIP will integrate proactive measures to ensure women and vulnerable people inclusion in community and economic life. Specific recommendations to maximize the NAFSIP results are provided in the dedicated investment-oriented diagnostic.⁵⁶
- (c) Integrating climate-smart agriculture (CSA):** as a response to the increasingly concerning climate change threats and degradation of natural resources, NAFSIP seeks to build the adaptive capacity of crop, livestock, and fisheries value chain actors (particularly smallholders, women, and youth) by promoting the adoption of climate-resilient production systems. CSA technologies, innovations, and management practices may generate 'triple-wins' in terms of increasing agricultural productivity and incomes, strengthening people and agrifood systems' adaptation and resilience to climate change, and climate change mitigation (FAO, 2021). The NAFSIP will strive to mainstream adaptable and tested CSA technologies and practices (water and soil management technologies and practices, improved seeds and breeds, energy-efficient

⁵⁶ Specific recommendations to maximize the NAFSIP results include that as a minimum the investment: (a) Ensure that women have equal access to services (as important ones and not exclusive: financial literacy, managing and saving money as well as business development); (b) Promote productive opportunities that are suitable for women's; (c) ensure that women's needs and priorities are fully captured; (d) promote women's leadership and women representation in the grassroots institutions and organization; (e) improve household's nutrition by providing women with nutrition education; (f) support mechanisms to ensure social inclusion and social protection at community level and reduce gender biases and violence against women especially for marginalized groups.

cooling and processing facilities, etc.), involving all actors (small and large, public and private), and throughout the agrifood sector.

- (d) **Ensuring restoration and construction of productive and post-production infrastructure:** in light of the pressing constraints related to water scarcity, high levels of qualitative and quantitative post-harvest losses, and the limited access to post-harvest handling, aggregation and storage infrastructure, NAFSIP places substantial emphasis on mobilizing public-private investments for the restoration and construction of production and market infrastructure, including irrigation infrastructure (water harvesting and storage facilities, canals, etc.), feed and milk production sites, rural roads, collection points, warehouses and cold storages, marketplaces, and abattoirs. These infrastructures will contribute to the strengthening the resilience of farmers, livestock producers, and fishers to climate-related shocks, and play an import role on improving product quality, reducing post-harvest losses, diminishing transaction costs, increasing access to profitable markets, and achievement. Most infrastructure will be owned and managed by private sector and producer organizations under public-private partnerships (PPP).
- (e) **Facilitating private sector development:** private sector investment along the agrifood value chains is the foundation for accelerating adaptation and growth in the agrifood sector. The public investments mobilized under the NAFSIP aim to create the conditions to attract private sector investments into the priority value chains in response to the worrying trends in private investment in the sector over the last few decades, especially after the escalation of the conflict. This will have a strong impact on growth, job creation, and enhancing competitiveness. As part of the Pillar 5, the plan aims to concretely strengthen the business enabling conditions in the country (regulations, access to finance, infrastructure, support services, etc.) to de-risk private sector investments in the multiplication of seeds and animal breeding, feed production, post-harvest management and logistics, crop, dairy, and fish processing, exports, etc. Planned investments include targeted support in the form of matching grants and the promotion of productive alliances, and linkages with financial institutions agrifood enterprises, and producer organizations.

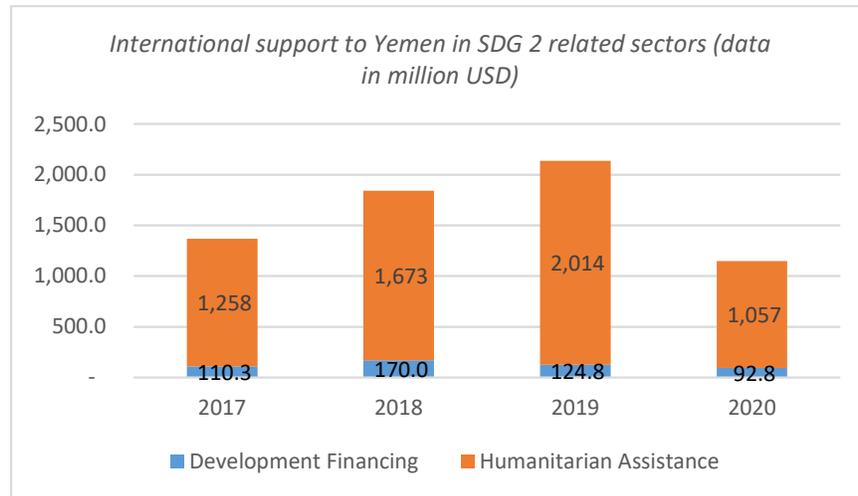
4.4 NAFSIP investments

77. The NAFSIP realization will pass through a set of **agreed strategic investment** for the crop, livestock and fisheries sector aimed at contributing to food and nutrition security, resilience and poverty reduction.

78. The country has few **sources of financing** for investments, including those pertinent to the NAFSIP. **National financing** depends on the fiscal capacity of the government, highly limited in Yemen especially for investment (i.e., excluding operational expenditures such as salaries, or recurrent interventions and services). **International financing** is the most relevant alternative. The vast majority of international funding is nonetheless allocated to addressing humanitarian needs, but even this funding is insufficient when compared to the sums requested in the appeals and the actual resources actually provided in the nation. Humanitarian financing, despite volatile, has been receiving in Yemen an average tenfold amount compared to development financing (**Figure 9**), with about 1.06 billion USD for humanitarian support compared to 0.93 billion USD for development financing in 2020. In this context, the disproportion use of

international resources for the humanitarian sector, despite justified in a context of protracted crisis, is hampering the development of longer-term capacities.

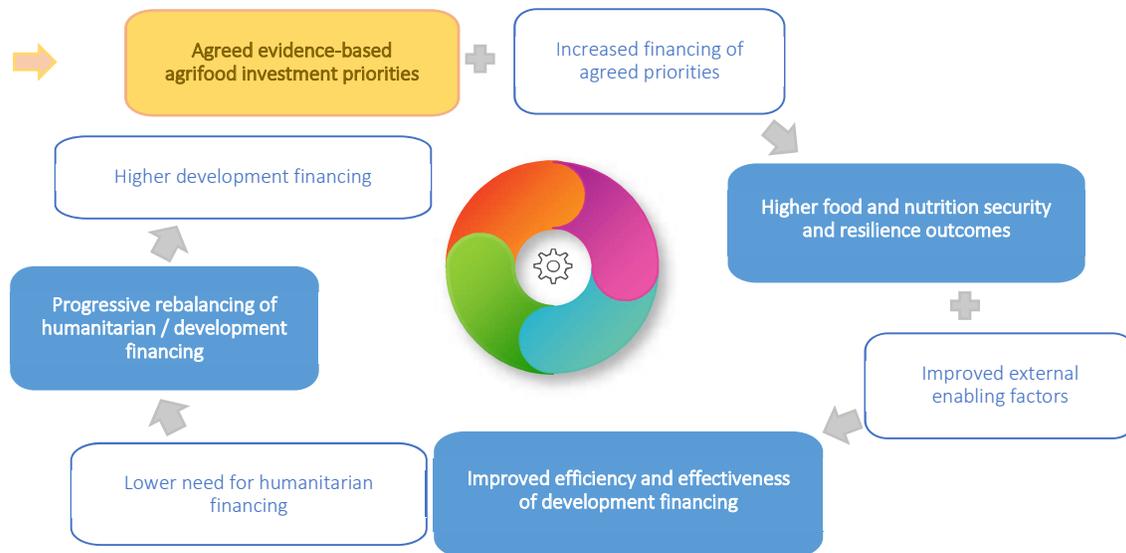
Figure 9. International support to Yemen in SDG 2 related sectors



Source: developed by FAO on data from Global Network Against Food Crisis, 2022.

79. Coordinating around established national development priorities can be a game-changer for stakeholders, the government, civil society, and resource partners. The only way to allocate resources in accordance with the set priorities will be through consistent efforts to address nationally recognized needs. This process is present in the country around the humanitarian-development-peace nexus (HDP). The NAFSIP has the ambition to play a catalytic role in this mechanism (see section 6, on Governance: evidence-based coordination and resource mobilization, etc.), sparking an initial increase of development financing, ultimately contributing to a progressive reduction of humanitarian financing (**Figure 10**).

Figure 10. Strengthening HDP Nexus through NAFSIP Investments



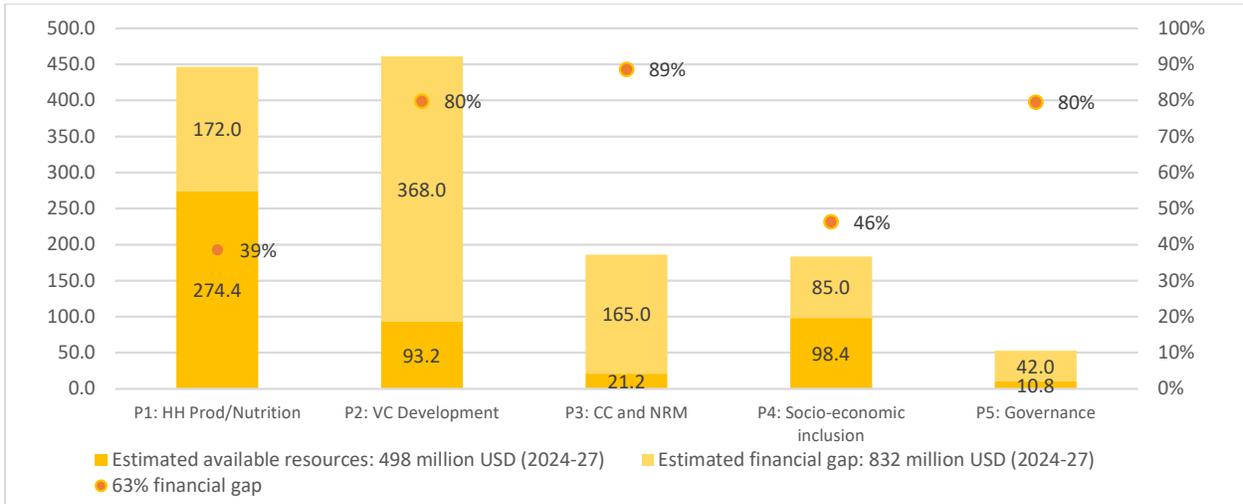
80. **The NAFSIP agreed strategic investment priorities** are structured in **five pillars**, realized via **seventeen investment programmes**, identified as part of the evidence-based consultations and prioritization at country level. In turn, these programmes are composed of individual development interventions. The NAFSIP Results Architecture links the results of each Investment project to the highest levels of the results chain. In other words: each investment intervention contributes to the achievement of a NAFSIP's outcomes (at pillar level) and impact. In practical terms, the investment projects of the NAFSIP can be classified in three: part of the projects will be a continuation of existing interventions, already relevant to the objectives of the NAFSIP. Part of them (those in pipeline, or under planning) will need to be structured to maximize the adherence to the NAFSIP objectives. Finally, part of the investment represents a full financial gap.

81. Despite the Strategic priorities have a time horizon until 2030, the budget was set for a shorter duration of four years. This is justified by the high volatility of the context in Yemen, and by the need for a formal opportunity for a mid-way revision and adjustment, to enhance the relevance of priorities and strategic directions.

82. **The NAFSIP investment budget** for the period 2024-2027 (four years) is structured as follows:

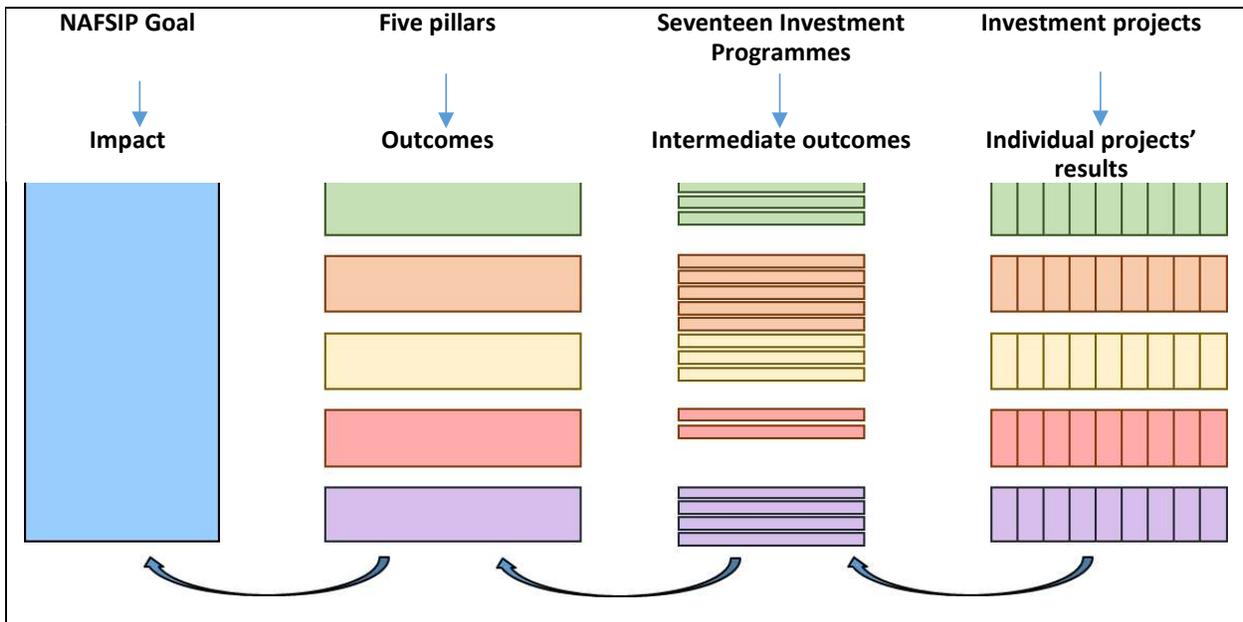
- **Overall cost: 1,330 million USD** is the estimated amount required to achieve the NAFSIP's five pillar's results.
- **Estimated available resources: 498 million USD** is the amount of development financing estimated to be mobilized from international partners to the NAFSIP areas of interest. The amount is obtained as a reclassification of the past years' development financing along the NAFSIP's five Pillars, assuming zero nominal growth for the period 2024-27.
- **Financial gap: 832 million USD** is estimated additional need of financing. The figure is obtained based on the estimated average cost of the major investment required to achieve the programmes' results, after deducting the estimated available financing.
- **The total Financial gap share is 63 percent**, indicating that international resource partners will have to multiply in at least twofold amount the development financing they have been providing Yemen in the areas relevant to NAFSIP.

Figure 11. NAFSIP budget 2024-2027: estimated costs (million USD) and financial gap (%)



Source: NAFSIP design elaboration based on data from Global Network Against Food Crisis, 2022.

Figure 12. The NAFSIP strategy and investment plans results chain

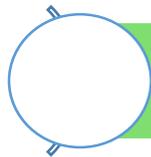


5. NAFSIP STRATEGIC PILLARS AND INVESTMENT PROGRAMMES

83. The pillars are described in this section starting with the objective statement for each pillar sought to be achieved by the end of the expiration of the NAFSIP in 2030, a narrative describing the essence of the pillar and the main traits of its theory of change, including highlights to cross cutting issues such as gender, environment, and nutrition, the description of each investment program, and the budget needed to implement each programme under the pillar.

===0===

Pillar 1. Diets and feeding practices of vulnerable households are sustainably improved



Objective: diets and feeding practices of vulnerable rural households will be sustainably improved by 2030, leading to substantial improvements in the health and nutrition and productivity of household members

84. The ongoing conflict has severely disrupted crops, livestock and fisheries production and markets, which are central parts of the livelihood of rural households in Yemen. This has resulted in a spike if the levels of poverty, food insecurity and all forms of malnutrition, which in turn both put the households and communities in precarious position to withstand the impacts of ongoing and future shocks. Experience in Yemen suggest that growth in agricultural production, productivity and household incomes does not automatically lead to better household dietary practices and nutrition. Food and nutrition insecurity in Yemen largely stem from limited food production capacity, unemployment and poverty, illiteracy, low availability of clean water supplies, and high dependence on increasingly imported food and energy commodities. Port restrictions have also contributed to aggravating food insecurity, due to severe fuel shortages and steep increases in the price of food and essential non-food items. This pillar tackles the manifold causes of malnutrition in an integrated manner, bridging humanitarian aid with long-term investment support that may sustain the livelihoods of households and overall development in the country. Specifically, the pillar will complement interventions that focus on increasing household's capacity to produce, process and preserve nutritious food products, with activities meant to transfer knowledge and accelerate the adoption of healthier nutrition and dietary practices at household level.

Theory of change (Pillar 1): diets and feeding practices will be sustainably enhanced through improvements in household food production and conservation capacities, increased knowledge of healthy dietary and nutrition practices, and further stabilization of food availability in the country. Improving farmers' access to inputs and services (2.3), increasing adoption of climate-resilient agricultural technologies (2.1), increasing access to production and market information (2.1), and strengthening national research and development capacities (5.3) are also key to achieve the key results in pillar 1. Beyond these interventions, NAFSIP pillars have been designed to be nutrition-sensitive, meaning that

most of their interventions address somehow the underlying determinants of malnutrition. This is especially the case for pillar 2, which is acknowledged as one of the major contributors for improving food and nutrition security by expanding the production of and household's access to locally produced nutritious products.

85. **Investment programmes:** three investment programmes have been prioritized to contribute to the achievement of the main objective under this pillar. These programmes are as follows:

Programme 1.1. Increased household's capacity to produce, process and preserve food products

86. This programme builds on the principle that one of the best ways to ensure household's access to a healthy diet is by producing diversified foods as close as possible to home, especially in rural areas where people have limited income-earning opportunities and more limited access to food markets. This programme focuses on expanding homestead food production by promoting household fruit and vegetable gardens, animal husbandry (rearing poultry and/or ruminants), and in some areas beekeeping. These will be supported through: (a) **practical trainings for households on climate-smart homestead garden production;** (b) **better access to seeds and equipment;** (c) **improved water harvesting and management;** (d) **improved harvesting, post-harvest handling and storage;** and (e) **improved animal husbandry and feeding practices.** Given the need to introduce food processing and preservation practices and technologies that reduce food losses, improve food safety and quality, conserve the nutritional quality of food products, optimize the time women spend in these activities, extend shelf life of various foods, and to enable value addition for income generation, this programme will also **promote through training and access to input and equipment starter-packs household and group processing and preservation of a variety of food products** locally consumed.

Programme 1.2. Improved knowledge of nutrition and dietary practices at household level

87. Homestead integrated food production is unlikely to achieve the desired results and have impact on nutrition, unless it is combined with strong nutrition education interventions. This programme concentrates on dietary and nutrition education seeking to promote improve the nutrition knowledge of household members, proper infant and young child (6-23 months) feeding and caring practices, appropriate diets for children under the age of five, nutritional needs of school age kids, adolescent girls, pregnant and lactating mothers, and dietary diversity and quality for other age groups with special attention to intra-household distribution. It will also include proper cooking techniques, and adequate food preparation with improved food recipes using locally produced. The nutrition education interventions will consist of: a) **training to women groups on improved infant and young child feeding and caring practices;** b) **sensitization sessions and materials for Farmers Field Schools and agriculture extension services** with attention to nutritional value of different crops and animal sourced foods; c) **awareness raising of improved family feeding practices** with special attention to nutritional requirements of different family members in the household; and c) **nutrition education and behaviour change and communication for communities.**

88. Nutrition education will have an special emphasis on: i) training selected women to become champions of nutrition education among other women in their community (women-to-women support groups); ii) creating community farmers networks to disseminate knowledge on nutrition-sensitive and climate-smart home food production; and iii) promoting men and community leaders to lead community targeted nutrition education initiatives. Community mobilization for nutrition will aim at positively influencing nutrition-related attitudes, beliefs, practices and behaviours. This involves assisting farmer groups and households to identify the causes and consequences of malnutrition, the benefits of

addressing those causes through food-based interventions, and appropriate actions that can lead to desired changes. Given the lack of knowledge about food and good nutrition, especially in rural areas, capacity building to decentralized government institutions, and authorities and local leaders at all levels (national, provincial, district, and community) will be an essential part of this programme.

Programme 1.3. Increased stability of stocks of key strategic food commodities

89. This programme will contribute to alleviate the impact of international market shocks on the availability and prices of key staple products, which is a primary underlying cause of acute food insecurity and malnutrition at the household level. Focusing on imported staple commodities, the investments under this programme will support the following two elements: (a) **expanding the countries grain storage capacities and reserves through the rehabilitation and construction of storage facilities**; and (b) **increasing the efficiency of grain procurement and import processes**. This activity will also be complemented with investments in expanding the production of key staple cereals intended to be achieved under pillar 2.

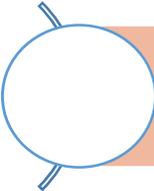
Table 1. Budget for programmes under pillar 1 (2024-2027)

Programmes (USD million)	Mobilized Funds (ongoing)	NAFSIP Financial Gap	NAFSIP Total Budget
Pillar 1	274.4	172.0	446.4
Programme 1.1. Increased household's capacity to produce, process and preserve food products	243.2	85.0	328.2
Programme 1.2. Improved knowledge of nutrition and dietary practices at household level	28.4	75.0	103.4
Programme 1.3. Increased stability of stocks of key strategic food commodities	2.8	12.0	14.8

Source: NAFSIP design elaboration, based on agreed priorities on Overseas Development Assistance flows to Yemen (2022).

===0===

Pillar 2. Increased performance and competitiveness of nutrition-sensitive crop, livestock and fishery value chains



Objective: the performance of nutrition-sensitive crop, livestock and fishery value chains are sustainably increased, resulting in increased availability of nutritious food in the country, greater incomes for value chain actors, and improved household's access to a diversified diets.

90. Most farmers in Yemen are still relatively smallholders and with low yields and limited capacity to generate farm revenues. Farming families often struggle with insufficient availability of inputs such as high quality seeds and fertilizers, limited adoption of innovative practices and technologies, limited rain and access to water for irrigation, and high post-harvest losses. While generally there is relatively good knowledge about cultivation techniques, there is no good system in place to provide farmers with extension services to disseminate knowledge on best crop production, improved techniques, marketing

opportunities, and improved high yielding and resistant varieties. Crop, livestock, and fisheries activities are hard hit by the current crisis and local food production has been severely compromised. Some of the factors contributing to this, and attributed directly to the crisis, include: i) limited availability and high cost of agriculture inputs and animal feed; ii) inability to control plant and animal pests and diseases; iii) increased production of qat as a cash over food crops; and iv) depleted public resources allocated to agriculture which result in insufficient agriculture extension services to farmers.

91. Sustainably increasing productivity, value-addition, and commercialization in the most viable agricultural value chains are of utmost importance, and a direct pathway for increasing the resilience and food and nutrition security of rural households. Based on the comprehensive diagnostic of the most important value chains in Yemen, this investment programme will mobilize investments and improve the functioning of target value chains that have the strongest positive impacts on economic growth, poverty reduction in rural areas, and household food and nutrition security. The project has an opportunity to consolidate the support to existing and new producers, processor and traders in the different value chains, especially those engaged in key value chains such as horticulture, fruits and nuts, livestock, commercial poultry, and fisheries. Areas of support will focus on increasing production efficiency, volume and quality of products, product aggregation capacity, smallholders' access to markets, business and financial practices, engagement in agro-processing activities, and exports.

92. The extended agricultural sector in Yemen must not only produce enough calories to feed its growing population, but also produce a diversified portfolio of food products that enables major improvements in the nutritional conditions of the population, while also supporting environmental sustainability. Therefore, the NAFISP's value chain development strategy promotes the sectors' reorientation towards a variety of nutritious foods that enhance biodiversity and resilience rather than aiming at increasing volumes of a limited number of agrifood crops. Furthermore, the NAFISP will promote a demand-driven approach to prioritize value chains and inform firm-level (farmers, intermediaries, service providers, etc.) decision making as a way to maximize the use of production resources, reduce supply chain inefficiencies, and maximize profits for farmers and other value chain actors.

93. **Priority subsectors:** based the studies conducted to inform the design of the NAFISP the value chains prioritized are **sorghum, fruits and vegetables** (banana, hot pepper, onions, and tomatoes), **livestock** (small ruminants, and cattle dairy and meat), commercial **poultry** (for production of white meat and eggs) **apiculture**, and **export-oriented products** (fisheries and coffee). These value chains have been selected based on their economic growth potential, importance for household food and nutrition security, environmental sustainability, and potential to accelerate gender inclusion in the agricultural sector. While these value chains are pre-selected, during the implementation of the NAFISP and based on potential arising new information and production and market dynamics, other value chains may be considered.

Theory of change (Pillar 2): increased performance and competitiveness of nutrition-sensitive value chains will be achieved by improving farmers' access to inputs and services, increasing adoption of climate-resilient technologies, enhancing access to production and market information, improving value chain actors' access to harvest and post-harvest facilities, enabling firms' access to capital, and strengthening farmers organizations to reduce transaction costs through economies of scale and strengthen access to markets. In addition, strengthening national research and development (5.3) and national food safety, surveillance (including for combating livestock disease epidemics) and diagnostic capacities (5.4) are critical pre-conditions to achieve higher performance in the agrifood sector. Women

and youth empowerment is also a crucial factor that will contribute to the inclusiveness of the priority value chains.

94. **Investment programmes:** three investment programmes have been prioritized to contribute to the achievement of the main objective under this pillar. These programmes are as follows:

Programme 2.1. Increased adoption of improved agricultural technologies and practices

95. Yemeni farmers are in great need to improve the adoption of climate-smart and resilience-building production, harvest, and post-harvest practices and technologies, including improved seed varieties and breeds, integrated soil and water management practices, and improved animal husbandry and feeding practices. Therefore, this investment programme concentrates on increasing farmers' willingness (knowledge) and capacity (technical and management skills, financial capacity, access to services, etc.) to adopt appropriate practices and technologies that may increase the performance of their farming activities. For this the programme will support investments on: (a) **improving pluralistic and decentralized extension services and veterinary technical support** that provide context-specific training and technical and business management assistance to farmers and livestock producers, tailored to address women and youth's specific and additional constraints; (b) **facilitating farmers' access to improved inputs, information and services** (in coordination with efforts in programmes 2.2, 2.3, and 2.4); and (c) **enhancing smallholders' access to investment capital and financial products** to increase their capacity to invest in improved inputs, practices and technologies. This investment programme will place a key role on promoting women's participation and economic empowerment through training and strengthened access to services.

In the case of livestock activities this programme will focus on expanding veterinary extension by: (i) **enhancing the capacity of decentralized livestock support departments**; (ii) **expanding the use of male and female community animal health workers** for community driven technical assistance; (c) **introducing the usage of balanced feed concentrates to small scale producers**; (d) establishing livestock demonstration centers.

Programme 2.2. Increased access to production and market information

96. Overall Yemeni farmers have poor access to up-to-date production (areas of production per crop, yields, volumes, pests and diseases, post-harvest losses, etc.) and market (prices, demand, market standards, etc.) information, which are hardly generated even for the most important subsectors in the country and poorly disseminated to farmers. This investment programme will easier famers, livestock producers, and fishers' access to information by focusing on two complementary areas; (a) **supporting the Ministry of Agriculture, Irrigation, and Fisheries to enhance the collection and assembling of agricultural statistics and market information** with a focus on priority subsectors; and (b) **building the capacity of farmers organizations to periodically collect and disseminate simple production and market information** to their members. The increased access to information will allow farmers to allocate a greater share of their land to produce the crops that are more profitable and to make timely decisions on the commercialization of their products. It will create more knowledge about nutritional features of different products so farmers may make more informed decisions on their cultivation choices.

97. In the specific case of export-oriented value chains (coffee, fisheries, and some horticultural products), this investment programme will improve producers' access to market information (prices, main destinations, demanded products, quality and food safety standards, etc.) by **strengthening the relationship between exporters, and producer and fisher organizations and their members**. These efforts

will be complemented with the extension support that will help farmers, livestock keepers and fishers to improve the operations to meet market demands in terms of timing, quality and volumes. In addition, infrastructure and institutional capacity under other investment programmes 2.4 and 5.4 will be overhauled to foster the growth of a modern export sector capable of producing and regularly supply quality products to export markets.

Programme 2.3. Improved value chain actors' access to agricultural inputs, services, and technologies

98. Crop and livestock production in Yemen is largely performed with a very limited use of yield- and quality enhancing inputs, services (testing and diagnosis, quality assurance, financial products, etc.), and technologies (tools, irrigation equipment, greenhouses, etc.). These primarily stems from the limited availability of some inputs and technologies in a reasonable distance to production sites, and also limited financial capacity of farmers to afford increasing expensive inputs and services. To alleviate these constraints this programme will use a three-pronged approach that considers: (i) **expanding the use of in-kind and cash assistance** (including subsidies, voucher schemes, cash grants, etc.) to help vulnerable farmers and livestock producers to specifically access high quality seeds and multiplication materials, seedlings, fertilizers, fodder, high-yielding breeds, small tools and equipment; (ii) **strengthening the inspection and quality assurance for inputs, including seeds, feed concentrate, vaccines, and veterinary supplies**; (iii) **supporting private sector capacity to produce quality seeds, seedlings, feed, and breeds**; (iv) **rehabilitating rangelands and pastures and improving fodder production capacity**; and (v) **strengthening the capacity of producers organizations to reduce costs of inputs through bulk procurements**.

Programme 2.4. Improved value chain actors' access to harvest, post-harvest, processing, and marketing facilities

99. The level of development of value addition downstream the agricultural value chains in Yemen is starkly limited given the limited post-harvest handling and processing infrastructure available, the low quality of crop, dairy, and often even fish raw materials, high costs of energy, and the lack of structure in food markets. These limit the capacity of value chain actors to add value to the limited production resources used in agriculture, increase quantitative and quality losses of food products, and hinder farmers' access to more profitable markets. This programme will secure the: (a) **the modernization of post-harvest handling and processing infrastructure**; (b) **expanding milk collection and processing capacity**; (c) **rehabilitating and expanding wholesale and local markets**; (d) **rehabilitating fish landing sites and auction facilities**; and (e) **supporting investments in ice plants and cooling equipment for improved fish preservation**. Modalities for supporting these investments will include public-private partnerships supported through different mechanisms, including productive alliances between large buyers/exporters and organized producers, investment support grants for groups of farmers, dairy producers, and fishers; and cost-sharing grants to individual smallholders for investment in small-scale crop processing, dairy, and fish preservation equipment. Additionally, this programme will enable firms' access to capital through financing mechanisms that may be facilitated through financial institutions and innovative lending schemes with buyers and input suppliers (e.g., assist agro-dealers to implement a consignment model for in-kind credit smallholders).

Programme 2.5. Improved farmers' business, organizational, and marketing capacity

100. This investment program focuses on strengthening the organizational, operational, and aggregation capacities of farmers organizations as a crucial cross-cutting component to enable farmers, livestock

producers, and fishers to improve access to inputs, services, and output markets. By organizing individuals into farmer and business-driven associations, these groups will be able to benefit from economies of scale in buying inputs, accessing services, and transporting to markets as well as the power of collective bargaining to negotiate the sale of products. Strong farmers' organizations will enable joint ventures such as agricultural collection centers (ACC), milk collecting and processing centers, post-harvest and handling, processing, and storage facilities, which would not be possible if otherwise farmers working individually. Interventions under this programme include: (a) **training for farmers organizations on organizational strengthening, business management, negotiation, and operations**; and (b) **facilitating linkages with input and output markets**.

Table 2. Budget for programmes under pillar 2 (2024-2027)

Programmes (USD million)	Mobilized Funds (ongoing)	NAFSIP Financial Gap	NAFSIP Total Budget
Pillar 2	101.6	368.0	469.6
Programme 2.1 Increased adoption of improved agricultural technologies and practices	68.0	110.0	178.0
Programme 2.2 Increased access to production and market information	2.0	37.0	39.0
Programme 2.3 Improved value chain actors' access to agricultural inputs, services, and technologies	9.2	69.0	78.2
Programme 2.4 Improved value chain actors' access to harvest, post-harvest, processing, and marketing facilities	10.4	107.0	117.4
Programme 2.5 Improved farmers' business, organizational, and marketing capacity	12.0	45.0	57.0

Source: NAFSIP design elaboration, based on agreed priorities on Overseas Development Assistance flows to Yemen (2022).

===0===

Pillar 3. Improved the sustainable and climate-resilient management of natural resources



Objective: communities in rural areas and their institutions are able to plan manage and utilize natural resources, including water, pasture, agricultural land and aquatic resources in a sustainable and inclusive manner.

101. Yemen lacks both surface and groundwater resources for its water needs. Surface water resources have historically been used extensively, but the assets are deteriorating and the struggling government is unable to fulfill its responsibility for maintaining the assets. On the other hand, groundwater is being exploited at an alarming rate and in an increasingly unregulated manner, which has caused groundwater tables to significantly decline. The renewable surface water resource still has large potential to be (re-) developed and as such release pressure from groundwater. Investments should therefore specifically also cover areas that are well supplied by groundwater but where surface water resources can be recovered.

Given the limited governance in the country and especially the limited powers of the local authorities, it will currently not possible to work with restrictions or other incentives system outside the communities.⁵⁷

102. Yemen's government institutions are significantly suffering from the ongoing conflict. As a result of the related interruptions, water sector agencies currently have only very limited financial resources, and are hardly paying salaries to their employees. So while formally water sector institutions are in place, in practice they are not operational, and are not fulfilling their role. As a result, tribal authorities have more powers over water resources than government authorities.

103. Changing climate is adversely impacting on various sectors in Yemen, nevertheless, its impacts are most severe on health, water and agriculture sectors, and specific with regards to water resources. Impact on water resources include a greater rainfall variability in the future, potentially leading to increased drought periods, and more rapidly diminishing water supplies. Similarly, increased temperatures could lead to higher heat stress and evapotranspiration rates, further slowing the replenishment of water sources. Furthermore, overexploitation of groundwater resources and rising sea levels due to climate change increase the likelihood of salt-water intrusion. This causes the water to become brackish and unsuitable for human consumption unless treated.

104. Agriculture in Yemen is subject to a number of threats (locust plagues, cyclones, droughts, floods, extreme weather events etc.). There are around 1.2 million landowners in Yemen, owning an average of 1.36 hectares. Domestic production satisfies a significant part of the population's food needs and helps reduce poverty in rural communities. Disasters, climate change and conflicts in the region have developed an inextricably linked nexus, adversely affecting agriculture production and food security in different areas (FAO, 2017), and measures for the reduction of disaster risk and the introduction of early warning systems should be implemented to "monitor hazards and mitigate or prevent their impact on food security and nutrition" (World Bank Group, 2020)⁵⁸.

Theory of change (Pillar 3): Water is a pivotal resource for Yemen agriculture and rural livelihoods. The nexus between water, energy and land plays a critical role to the achievement of the NAFSIP vision. Three sets of priority investment areas have been defined as organic part of one approach. The first reflects the soft aspects of water and natural resources management, including capacities and governance at community level (3.1). A second aspect related to the capacity to react and proactively address the challenges deriving from climate change (3.2), including adaptation, disaster risk reduction and to the possible extent increase of carbon sequestration or reduction of greenhouse gas / intensity. The third aspect, considering the centrality of water, is specifically dedicated to the increasing access to water including via dedicated infrastructural investment to increase harvesting capacity (3.3). Important note is to recognize that all the investment related to water, natural resources management and improvement of the energy, water, land nexus have direct repercussions on improved households nutrition and food security (pillar 1) as well as on the productive side of agriculture and value chain development (Pillar 2). In addition, the NAFSIP recognizes that water and natural resources have also high repercussions on socio-economic and political stability, to ensure livelihoods improvement and sustainable development patterns in the country.

⁵⁷ Energy has been pointed out as one of the factors causing major disruption in value chains (eg, in the fishery value chain, insufficient refrigeration capacities have been pointed out as one of the limiting factors for utilizing the expert potentials. Energy efficiency measures and RES can play a big role in enhancing the latter capacities.

⁵⁸ World Bank Group, 2020. Yemen Dynamic Needs Assessment: Phase 3 (<http://documents.worldbank.org/curated/en/490981607970828629/Yemen-Dynamic-Needs-Assessment-Phase-3-2020-Update>)

105. **Investment programmes:** three investment programmes have been prioritized to contribute to achieve the outcome of this pillar. They include:

Programme 3.1. Local authorities' knowledge and governance capacities for improved management of natural resources and climate adaptation are strengthened

106. This programme aims to reinforce existing mechanisms of water and other natural resources management, and builds on the currently working authorities that have taken up a significant locally recognized roles in this sense. While water resources management presents high challenges from a development perspective in the current national setting, working on basin scale using tribal- and community mechanisms and authorities is intended to improve local water availability and balancing water needs and respectively sustainability. The programme will thus promote strengthening local authorities water resources management on basin level is a flexible approach that considers the current challenges of the Yemeni government on national level, while still considering the national goals, and builds on the currently working authorities that have taken up certain roles in water management. In addition, it will create sustainable local development through nature conservation and protected areas aiming at enhancing the technical and management capacities of protected areas (including buffer and development zones). In turn, this is expected to have multiple positive effects on the Yemeni population, as it contributes to protecting biodiversity, enhancing natural resource management, as well as indirectly increasing food security and livelihoods development potential.⁵⁹ Ultimately, while working at community level, the programme will promote water saving technologies, benefitting both groundwater and surface water resources. This includes among others the promotion of more water stress resistant - and higher yielding varieties. The urgent need to promote water saving technologies is critical for all crops, including qat, which will naturally continue to be an important crop competing with food crops for fertile land and water resources in the country.⁶⁰

Programme 3.2. Increased adoption of climate-smart technologies and practices along the value chains

107. This programme offers a variety of interventions to decrease environmental impact and at the same time decrease running costs for agri-food production⁶¹. In close coordination with the interventions under Pillar 2, it promotes energy-smart solutions for agricultural value chains development, accompanied by support to encourage energy efficiency behaviour, increase insulation capacities of storage facilities and efficiency of heated production processes, and the application of locally available renewable energy sources (RES) for covering energy demand. This can be in some facilities also obtained by valorizing the own waste for energy purposes. The programme includes also investment aimed at improving resilience to cope with climate change, specifically through improved meteorological services (including Rehabilitation and technical modernization of observing networks), and capacity development for an efficient utilization of meteorological data. An effective implementation of such investment includes the need to develop automatic modelling and analysis tools, to create standard operating procedures to optimize the flow of information to the end user, and develop practical and innovative applications for seasonal drought, floods, and water forecast to be utilized by farmers and WUAs to foster climate resilient agricultural practices. Capacity development will need to address regional competent authorities/institutions to collect, analyze and manage relevant Climate Change data and to develop

⁵⁹ The TNC for example discusses extensively the urgent need of climate resilient nature reserves in support of ecotourism, identified as being one of the highly vulnerable key sectors in need for international support.

⁶⁰ The Qat industry is a major driver of water depletion as it is a high water demanding cash crop that allows farmers to generate more profits and invest into deeper wells as compared to other famers.

⁶¹ Processing of food requires energy for heating, cooling, lighting, packaging, storage etc.

operating procedures for producing and diffuse communications, as well as training of policy makers and farmers towards appropriate interpretation of meteorologic data for an efficient and climate adaptive application of seedlings, irrigation, and fertilization technique.

Programme 3.3. Increased smallholders' access to large/ medium/ small scale community water infrastructure

108. This programme complements the above two (and is closely intertwined with agricultural value chain development in Pillar 2) by providing the required infrastructural investment. It aims to increase surface water harvesting capacity and irrigation asset rehabilitation. The investments will target the increased use of the renewable surface water resource as compared to the hardly renewing groundwater resource. They will promote both rehabilitation of existing structures as well as new construction of suitable assets in previously successful irrigation systems. Interventions should cover the whole spectrum of canal systems, including canals, offtakes, dams, including also appropriate system improvements like new/additional storage, etc. Both modern- as well as traditional irrigation systems at different scales shall be covered. As climate conditions and wadi systems, and other factors including community governance are different within the country, context-specific and tailored solutions need to be found to ensure fair distribution of water, especially in the larger wadi systems. Interventions need to be guided by evidence (e.g., wadi hydrology and respectively water availability), including community-based needs assessment. In line with the technical works, water users should be trained in fair water use practices and coordination/cooperation in order to maximize the irrigation potential, specifically for the downstream farmers, including on aspects related to maintenance to ensure long term sustainability. Communities' commitment in this regard is required for ensuring ownership. Authorities and local management mechanisms, address within programme 3.1, should be involved in the process and in asset management.

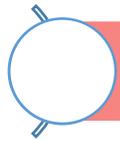
Table 3. Budget for programmes under pillar 3 (2024-2027)

Programmes (USD million)	Mobilized Funds (ongoing)	NAFSIP Financial Gap	NAFSIP Total Budget
Pillar 3	46.4	165.0	211.4
Programme 3.1. Local authorities' knowledge and governance capacities for improved management of natural resources and climate adaptation are strengthened	11.6	45.0	56.6
Programme 3.2. Increased adoption of climate-smart technologies and practices along the value chains	33.6	65.0	98.6
Programme 3.3. Increased smallholders' access to large/ medium/ small scale community water infrastructure	1.2	55.0	56.2

Source: NAFSIP design elaboration, based on agreed priorities on Overseas Development Assistance flows to Yemen (2022).

===0===

Pillar 4. Increased socio-economic inclusion of vulnerable actors along the agrifood system



Objective: improved, more focused and more effective social protection and livelihoods rehabilitation interventions are contributing to increase poor, food insecure and vulnerable households' economic access to food

109. After over seven years of a conflict that started in June 2014, Yemen faces a major humanitarian crisis associated to internal displacement, destruction of infrastructures, disruption of service delivery, food insecurity⁶² and malnutrition⁶³. This has been further exacerbated by the impact of Covid-19 pandemics⁶⁴, affecting additionally the level of poverty and food insecurity of households. In fact, the vast majority of households access food via purchase (over 95%), while only a marginal part of the population produce most of the food for their own needs. In addition, most of the consumed food is imported (especially wheat, rice, oil, sugar and milk). Reducing poverty and ensuring access to healthy diets in Yemen depends mostly on the capacities of the economy and agrifood systems to: i) create more job opportunities for the poorest and most vulnerable by being more productive, and; ii) be resilient to market shocks, price volatility (fuel and food) and to natural disasters, such as the locusts in 2021.

110. In this context of political instability and weakened public services, humanitarian interventions and mechanisms of social protection are critical to ensure delivery of social services and fulfilment of basic needs. The delivery of interventions, such as humanitarian cash and voucher assistance, social protection and livelihood support, follows a twin track approach, framed around: i) the implementation of mid- and long-term impact interventions to support the poorest and most vulnerable for self-reliance, especially in rural areas, and; ii) national capacity strengthening activities to re-establish a social contract and the legitimacy of the State among the citizens⁶⁵. The NAFSIP⁶⁶ proposes a similar approach, coupled by additional investment to harmonize and scale up different programmes through common features (targeting, transfer value, delivery modalities) and to make them more sustainable and efficient, in order to support the poorest and most vulnerable groups⁶⁷.

Theory of change (Pillar 4): The role of agriculture is critical in the social protection system, owing to the role agriculture and the agrifood sector plays as a key driver of poverty reduction and food security. This pillar aims to strengthen the linkage between an agriculture sector strategy and investment plan with the humanitarian and social protection interventions. The pillar proposes a two-fold set of interventions. On one side, a set of investment aimed to enhance households' capacity to generate income, on- as well as off-farm (programme 4.1), sustaining among others also an increased economic access to food for the household, coupling the nutrition and dietary improvements aimed for in Pillar 1. On the other side, a set of interventions aimed to enhance consistency of approaches, dialogue and coordination between actors

⁶² Around 17 million people were facing high levels of acute food insecurity (IPC Phase 3 or above)

⁶³ 7.56 million people were in need in terms of nutrition.

⁶⁴ Oxfam (June 2020) reported that in the first months of covid19 pandemics, remittances reduced by 80%. Available at <https://reliefweb.int/report/yemen/remittances-yemen-plummet-needs-surge-amid-war-and-coronavirus>.

⁶⁵ A recent World Bank study has listed different examples where social protection reinforces the humanitarian-development nexus including the continuity of the Yemen Social Fund for Development, the Public Works Project, and the Small and Medium Enterprise Promotion; the Establishment of the Emergency Cash Transfer programme; the long-term delivery of food assistance of WFP, and; the Joint UN effort to reinforce national institutions to prepare a post conflict recovery and reconstruction phase.

⁶⁶ Supportive arguments are provided in the dedicated Investment Oriented Diagnostic on "Socio-economic challenges and Economic Inclusion" – available upon request.

⁶⁷ Those are generally the Internal Displaced Persons (IDPs), migrants transiting through Yemen, persons with disabilities, female-headed households and the Muhamasheen (people without / with weak tribal connections).

that operate in the social protection system of Yemen (programme 4.2), with a dedicated link to the Humanitarian-Development-Peace nexus.

111. **Investment programmes** : two investment programmes have been prioritized to contribute to achieve the outcome of this pillar. They include:

Programme 4.1. Improved coordination, targeting and coverage of social protection and agricultural livelihood rehabilitation interventions

112. This programme comprises interventions aimed at *improving service delivery on the socio-economic inclusion domain*. It will promote investment on strengthening capacities of the Government to develop a shared vision/approach contributing to re-establish a social contract for poverty reduction, peace and social cohesion. Specifically, this could comprise interventions aimed at developing a common strategic plan and a shared vision on social protection and rural livelihoods in Yemen. It will also comprise setting up tools and institutional mechanisms for harmonizing and coordinating existing programmes under a common framework⁶⁸ including with different ministries, UN partners, NGOs and communities. It will include programmes aimed to reinforce the capacities of local actors and promoting community engagement in the planning, design, implementation and monitoring of social protection and livelihood interventions for promoting a territorial governance and approach.

Programme 4.2. Increased access to off-farm employment and income generating opportunities for vulnerable households

113. This programme comprises in turn two types of interventions. On one side, investment aimed at *enhancing synergies between social protection and livelihood/agricultural interventions* for promoting socioeconomic inclusion of the rural poor. Specifically, this will include scaling-up economic inclusion, in particular for women and youth, and with a specific focus on agricultural non-agricultural labourers in rural areas; facilitating local procurement from small scale farmers for in-kind food assistance and school feeding programme; and Promoting public works programme for rebuilding community assets and required rural infrastructures to improve access to food and markets. On the other hand, it will promote investment *implementing and scaling up coherent social protection interventions* to guarantee access to basic needs, focusing on food and healthy diets as enabler for livelihood strategies. Investment in this domain will comprise interventions aiming at improving the existing mechanisms, ensuring an additionality in efficiency or effectiveness of the existing programmes. This could comprise improvement of interventions such as: ensuring universal access to basic needs (e.g., cash transfers and food assistance, including in-kind; improving nutrition outcomes, such as cash for nutrition, and possibly reinforcing the school feeding programmes; vertical expansion of mechanisms to guarantee access to basic needs in case of shocks, such as emergency cash transfer, food assistance, cash for nutrition.

Table 4. Budget for programmes under pillar 4 (2024-2027)

Programmes (USD million)	Mobilized Funds (ongoing)	NAFSIP Financial Gap	NAFSIP Total Budget
Pillar 4	115.2	85.0	200.2
Programme 4.1. Improved coordination, targeting and coverage of social protection and agricultural livelihood rehabilitation interventions	66.0	30.0	96.0

⁶⁸ Value, targeting, monitoring, registries...

Programme 4.2. Increased access to off-farm employment and income generating opportunities for vulnerable households	49.2	55.0	104.2
--	------	------	-------

Source: NAFSIP design elaboration, based on agreed priorities on Overseas Development Assistance flows to Yemen (2022).

===0===

Pillar 5. Improved governance and enabling environment for SDG1 and SDG2



Objective: the relevant national institutions in the country effectively coordinate to mobilize and allocate resources and implement investments to strengthen agriculture, food and nutrition security and resilience

114. Despite a generalized reduction of the role of the government public the agricultural sector, including public financing, is a renewed focus in the country for longer term development endeavours. The decision to endow the country with a comprehensive strategy and investment plan on agriculture and fisheries sector reflects the ambition of the country. The country's investment climate was already difficult before the conflict, driven by weak governance and compounded by an exchange rate policy that favoured the supply of cheap imports. Since the eruption of conflict, the operating environment has become even more constrained due to a lack of access to input markets (for energy, labour, intermediate goods, and services) and deteriorating financial and export markets.

115. This endeavour would require a substantial effort to strengthen – or in some cases reconstruct, the enabling environment for public interventions, including at institutional level (policies, coordination mechanisms, data gathering and information sharing) as well as organizational and individual levels. Among the conditions needed for the transformation of the agrifood sector is the improvement of the sector governance and coordinated management. This includes a set of rules, the involvement of stakeholders in processes that are managed by common interests, and requires legal, legislative, and institutional reforms and the development of a strategy adapted to the changes and needs of the agricultural sector.

Theory of change (Pillar 5): This pillar gathers all institutional challenges needed for the implementation of the NAFSIP. Its interventions are instrumental to enhance the success of the entire strategy and investment plan. One of the primary focus is ensuring a smooth transition from humanitarian to the longer term perspective embedded in the NAFSIP (5.1). The pillar aims also to improve the national capacity to define and monitor priorities (5.2), as well as to enhance technical capacities for basic cross cutting services (5.3 and 5.4). Especially on the first two programmes, the pillar will need to work across all other priorities (and will have direct repercussion on targeting for basic provision of services in Pillar 1 and Pillar 4), while the second two programmes are the ones that will help the implementation of agrifood value chain development (Pillar 2) and adoption of innovative climate adaptive and sustainable agriculture practices (Pillar 3).

116. **Investment programmes :** four investment programmes have been prioritized to contribute to achieve the outcome of this pillar. They include:

Programme 5.1. Enhanced HDP nexus coordination and implementation within Government and with non-state stakeholders for SDG 1 and SDG 2

117. This programme is intended to provide sufficient space for coordination and resources to reinvigorate the existing efforts around Humanitarian-Development-Peace nexus (HDP). The programme will be centred around the principles of capacity development, and will include the mobilization of national and international expertise and technical assistance to ensure improved data system (generation and dissemination), including regular surveys of the agriculture sector, knowledge exchange, evidence-based policy dialogue. Consistently with the ongoing efforts, the investment of this programme will be directed towards a strategic axis and an operational one. On one hand, expertise and opportunities for dialogue and reinforcing national leadership will serve the aim to improve coordination at strategic level. This will include coordination on needs assessments, institutional coordination and joint prioritization of interventions and improved effectiveness of resource mobilization. On the other hand, improved coordination between agencies to promote harmonization of approaches, sharing lessons on implementation and effectiveness, and improve coordination and targeting. To this end, this programme will cooperate directly with Pillar 4, intended to improve socio-economic inclusion and the functioning of social protection.

Programme 5.2. Improved national monitoring, evaluation and learning capacity for effective evidence-based decision-making

118. This programme will be focusing at the broad need for effective governance of public policies and planning. It will be specifically looking at the needs related to the NAFSIP roll out and will be providing the necessary support to guarantee that the key functions of the NAFSIP governance are implemented. The audience will be primarily the existing institutions and committees in charge of food and nutrition security and sustainable agriculture, including all related to NAFSIP, and promoting their leadership via coaching, mentoring, providing learning on the job opportunities will be among the core functions. This programme will comprise essentially expertise, opportunities of evidence generation (studies, assessments...) including significant improvement to the national statistics and data generation capacity, dialogue around knowledge and findings and communications, as well as regular production of material and communication to stimulate advocacy and resource mobilization for investment and development finance. To this end, the programme will complement the interventions in programme 5.1 aimed at reinforcing the HDP nexus.

Programme 5.3. Strengthened national research and development capacities to support sustainable development of key sub-sectors

119. This programme will respond to the need for innovation, which irrespective the limited resource availability, even more pressing in a context of protracted crisis. The programme will therefore support the required efforts to revive public research and development capacities in the country – such as individual capacity development as well as infrastructure and equipment. It will also in parallel include the necessary support to stimulate mechanisms to reinforce national and international private sector efforts to bring technological and innovations and innovative practices in the agrifood sector. Reinforcing partnerships between development practices and existing research centres with academia and international actors will be key. It will facilitate the establishment of platforms to research and development with agrifood system needs, as well as associated knowledge dissemination and sharing between farmers/producers and the research centres. Key element for capacity development will also comprise the extension system, even if

still largely depending on project resources, to ensure improvement and update of technical content and dissemination modality (including information communication technologies, and digital solutions).

Programme 5.4. National food safety surveillance and diagnostic capacity strengthened

120. This programme will be strongly linked with the scope of the investment envisaged in Pillar 2, stimulating the functioning of the value chain development, especially focusing on the role of agriculture beyond production, and with a critical focus on livestock disease surveillance. The programme will comprise dedicated infrastructure investment to increase laboratory capacity (including surveillance centres and labs for quarantine facilities). On the soft investment, the programme will focus on the related improvement of technical and management capacities, to ensure a sustainable use of the infrastructure, as well as on improving the surveillance network (at the producing areas, slaughterhouses and quarantines), diagnoses capacities and vaccination campaigns. It will also focus on the normative aspects of food safety, reviewing, revising and reinforcing the policy and regulatory framework food safety. The programme will also integrate the institutional capacity related to the improved regulations, by designing and supporting effective enforcement mechanisms, establishing ad-hoc inclusive working groups, and engage stakeholders in a participatory policy dialogue.

Table 5. Budget for programmes under pillar 5 (2024-2027)

Programmes (USD million)	Mobilized Funds (ongoing)	NAFSIP Financial Gap	NAFSIP Total Budget
Pillar 5	10.8	42.0	52.8
Programme 5.1. Enhanced HDP nexus coordination and implementation within Government and with non-state stakeholders for SDG 1 and SDG 2	1.2	5.0	6.2
Programme 5.2. Improved national monitoring, evaluation and learning capacity for effective evidence-based decision making	9.6	7.0	16.6
Programme 5.3. Strengthened national research and development capacities to support sustainable development of key sub-sectors	0.0	15.0	15.0
Programme 5.4. National food safety surveillance and diagnostic capacity strengthened	0.0	15.0	15.0

Source: NAFSIP design elaboration, based on agreed priorities on Overseas Development Assistance flows to Yemen (2022).

6. NAFSIP GOVERNANCE

6.1 Implementation arrangements

121. **The NAFSIP has a comprehensive and multi-disciplinary scope**, covering national development priorities spanning SDG 1, SDG 2 and SDG 10, cutting across the competence of different ministries and public entities. Its ambition is to gather interest and financing from wide segments of the resource partners, civil society and private investors, and to bridge development interventions with humanitarian ones (HDP nexus).

122. **The NAFSIP places Agriculture and Fisheries at the centre of the Yemeni economy and society** as sectors with the highest potential to increase food security and reduce poverty ensuring and economic development. The **Ministry of Agriculture, Irrigation and Fisheries** has a pivotal role in the NAFSIP implementation. However, within the NAFSIP and with the aim to achieve its related national priorities, the MAIF establishes partnerships and linkages with other institutions with critical role in its implementation. These include at first the Ministry of Planning and International Cooperation (MoPIC), and Ministry of Water and Environment (MoWE). At second, and in line with the NAFSIP multidimensional approach to food security, poverty eradication and inequalities reduction, MAIF establishes also strong linkages and collaborations with the Ministry of Social Affairs and Labour (MoSAL), and open to other interested ministries, as well as with other non-governmental bodies, private sector and other national and international actors.

123. **The NAFSIP governance is founded on existing mechanisms**, with improved elements that reinforce linkages both with the higher level political decision making process, as well as with the root level investment project definition and implementation. This is a necessary condition to facilitate the NAFSIP operationalization and coordination. To this end, with the leading role of the Ministry of Agriculture, the full potential of the NAFSIP implementation is realized through a **three-level coordination mechanism** and the comprehensive set of development operations directly contributing to the NAFSIP results (Figure 13):

- **High-level policy decision mechanism: the NAFSIP Supreme council for food Security (SCFS)** supported by the **Food Security Steering Committee (FSSC)**, ensures the highest level of coordination and implementation. It is composed of Their Excellences the Ministers responsible for: Agriculture, Irrigation and Fisheries; Planning and International Cooperation; Water and Environment; Social Affairs and Labour. Furthermore, the Steering committee includes the participation of selected representatives from civil society and private sector, to ensure a balanced functioning of the monitoring and advocacy functions. The **SCFS** represents the political locus where the decisions are made at inter-ministerial level. The **SCFS** is responsible for coordinating political decisions around NAFSIP interventions, overseeing its implementation and related monitoring, communication, advocacy, and resource mobilization processes. Specifically, the **SCFS** would be responsible to ensure:
 - high-level political decisions making process concerning food and nutrition security and sustainable agriculture, poverty reduction and inequalities reduction,
 - inter-ministerial coordination for policies, strategies and investment concerning more than one ministry; and

- advocacy and resource mobilization to maximize development financing both within the government and with resource partners community.
- **Interministerial technical coordination mechanism:** an interministerial **Technical Coordination Committee (TCC)**⁶⁹, operating under the chairmanship of the Ministry of Agriculture, Irrigation and Fisheries, will play a central advisory function on the NAFSIP agreed national priorities and on the related investments. The TCC is composed of Deputy Ministers of the Ministry of Agriculture, Irrigation and Fisheries; Planning and International Cooperation; Water and Environment; Social Affairs and Labour and includes ex-officio members from resource partners. Interministerial coordination will be further nurtured through the participation and involvement of the Food Security Technical Secretariat (FSTS) as member of the TCC. The FSTS is the operational arm of the Food Security Steering Committee. The TCC is responsible for initiating and convening inter-institutional coordination and policy dialogue on the subjects that span the mandate of different ministries, and provides evidence (e.g., dossier preparation) for higher-level deliberative bodies. Specifically, the TCC will:
 - Provide technical advisory in support of higher-level policy decisions (including the **SCFS**) regarding the implementation of the NAFSIP;
 - Ensure technical validation of monitoring reports on progress towards the NAFSIP agreed objectives;
 - Advise on evidence-based resource mobilization required to achieve NAFSIP agreed policy and investment objectives;
 - Facilitate dialogue between actors of different nature on domains of relevance of the NAFSIP, typically requiring intersectoral coordination.
- **Technical and secretarial advisory mechanism:** The Ministry of Agriculture, Irrigation and Fisheries is responsible for initiating and convening inter-institutional coordination and policy dialogue on the different subjects that span the mandate of different ministries. Through three key units: Monitoring and Evaluation Unit; Knowledge Management Unit; and Communication Unit; the Ministry of Agriculture will ensure supporting respectively data gathering and analysis, knowledge management and communication and dialogue.

124. With the facilitation provided by MAIF as secretariat, the three coordination bodies (**SCFS**, the steering committee, the TCC and MAIF) will interact, to ensure the implementation of the NAFSIP. The multi-stakeholders composition of the Technical Coordination Committee, and the inter-ministerial nature of the **SCFS** will ensure the inclusiveness of the process.

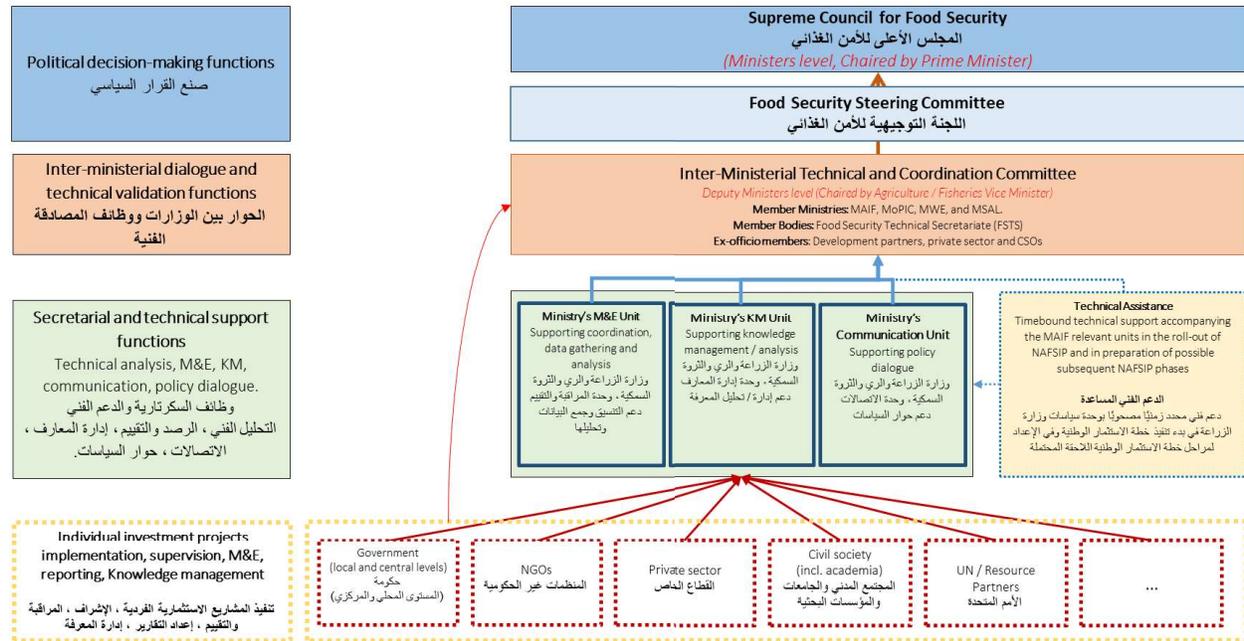
125. **Individual agencies and institutions financing and implementing investment projects and programmes are an essential part of the NAFSIP governance.** The NAFSIP's investment part is defined by the set of development operations that are directly contributing to the NAFSIP agreed objective, structured in the five pillars and seventeen programmes. Such programmes are operationalized by various financing sources and implementing agencies, which include Government (at local and central levels), non-Governmental and civil society organizations, private sector companies, United Nations agencies, etc. (as

⁶⁹ The TCC represents the merger of two operational groups that supported the design of the NAFSIP, namely: the Technical Committee (TC) and a Technical Working Group (TWG), including membership from the Ministry of Water and Environment (MWE), Ministry of Planning and International Cooperation (MoPIC), including the FSTS (Food Security Technical Secretariat). The two groups had been established in subsequent moments: the TC at first, smaller in composition and aimed to start the update of the national agriculture sector strategy (NASS); the larger TWG was formed later, to include broader set of fields and included other ministries besides agriculture, irrigation, and fisheries.

in the bottom part of the Figure 13). Their role is critical in ensuring consistency of interventions intents, and alignment to the agreed objectives.

126. The key functions of NAFSIP governance will comprise the following (described in the following section): monitoring results; reporting and communication, ensuring participation of all relevant stakeholders; and advocating for required policy or regulatory changes, unlock bottlenecks to private sector / NGO interventions, or public resource mobilization in order to fill priority needs.

Figure 13. Institutional arrangements for NAFSIP 2030 implementation



Source: NAFSIP design elaboration, based on stakeholders consultations.

127. **Technical assistance.** In all of the above, the process of reinforcing the governance and the key functions to ensure NAFSIP implementation will be supported by an initial technical assistance. The latter, in the form of an external funded project, will first dedicate efforts to facilitate the establishment and regular functioning of the key bodies, and ensure a progressive capacity development path. Specifically, such project will provide support among others to:

- i. Develop relevant stakeholders capacity through on the job or dedicated sessions;
- ii. Produce and review the deliverables of the Monitoring, reporting and communication process, including for the mobilization of development financing;
- iii. Carry out analytical work in support of policy and strategy design. All the above will ultimately support the implementation of the NAFSIP and related strategies.

6.2 NAFSIP institutional implementation

128. The NAFSIP is a strategic guiding document that aim at maximizing the achievement of objectives in sustainable agriculture, food security and nutrition, poverty reduction and inequalities reduction. It requires coordination of different actors and strong international support to fill in capacity and resources gaps. Its operationalization is through a system of independent operations and investment (summarized in Annex – NAFSIP budget by Pillars and Programmes) that are consistently contributing to achieve the NAFSIP vision and expected results (summarized in Annex – NAFSIP Results Framework).

129. Coordination and evidence generation are key to ensure highlighting progress and create progressive and constructive synergies and partnerships between different actors. As such, functions of critical importance for the NAFSIP governance include the following:

- **monitoring the physical and financial progress** to ensure evidence-based decision-making policy and investment definition process;
- **reporting and communicating results**, ensuring participation of all relevant stakeholders;
- **advocating for required policy and stimulate adequate improvements of regulatory frameworks**, including among others unlocking bottlenecks to private sector / NGO interventions;
- **facilitate the process of mobilizing development financing**, in order to fill financial gaps to achieve priority objectives and needs.

6.2.1 Results Architecture

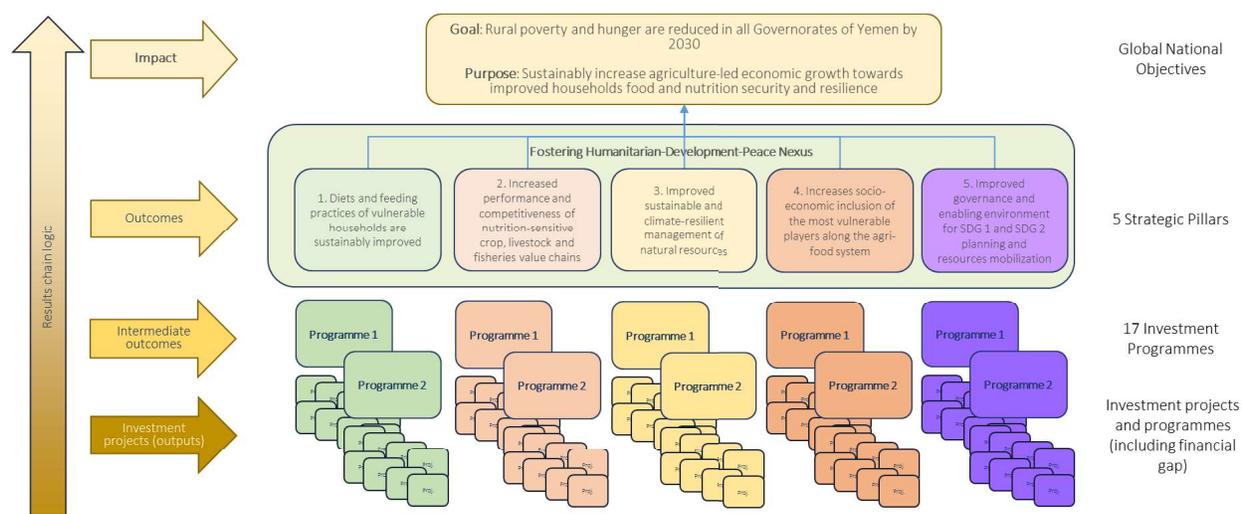
130. The founding elements to guide Government and other stakeholders' decision on investment, and to identify investment gaps and the need of incremental resources is the **NAFSIP Results Architecture**, composed of a Results Framework (**Annex – NAFSIP Results Framework**) summarizing the intended results and the ways to measure progress, complemented by the related Results-Oriented Budget (**Section 4.3**), summarizing the available resources and the financial gaps to achieve the intended results.

131. **The NAFSIP results architecture.** The results framework is composed of various levels of results, reflecting as much as possible existing monitoring mechanisms (national statistics or consolidated externally supported evidence-generation mechanisms, e.g., supported by international organizations) associated to SDG-specific and other performance indicators identified during the design as the most relevant.

132. The NAFSIP results framework is articulated into a three-level results chain, including: the **overall purpose**, expressing a vision of progress towards SDG 1, SDG 2, and SDG 10; **five outcomes**, associated to the corresponding NAFSIP pillars; and **seventeen intermediate outcomes**, corresponding to the related Investment Programmes (Figure 14).

133. The NAFSIP Results Architecture links the results of each Investment project to the corresponding expected results along the results chain (from outputs, to intermediate outcomes, to outcomes to the impact). Each *Investment* project contributes to the achievement of the global national objectives. The outputs (general provision of goods and services), as defined in the individual project and investment, are not included in the NAFSIP results architecture.

Figure 14. NAFSIP results architecture



Source: NAFSIP design elaboration, based on stakeholders consultations.

134. Each results in the NAFSIP is defined by a dedicated statement and measured by selected indicators, including baseline and a target value at 2026. The results are structured as follows:

- a. **Impact.** At the highest level of the results chain, NAFSIP impact is defined by its Purpose: **‘Sustainably increase agriculture-led economic growth towards improved household food and nutrition security and resilience’**. In this vision, the country is gradually progressing toward higher levels of food security, poverty reduction and inequalities reduction, and communities and individuals are more resilient to climate and human made shocks. This vision presupposes a parallel effort to meet food security and poverty reduction related needs addressed by humanitarian actions. As such the NAFSIP opens a dialogue and collaboration window with humanitarian actors to **reinforce the Humanitarian-Development-Peace Nexus**. Impact monitoring is defined by two sets of indicators, capturing: **(a)** on one side food and nutrition security status; and **(b)** on the other side, the progress towards agricultural-led economic developments.
- b. **Outcomes.** The results framework of the NAFSIP is composed of five interrelated outcomes, measuring behaviour and institution change required to achieve the NAFSIP impact. The **five outcomes** are defined by the NAFSIP strategic pillars areas, and intend to capture **behavioural or institutional changes**. They are measured by a set of one to three specific indicators. As for the other results, the majority of the indicators are selected amongst those already measured by existing monitoring mechanisms.
- c. **Intermediate outcomes.** These correspond to the expected results of the seventeen Investment Programmes. They intend to capture specific improvement in availability of services instrumental to the intended changes and other improvements that contribute to the achievement of the corresponding outcome, and are directly related to the underlying investment projects and interventions.

135. In order to compensate for a limitation in data availability as well as in data collection, the NAFSIP results are measured by a blend of indicators captured by the existing national mechanisms (e.g., statistics system), other monitoring processes such as the ones associated to the UNSDCF, or to UN-agency specific plan of actions or ones of relevant IFI-funded interventions. The NAFSIP interventions are not considered fully responsible for the progress against the results and the progress towards indicators is considered as a result of factors external to the specific interventions.

6.2.2 Monitoring process

136. **Establishment of monitoring, evaluation and learning functions.** The M&E and learning system of the NAFSIP places special emphasis on the principles regulating the NAFSIP design (see 2.2, **Principles and founding elements of the NAFSIP**). The relevant ones include: **(i) accountability** of the relevant responsible institutions, also thanks to a transparent mechanisms of communication; **(ii) inclusive participation** of stakeholders at all levels, ensuring open dialogue and validation of the evidence produced through the monitoring process; **(iii) simplicity** of the system, including the preference for the use of indicators⁷⁰ already monitored by the relevant institutions; and **(iv) consistency** with the existing M&E national systems.

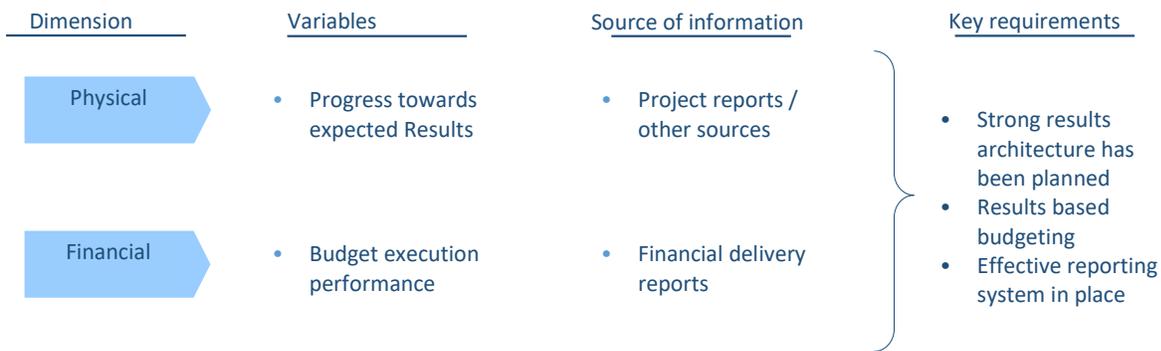
137. The monitoring process has a three-fold aim:

- a. **ensure collecting relevant information** to measure progress, reviewing priorities and take corrective actions for resource allocation or mobilization; and, and ultimately, evaluation;
- b. **facilitate dialogue with stakeholders around implementation progress** and ensure their participation for the NAFSIP implementation;
- c. **provide the basis for advocacy, lessons learning and knowledge sharing**, through regular communication.

138. **Monitoring physical and financial progress.** The NAFSIP results framework and results-oriented budget are interconnected. The monitoring process will allow therefore to assess on one side ***progress towards the results*** (physical dimension) and the progress on resources mobilized, disbursed and financial gap (the financial dimension) and to cross such information. As shown in Figure 15, both the physical and financial dimensions can be monitored against the initial baseline (horizontal direction), and at the same the monitoring process allows to monitor the relationship between the results and their financing (vertical direction). Physical progress will be monitored through the NAFSIP results framework indicators, while the financial dimension will be monitored through the updated figures on development financing. Monitoring of the physical and financial dimension is performed on a regular basis (annual and at the end of the NAFSIP life cycle).

⁷⁰ **SMART** is an acronym usually utilized in results-based management to indicate the five feature of the indicators: **Specific** - related to the results the interventions intend to achieve; **Measurable** - stated in quantifiable terms; **Achievable** - realistic in what is to be achieved; **Relevant** - useful for management information purposes; **Time-bound** - stated with target dates.

Figure 15. Comparing the physical/financial dimensions, actual/planned targets



Source: NAFSIP design elaboration, based on stakeholders consultations.

139. **Operationalization of the M&E system.** The MAIF as Chair of the TCC and acting as secretariat will play the leading role in managing NAFSIP monitoring mechanism. The M&E Unit in MAIF will coordinate the collection and review of information on physical and financial progress. It is of critical importance that the relevant TCC members contributing to the exercise are conversant and able to deal with results-based management and with the governance mechanisms of the NAFSIP, and financing of public investments and of the resource mobilization and coordination of Yemen resource partners.

140. A specific monitoring and reporting plan including the outline of the annual Monitoring Report will be developed by the TCC within the first six months of NAFSIP implementation (before end of 2023). The plan will include specific actions, responsibilities and a time frame for reporting and communication. The plan will also help fill the existing gap in baseline information and streamline the planning for recurrent M&E activities.

141. **Technical Assistance.** A dedicated support programme⁷¹ will assist in the implementation of the NAFSIP governance functions, by supporting the related government entities and other stakeholders, envisaging a gradual transfer of responsibilities. Such programme will ideally have a threefold scope, and facilitate: (i) the establishment and roll out of the NAFSIP governance including all its functions (monitoring, coordination, communication, resource mobilization); (ii) the dissemination of knowledge and findings on food and nutrition security and resilience, including by providing necessary technical assistance and knowledge generation; and (iii) supporting coordination with similar processes, including HDP nexus.

6.2.3 Communication and advocacy

142. **Reporting.** The reporting of the updates of NAFSIP implementation represents an important opportunity to take stock of results and advocate accordingly. Reporting and communication will be carried out on annual basis. The overall responsibility to gather information and to coordinate the

⁷¹ Considering the scope and aims, the World Bank Group financed Food Security Response and Resilience Project (FSRRP) will be able to provide initial technical support. Through the World Bank Group funded Food Security Response and Resilience Project (FSRRP), FAO Yemen supports building the resilience of Yemeni households to food security crises and improving household food security and nutrition. The project aims to serve as a scalable platform that offers a combination of complementary short-term and medium-term activities to strengthen food security in Yemen, as well as flexibility for adjustment to the evolving food security situation going forward.

communication for advocacy on the NAFSIP will be with the TWG under the Secretariat of the Ministry of Agriculture. The reporting will be based on three main sources:

- (a) Latest updates on the indicators of the NAFSIP results frameworks, according to the respective sources and compared to their baseline, as well as complementary information and findings from ongoing investment projects relevant to the NAFSIP pillars and programmes.
- (b) Lessons learned from thematic analyses and studies on domains relevant to the NAFSIP (value chains, financial inclusion, IPC, etc.).
- (c) Findings from parallel strategies and processes of planning and monitoring (e.g., the Food Security Strategy), including among others the IPC.

143. All the above is to facilitate evidence based dialogue around relevant topics that can ultimately facilitate the investment decision or resource mobilization. The comprehensiveness of the sources will ensure completeness of evidence.

144. **Inclusiveness.** To ensure greater participation and broader advocacy potential, all concerned public institutions, private sector representatives, civil society organizations and other institutions are invited to the reporting and communication meetings or policy dialogue events.

145. **Modality.** The communication and advocacy process will seek to strengthen the existing partnership between public stakeholders and the private sector, with the ultimate aim to strengthen support to food and nutrition security and sustainable agriculture. Dialogues will be organized as part of the communication strategy, contributing to establish a 'community of practice' on investment-related matters.

6.2.4 Resource mobilization

146. While the NAFSIP is composed of a systematically organized and coherent set of individual projects, implemented according to the executing entities and financing entities agreements, its resources mobilization represents the fruit of sound coordination between all stakeholders (Government, farmers and agribusiness companies, resource partners, technical agencies and partners). To this end, the regular monitoring, reporting and dialogue around NAFSIP results represents the opportunity to facilitate the alignment of financiers to the set priorities.

147. All additional resources mobilized by resource partners will have to align to the NAFSIP agreed priorities. The practical implication is that when defining development project financing in areas relevant to the NAFSIP, the resource partners will have to show the consistency of the individual projects to the NAFSIP results architecture. Individual projects will maintain internal coherence, but project's results framework, theory of change, activities and related resources will align to the NAFSIP intended results. Such results-oriented planning and investment design will be facilitated by inter-ministerial discussions and identification of responsibilities in the implementation according to capacities, readiness and comparative advantages.

7. RISKS AND MITIGATION MEASURES

148. Agricultural activities carry inherent risks based on the given area(s) of implementation, including: (i) water resources management; (ii) watershed management; (iii) seed quality; (iv) horticulture production; (v) locusts and pest infestations; (vi) pesticides and fertilizers; (vii) nurseries and greenhouses; (viii) climate change; and (ix) social inclusion. In that regard, proposed investments under the NAFSIP carry risks which require due consideration, mitigation, and management (as identified in **Table 6** below). To support safe and sound implementation of agricultural investments proposed in the NAFSIP, this section provides below: (i) investment-specific mitigation recommendations for negative impacts; and (ii) recommendations for investments to support improved capacity and management of safeguards within the agriculture sector.

149. Recommendations for investment-specific mitigation recommendations for negative impacts should be considered in conjunction with the risks and considerations already part of the inherent risks in Yemen's agriculture sector). When safeguards are developed for the specific proposed interventions and investments, the Government of Yemen and/or implementing agencies will clearly identify the person(s)/agencies responsible for developing the management plan, implementation, and monitoring/reporting timeline.

Table 6. Cross-cutting risks for proposed investments in the 2030 NAFSIP for Yemen

Potential Risk(s)	Probability	Impact Level	Proposed Mitigation Measure(s)
Conflict over benefits distribution	Medium	Medium	<ul style="list-style-type: none"> Careful targeting and transparent selection criteria for beneficiaries of a given investment Consistent stakeholder engagement Development & use of a grievance redress mechanism (GRM) Ensure that households benefiting already from other investments are not disproportionately benefiting from newly proposed agricultural investments, with a focus on those not receiving assistance.
Social exclusion	Medium	Medium	<ul style="list-style-type: none"> Careful targeting of intervention areas/beneficiaries using transparent selection criteria Consistent stakeholder engagement Development & use of a GRM
Elite capture and/or manipulation of investments by political, ethnic, or military factions	Low	Medium	<ul style="list-style-type: none"> Conduct gender inclusive local consultations and political economy analysis as part of the overall contextual analysis done before entering new investment areas to understand and avoid possible elite capture Ensure transparency of site and beneficiary selection. More in-depth monitoring, evaluation, and management arrangements for areas deemed to be highest risk. Public disclosure of information. Consistent stakeholder engagement Development & use of a GRM
Social acceptance of proposed interventions	Medium	High	<ul style="list-style-type: none"> Consistent stakeholder engagement Development & use of a GRM
Attacks to intervention sites / investment project areas due to discontent with interventions	Medium	Medium to High	<ul style="list-style-type: none"> Develop a Security Management Plan Consistent stakeholder engagement to increase broad community support Utilize trusted contractors/implementing agencies with local presence who are familiar to the local communities

Potential Risk(s)	Probability	Impact Level	Proposed Mitigation Measure(s)
Limited access to proposed areas of intervention due to conflict	High	High	<ul style="list-style-type: none"> Select sites based on accessibility; Develop a Security Management Plan; Utilize trusted contractors/implementing agencies with local presence
Resurgence of violence due to ongoing civil war that places inputs, equipment and structures at risk of damage or complete destruction	Medium	High	<ul style="list-style-type: none"> Conduct a contextual analysis, incorporating feedback from separate consultations with men and women, before entering new communities with project investments, including a detailed analysis of potential conflict lines Only implement activities in communities which are predictably stable, or receive prior agreement from potential conflict groups expressing the joined interest in a subproject and committing to implement / maintain the outcomes jointly Continuously monitor the situation in intervention areas to enable early detection, as much as possible, of conflict to enable necessary adjustments
Existing risk of Unexploded Ordinances (UXOs) /landmines if the activities are conducted in previously unexplored/unutilized areas	High	High	<ul style="list-style-type: none"> Avoid areas with UXOs / landmines and, if needed, only proceed in an area only when relevant government agency and/or United Nations Mine Action Service (UNMAS) confirms safe removal. Prior to commencement of activities in a new area, consult the latest reports from UNMAS to determine likelihood of UXOs in the area, and contact both UNMAS and the government agency responsible for UXO clearance to assess the risk and provide confirmation on UXO safety before any work is conducted (this involves conducting a UXO risk assessment and obtaining UXO clearance).
GBV/SEAH	High	High	<ul style="list-style-type: none"> Development of a GBV/SEAH plan, including a GBV specific GRM Trainings on how to address GBV/SEAH, with sensitization training for GRM operators
Institutional incompatibility with suggested reforms	Medium	Medium	<ul style="list-style-type: none"> Consistent stakeholder engagement Work with authorities and institutions based on their adaptive capacity and willingness to participate Ensure agreed changes are implemented in progressive phases/steps to ease transitions
Possible increase of spreading COVID-19	Medium	Medium	<ul style="list-style-type: none"> Follow the guidance and regulations on Covid-19, as per (i) government instruction; and (ii) WHO guidance on prevention of the spread of the COVID-19 virus; Consider alternative modes of communication and good practices like remote consultations, radio programmes combined with call-in-feedback, small-group discussions once allowed with provision of personal protective equipment (PPE), etc., as appropriate. Ensure COVID-19 mitigation measures are considered within the investment's Environmental and Social Management Plan (ESMP) and Occupational Health and Safety Plan
Security and health risks for local staff implementing investments	Medium	Medium	<ul style="list-style-type: none"> Implement the Security Management Plan, considering local conditions the district level, including the mapping of local staff, their potential security risks and means of protection

Potential Risk(s)	Probability	Impact Level	Proposed Mitigation Measure(s)
Conflicts over provision of employment or contracts	Low	Medium	<ul style="list-style-type: none"> Ensure that the selection of local staff, contractors and other service providers or local implementers is highly inclusive and covers a broad array of ethnic groups, pastoralists (if applicable), agriculturalists, and IDPs Including specific measures to ensure non-discrimination in recruitment and employment, in particular in relation to women and persons with disabilities; Ensure that job advertisements and calls for proposals are widely disseminated, including in local languages (and minority languages, if applicable), and selection processes are made as public as possible Develop & use a GRM
Loss of trust with communities due to cancellation of programming from escalated conflict and insecurity	Medium	Medium	<ul style="list-style-type: none"> Ensure that changes to investments and possible cancellations of investment activities are adequately communicated to the beneficiaries and the public through consistent stakeholder engagement Develop & use the GRM.
Conflict resulting from attraction of returnee/IDP populations to communities that have improved production systems and social infrastructure	Low	Low	<ul style="list-style-type: none"> Consistent stakeholder engagement Develop & use a GRM
Disputes over use of land and property for investment activities where ownership and access rights are contested (for both public and private property, as well as protected areas), based on historical and current large-scale displacement and seasonal migration due to conflict, ethnic / political affiliations, or cultural norms and land tenure laws (which may discriminate against women)	Medium	Medium	<ul style="list-style-type: none"> Conduct a detailed analysis of customary land tenure systems and potential conflict lines when entering into new intervention areas Consistent stakeholder engagement Develop & use the GRM (and the GBV-SEAH GRM in areas with high GBV risk and gender discrimination in land tenure arrangements) Utilize the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security (VGGT)⁷² Avoid implementation of the activities in protected areas and/or their buffer zones Avoid involuntary resettlement
Inadequate implementation of E&S safeguards tools due to lack of capacity	High	Medium to High	<ul style="list-style-type: none"> Train relevant staff within the government and related implementing agencies/stakeholders on how to develop, monitor, and manage safeguards for agricultural investments Hire dedicated specialists as needed When required, utilize Third Party Monitoring
Loss of relevancy of safeguard management plans and tools due to changing context(s)	Low	Medium	<ul style="list-style-type: none"> Annual review and update of safeguards management tools and approaches, if needed due to rapidly changing contextual factors

⁷² www.fao.org/3/i2801e/i2801e.pdf

150. In relation to core recommendations which would support improved safeguards capacity and management, the safeguard diagnostic conducted to inform the design of the NAFSIP suggests provision of institutional support to simplify safeguarding of investments and future projects. This would include:

- **Developing/Updating an MIS** for management, monitoring, and evaluation (including integration of safeguards screening forms for agricultural investments);
- **Gaps-filling measures** to address inconsistencies between national legislative and international requirements (with the eventual option of updating existing legislation for improved alignment);
- **Coordination across departments & engagement of high-potential departments** not yet involved with safeguards management (e.g., General Directorate Animal Health & Veterinary Quarantine, General Directorate Plant Protection, Extension Services Division);
- **Training for relevant staff**, particularly on procurement/sub-contracting and ground-level management, as well as in areas of gender and youth involvement in agricultural activities, with a focus on institutionalizing the trainings for continued capacity/institutional memory.

151. These interventions would help with the enforcement of existing national policies and laws, as well as adherence to ratified international conventions. The primary target population would be national government ministries and related authorities/departments/divisions responsible for regulation on areas of environmental and social concern (e.g., labor regulations, environmental protection, importation of pesticides and agricultural inputs, etc.), and their staff focused on: (i) implementation of agricultural investments; and (ii) regulatory programmes.

8. NEXT STEPS TOWARDS IMPLEMENTATION

152. **NAFSIP endorsement.** The operationalization of the NAFSIP requires the highest level of endorsement. Therefore, it is suggested to ensure that all necessary steps are taken to **Ensure endorsement of the NAFSIP at the highest political level (Ministry or Cabinet).**

153. **NAFSIP operationalization.** In order for the governance mechanism to define, it is required that the Terms of Reference of the TCC (including the TC and TWG), and of the FSSC are defined and approved. This will pose the basis for sustainable use of the NAFSIP.

154. Specific activities under the chairmanship of the MAIF and in consultation with the TCC will comprise:

- a. The preparation of a specific Monitoring, Evaluation, Communication and advocacy plan, including the outline of the annual Monitoring Report within the first six months after NAFSIP validation (and anyways before the end of 2023). The plan will include specific actions, responsibilities and a time frame for reporting and communication. The plan will also help fill the existing gap in baseline information and streamline the planning for recurrent M&E activities.
- b. The preparation of a workplan based on dedicated capacity needs assessment for technical assistance support to facilitate the NAFSIP governance.

9. OUTSTANDING ISSUES

Eventually filled upon validation process (otherwise removed)

Annex – NAFSIP Results Framework

NAFSIP 2030 Results Architecture	Indicators	Baseline / Year	Target (2030)	MoV	Source of Information	Source of Indicators (other approved Plan)
<p>NAFSIP Vision: A competitive and climate-resilient agrifood sector that contributes to economic growth, job creation, poverty alleviation, and food and nutrition security.</p> <p>Purpose: Sustainably increase agriculture-led economic growth towards improved household food and nutrition security and resilience</p> <p>Indicators at this level measure first-level and second-level food security outcomes at community or national level spanning long periods (impact)</p>						
SDG 2.1.1	Prevalence of undernourishment	41.4% (2019 - 2021; 3-year average)	33% (2024 projection based on rate of change in related indicator #2 below)	Dietary Energy Supply (FAOSTAT)	FAOStat	SDG
SDG 2.1.2 (modified)	The proportion of the population experiencing moderate to severe food insecurity (Modified SDG 2.1.2)	16.2 million (54%) (2021)	13 million in 2024 (43%)	Quarterly Food Security Report (based on IPC, DIEM, market surveys)	IPC reports / FAO	UNSDCF - Outcome 1
SDG 2.2.1	Prevalence of stunting (height for age <2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age.(SDG 2.2.1)	46.4% (2018)	45% by 2024 (UNSDCF)		UNICEF, WHO, World Bank Group	UNSDCF - Outcome 1
SDG 2.2.2	Percentage of children under five who are wasted	11.9% (SMART survey 2019)	9% by 2024 (UNSDCF)		Nutrition studies (SMART)	UNSDCF - Outcome 4
SDG 8.1.1	Annual growth rate of real GDP per capita	-3.6% (2018)	4.8% by 2024 (UNSDCF)		SDG country profiles, UNDP impact of war on Yemen series	UNSDCF - Outcome 3
	Agriculture, forestry, and fishing, value added (three-year average % growth)	-3.3% (2018-2020)	4.0% by 2024	average calculated from WB data	World Bank Group (data.worldbank.org)	
	Prevalence of Crisis or Above Crisis Level food based coping strategies (% of population) (WFP)	53.73% (16.14 million) (2022)	43% in 2024 (mirroring indicator #2)		gafs.info	
<p>Pillar 1. Diets and feeding practices of vulnerable households are sustainably improved Outcome 1: By 2030, poor, vulnerable and food insecure households meet their basic food and nutrition needs via improved and diversified production and healthy diets [Indicators at this level measure food production, availability and access outcomes at beneficiary household level created/expressed immediately post-intervention]</p>						
1.1	Percent increase in food production per household of key commodities	0%	50%	Situational analysis and impact assessment reports based on multiple sources of data (FAOStat, DIEMS, Yemen CSO, MAI, etc.)	FAO and other stakeholders in the FSA cluster and agriculture/livelihoods sector	POA Indicator Pillar 2
1.2	Percent of households reporting sufficient access to production and agroprocessing inputs, equipment and technologies	0%	80% (based on PoA projections)	Situational analysis and impact assessment reports based on multiple sources of data (FAOStat, DIEMS, Yemen CSO, MAI, etc.)	FAO	
1.3	Percent of household income expenditure on food process and preserve food products			FSAC MFEb reports	FAO	
Programme 1.1	Increased household's capacity to produce, process and preserve food products					
1.1.1	Number of households benefitting from agricultural, water, livestock and fisheries support interventions	0%	2,145,000 (2024)	Selected projects (eg, WB, IFAD...)	FAO	POA Indicator 2.1
Programme 1.2	Improved knowledge of nutrition and dietary practices at household level					
1.2.1	Number of households that received training/advice on FSN-oriented production, care-giving and food safety	0	100,000 (2024)	Selected projects (eg, WB, IFAD...)	FAO	POA Indicator 2.2

NAFISP 2030 Results Architecture	Indicators	Baseline / Year	Target (2030)	MoV	Source of information	Source of indicators (other approved Plan)
	1.2.2 Number of households reached with nutritional and food safety awareness campaigns	0	300,000 (2024)			POA Indicator 3.5
	Programme 1.3 Increased stability of stocks of key strategic food commodities					
	1.3.1 SDG2.c.1 Indicator of food price anomalies: Wheat	0.12 (2021)		FAO Stat	FAO	
	1.3.3 SDG2.c.1 Indicator of food price anomalies: Sorghum	-1 (2021)		FAO Stat	FAO	
	1.3.3 SDG2.c.1 Indicator of food price anomalies: CPI	0.395 (2020)		FAO Stat	FAO	
	Pillar 2. Increased performance and competitiveness of nutrition-sensitive crop, livestock and fisheries value chains					
	Outcome 2: By 2030, selected nutrition-sensitive agrifood value chains are competitive and inclusive [Indicators at this level measure competitiveness and profitability outcomes at beneficiary household and VC level created/expressed immediately post-intervention]					
	2.1 Value of agricultural, livestock and fishery commodity sales per household	Crops (cereals, vegetables, legumes) = YER 250,000 (USD 500); Livestock: sheep/goats = YER 12,000 (USD 25); cattle = YER 46,000 (USD 92); Value of fish ;maded/solid = YER 35,000 (USD 70) (Ref: 2021 FAO impact assessment)	50% increase in value of different commodity groups (2024)		FAO	
	2.2 Percent of producers (farmers, herders, fishers) and traders accessing rural finance products, services and markets related to agrifood value chains	0%	80% (based on PoA projections)		FAO	
	Programme 2.1 Increased adoption of improved agricultural technologies and practices					
	2.1.1 Number of crop producers supported with agricultural inputs and technologies	0	100,000 (2024)	Beneficiary counts/ aggregation of selected projects with input distribution and GAP components	FAO	POA Indicator 3.1
	Programme 2.2 Increased access to production and market information					
	2.2.1 Percent of producers accessing and using market information in production, enterprise and marketing decision-making	0%	80% (based on PoA projections)	Beneficiary counts/ aggregation of selected projects with VC components	FAO	
	Programme 2.3 Improved value chain actors' access to agricultural inputs, services and technologies					
	2.3.1 Number of breeders and beekeepers supported through training, livestock health interventions and apiculture equipment	0	144,000 (2024)	Beneficiary counts/ aggregation of selected projects with VC, vaccination, livestock components	FAO	POA Indicator 3.3
	Programme 2.4 Improved value chain actors' access to harvest, post-harvest, processing and marketing facilities					
	2.4.1 Number of small producers supported with VC technologies and marketing	0	90,000 (2024)	Beneficiary counts/ aggregation of selected projects with VC component	FAO	POA Indicator 3.2
	2.4.2 Number of fisherfolk benefiting from improved processing and value addition facilities	0	7,200 (2024)	Beneficiary counts/ aggregation of selected projects with VC component	FAO	POA Indicator 3.4
	Programme 2.5 Improved farmers' business, organizational and marketing capacity					
	2.5.1 Number of smallerholder farmers and VC actors trained or engaged in the various initiatives supported	0	65,000 (2024)	Beneficiary counts/ aggregation of selected projects with VC component	FAO	POA Indicator 3.6

NAFISP 2030 Results Architecture	Indicators	Baseline / Year	Target (2030)	MoV	Source of information	Source of indicators (other approved Plan)
Pillar 3. Improved sustainable and climate-resilient management of natural resources						
Outcome 3: By 2030, rural communities are able to plan manage and utilize natural resources (water, pasture, land) in a sustainable and inclusive manner [Indicators at this level measure NRM and soil and water conservation outcomes at beneficiary household (field and watershed) level created/expressed immediately post-intervention]						
3.1	Total (estimated) land area under sustainable utilization / conservation / rehabilitation	TBD	600,000 (using a calculation of 0.74ha/HH x 820,000 beneficiary households)	Situational analysis and impact assessment reports; project baseline and endline survey reports	FAO	
3.2	Percent of population with secure access to land and other natural resources under sustainable management (disaggregated by gender, age, livelihood group, social group, host/displaced)	TBD	30% (= [(820,000 beneficiary HHs * 7)/19 million rural HHs])	Situational analysis and impact assessment reports; project baseline and endline survey reports	FAO	
Programme 3.1 Local authorities' knowledge and governance capacities for improved management of natural resources and climate adaptation are strengthened						
3.1.1	Number of vulnerable households supported to prevent and mitigate hazards	0	820,000 (2024)	Beneficiary counts/ aggregation of selected projects with CSA component (IFAD, ERRY, Netherlands)	FAO	POA Indicator 2.3
3.1.2	Number of local authorities and institutions supported to strengthen their capacities and knowledge for governance and management of natural resources and climate adaptation	0	All governorates of Yemen	Capacity assessment and impact assessment reports; project baseline and endline survey reports	FAO	
Programme 3.2 Increased adoption of climate-smart technologies and practices along the value chains						
3.2.1	Number of producers along selected value chains supported with climate-smart technologies and training	0	820,000 (2024)	Beneficiary counts/ aggregation of selected projects with CSA component (IFAD, ERRY, Netherlands)	FAO	
Programme 3.3 Increased smallholders' access to large/medium/ small scale community water infrastructure						
3.3.1	Number of smallholders with strengthened access to water infrastructure (and conveyance systems)	0	230,000 (2024, based on PoA current and planned beneficiary numbers)	Beneficiary counts/ aggregation of selected WNR projects	FAO	
Pillar 4. Increased socio-economic inclusion of the most vulnerable players along the agri-food system						
Outcome 4: By 2025, poor, food insecure and vulnerable households increase their economic access to food via efficient and effective social protection and livelihoods rehabilitation interventions [Indicators at this level measure inclusivity, livelihood and social protection outcomes at beneficiary household level created/expressed immediately post-intervention]						
4.1	Percent of vulnerable households with access to adequate social protection (transfers, safety nets and social insurance) (for stable livelihoods and food access)	2% (2020)	7% by 2024 (reciprocal trend of UNSDCF indicator on PIN)	Situational analysis and impact assessment reports; project baseline and endline survey reports	FAO	
4.2	Percent increase in household access to productive assets, productivity and incomes from crop, livestock and fishery value chains	N/A	50% (2024)	Situational analysis and impact assessment reports; project baseline and endline survey reports	FAO	POA Indicator Pillar 3
4.3	Number of people reached by supported integrated social protection programmes (age and gender disaggregated)	93,248 (2020)	300,000 by 2024 (UNSDCF)	UNICEF Progress reports	UNSDCF	UNSDCF - Outcome 4
Programme 4.1 Improved coordination, targeting and coverage of social protection and agricultural livelihood rehabilitation interventions						
4.1.1	Number of vulnerable households benefiting from social protection and agricultural livelihood rehabilitation interventions	0	3.7 million (2024; total PoA beneficiaries, plus overlaps in interventions)	Beneficiary counts/ aggregation of selected projects with emergency and cash transfer components	FAO	

NAFSIP 2030 Results Architecture	Indicators	Baseline / Year	Target (2030)	MoV	Source of information	Source of indicators (other approved Plan)
Programme 4.2 Increased access to off-farm employment and income generating opportunities for vulnerable households						
4.2.1 Number of vulnerable households supported with income-generating and off-farm employment interventions						
	0	341,000 (2024)	Beneficiary counts/ aggregation of selected projects with income-generation components			
4.2.2 Unemployment rate, by sex, age and persons with disabilities (SDG 8.5.2)						
	Overall: 13.4% (2020 Modelled ILO estimates) Male: 11.8%; Female: 25.3%; (2019))	Overall: 10% (UNSDCF)		World Bank Data, SDG country profiles		UNSDCF - Outcome 3
Pillar 5. Improved governance and enabling environment for SDG 1 and SDG 2						
Outcome 5: By 2025, the relevant national institutions in the country effectively coordinate to mobilize and allocate resources and implement investments to strengthen agriculture, food and nutrition security and resilience [Indicators at this level measure capacity and coordination outcomes at institutional level created/expressed immediately post-intervention]						
5.1 Percent of stakeholders reporting and demonstrating improved capacity for programming						
	N/A	20% (2024)	Capacity assessment and impact assessment reports; project baseline and endline survey reports	FAO		POA Indicator Pillar 1
5.2 Financial resource gap in implementing the NAFSIP						
	52% (2020 baseline)	20% in 2025	NAFSIP M&E Report	OECD data; Donors; NAFSIP reporting		
Programme 5.1 Enhanced HDP nexus coordination and implementation within Government and with non-state stakeholders for SDG 1 and SDG 2						
5.1.1 Number of public and private institutions or stakeholders with strengthened capacity (knowledge, strategies/plans, resources) for HDP nexus coordination						
			Counts/records of institutions and individual stakeholders benefitting from selected projects with capacity-building components (FSIS, TCPs)	FAO		
Programme 5.2 Improved national monitoring, evaluation and learning capacity for effective evidence-based decision making						
5.2.1 Number of functional monitoring and surveillance mechanisms established/supported						
	0	5 (2024)	Counts/records of established/ supported systems from selected projects (DLRP, TCP, FSIS)	FAO		POA Indicator 1.1
5.2.2 Number and types of information systems established or supported IPC, RIMA, RM tracking tool, HiHi GIS platform)						
	0	4 (2024)	Counts/records of established/ supported systems from selected projects (DLRP, TCP, FSIS)	FAO		POA Indicator 1.2
Programme 5.3 Strengthened national research and development capacities to support sustainable development of key sub-sectors						
5.3.1 Number of national research and policy-making/implementation institutions with strengthened capacity (knowledge, strategies/plans, resources)						
			Counts/records of institutions and benefitting from selected projects with capacity-building components (FSIS, TCPs)	FAO		
Programme 5.4 National food safety surveillance and diagnostic capacity strengthened						
5.4.1 Number of national food safety surveillance and diagnostic institutions with strengthened capacity (knowledge, strategies/plans, resources)						
			Counts/records of institutions a benefitting from selected projects with capacity-building components (FSIS, TCPs)	FAO		

Annex – NAFSIP budget by Pillars and Programmes

NAFSIP budget (figures in million USD)	Estimated available resources 2024-27	Financial gap 2024-27	Total cost 2024-27
Pillar 1. Diets and feeding practices of vulnerable households are sustainably improved	274.40	172.00	446.40
1.1 Increased household's capacity to produce, process and preserve food products	243.20	85.00	328.20
1.2 Improved knowledge of nutrition and dietary practices at household level	28.40	75.00	103.40
1.3 Increased stability of key strategic food commodities	2.80	12.00	14.80
Pillar 2. Increased performance and competitiveness of nutrition-sensitive crop, livestock and fisheries value chains	101.60	368.00	469.60
2.1 Increased adoption of improved agricultural technologies and practices	68.00	110.00	178.00
2.2 Increased access to production and market information	2.00	37.00	39.00
2.3 Improved value chain actors' access to agricultural inputs, services and technologies	9.20	69.00	78.20
2.4 Improved value chain actors' access to harvest, post-harvest, processing and marketing facilities (agrifood infrastructure)	10.40	107.00	117.40
2.5 Improved farmers' business, organizational and marketing capacity	12.00	45.00	57.00
Pillar 3. Improved sustainable and climate-resilient management of natural resources	46.40	165.00	211.40
3.1 Local authorities' knowledge and governance capacities for improved management of natural resources and climate adaptation are strengthened	11.60	45.00	56.60
3.2 Increased adoption of climate-smart technologies and practices along the value chains	33.60	65.00	98.60
3.3 Increased smallholders' access to large/ medium/ small scale community water infrastructure	1.20	55.00	56.20
Pillar 4. Increased socio-economic inclusion of the most vulnerable players along the agri-food system	115.20	85.00	200.20
4.1 Improved coordination, targeting and coverage of social protection and agricultural livelihood rehabilitation interventions	66.00	30.00	96.00
4.2 Increased access to off-farm employment and income generating opportunities for vulnerable households	49.20	55.00	104.20
Pillar 5. Improved governance and enabling environment for SDG 1 and SDG 2 planning and resources mobilization	10.80	42.00	52.80
5.1 Enhanced HDP nexus coordination and implementation within Government and with non-state stakeholders for SDG 1 and SDG 2	1.20	5.00	6.20
5.2 Improved national monitoring, evaluation and learning capacity for effective evidence-based decision making	9.60	7.00	16.60
5.3 Strengthened national research and development capacities to support sustainable development of key sub-sectors	-	15.00	15.00
5.4 Strengthened national food safety surveillance and diagnostic capacity	-	15.00	15.00
TOTAL (million USD)	548.40	832.00	1,380.40

Source: NAFSIP estimates

Annex – list of Investment Oriented Diagnostics

Within the Hand in Hand Initiative, the Technical Committee, under the chairmanship of MAIF, and with technical support from FAO has prepared a set of ten Investment-Oriented Diagnostics, building blocks of the strategy and investment framework, and of the development of the National Agriculture and Fisheries Strategy and Investment Plan (NAFSIP) 2024-2030.

The ten Investment Oriented Diagnostics aimed to summarize the status of the agriculture, fisheries and food and nutrition security sector, each under its own specific sub-sector perspective, with the aim to provide referenced evidence and support the identification of investment priorities.

The set of diagnostics comprised the following:

1. Geospatial analysis: defining micro-regional agricultural typologies
2. Water sector assessment and analysis of natural resources management, disaster risk reduction and climate change adaptation needs/options
3. Household food and nutrition security Assessment
4. Comprehensive Agricultural Value Chains Assessment
5. Coffee Value Chain: export potential and investment opportunities
6. Fisheries Value Chain: export potential and investment opportunities
7. Analysis of socio-economic challenges facing households and the agricultural sector in Yemen
8. Prospect for financial inclusion
9. Promoting rural women’s empowerment and gender equality in the context of the HiH Initiative in Yemen.
10. Safeguarding Agricultural Investments in Yemen: Current Situation, Lessons Learned, and Future Considerations

The Diagnostics, available upon request, have been peer-reviewed by national and international experts, and were validated by the Technical Committee⁷³ in country between December 2021 and October 2022 in three subsequent stakeholders workshops: in Aden (December 2021), in Cairo-Egypt (June 2022), in Sana’a (October 2022).

⁷³ The Technical Coordination Committee (TCC) comprises two technical groups that supported the design of the NAFSIP, namely: the Technical Committee (TC) and a Technical Working Group (TWG), operating under the chairmanship of the Ministry of Agriculture, Irrigation and Fisheries (MAIF), including membership from the Ministry of Water and Environment (MWE), Ministry of Planning and International Cooperation (MoPIC). The two groups had been established in subsequent moments: the TC at first, smaller in composition and aimed to start the update of the national agriculture sector strategy (NASS); the larger TWG was formed later, to include broader set of fields, including other ministries besides agriculture, irrigation, and fisheries.

Annex – ODA to Yemen reclassified per NAFSIP Pillars and Programmes

ODA reclassified per NAFSIP Pillars and Programmes (million USD)	2017	2018	2019	2020	Total
Pillar 1. Diets and feeding practices of vulnerable households are sustainably improved	66.45	145.77	47.14	15.03	274.39
1.1 Increased household's capacity to produce, process and preserve food products	57.83	142.54	28.93	13.82	243.11
1.2 Improved knowledge of nutrition and dietary practices at household level	7.96	1.22	18.20	1.18	28.56
1.3 Increased stability of key strategic food commodities	0.66	2.02	0.02	0.03	2.72
Pillar 2. Increased performance and competitiveness of nutrition-sensitive crop, livestock and fisheries value chains	30.28	15.18	23.00	24.88	93.33
2.1 Increased adoption of improved agricultural technologies and practices	27.76	4.36	18.16	17.73	68.02
2.2 Increased access to production and market information	0.27	0.24	0.53	0.84	1.89
2.3 Improved value chain actors' access to agricultural inputs, services and technologies	2.24	1.73	1.17	4.10	9.25
2.4 Improved value chain actors' access to harvest, post-harvest, processing and marketing facilities (agrifood infrastructure)	n/a	n/a	3.04	2.14	5.18
2.5 Improved farmers' business, organizational and marketing capacity	n/a	8.84	0.09	0.06	8.99
Pillar 3. Improved sustainable and climate-resilient management of natural resources	0.20	0.64	19.91	0.43	21.18
3.1 Local authorities' knowledge and governance capacities for improved management of natural resources and climate adaptation are strengthened	0.17	0.01	11.47	0.05	11.69
3.2 Increased adoption of climate-smart technologies and practices along the value chains	n/a	n/a	8.42		8.42
3.3 Increased smallholders' access to large/ medium/ small scale community water infrastructure	0.03	0.63	0.03	0.38	1.07
Pillar 4. Increased socio-economic inclusion of the most vulnerable players along the agri-food system	10.17	7.12	31.92	49.24	98.45
4.1 Improved coordination, targeting and coverage of social protection and agricultural livelihood rehabilitation interventions	0.36	0.62		48.43	49.42
4.2 Increased access to off-farm employment and income generating opportunities for vulnerable households	9.81	6.50	31.92	0.81	49.03
Pillar 5. Improved governance and enabling environment for SDG 1 and SDG 2 planning and resources mobilization	3.24	1.32	2.86	3.20	10.62
5.1 Enhanced HDP nexus coordination and implementation within Government and with non-state stakeholders for SDG 1 and SDG 2	0.14	0.31	0.23	0.41	1.09
5.2 Improved national monitoring, evaluation and learning capacity for effective evidence-based decision making	3.10	1.01	2.62	2.80	9.53
5.3 Strengthened national research and development capacities to support sustainable development of key sub-sectors	n/a	n/a	n/a	n/a	-
5.4 Strengthened national food safety surveillance and diagnostic capacity	n/a	n/a	n/a	n/a	-

Source: developed by FAO on data from Global Network Against Food Crisis, 2022.



The **National Agriculture and Fisheries Strategy and Investment Plan 2024-2030 (NAFSIP)** reflects agreed priorities, with targets and budget for strategic investment, based on analytical evidence and defined through discussions and consultations with public and private, national and international stakeholders between 2020 and 2023. It has been developed with technical support from the Hand-in-Hand initiative, a global thrust led by FAO in collaboration with national stakeholders to support the 2030 agenda, specifically SDG 1 (poverty reduction) and SDG 2 (no hunger).

The **NAFSIP 2024-2030 is a living document, but a firm commitment**, receiving inter-ministerial support, under the chairmanship of the Ministry of Agriculture, Irrigation and Fisheries (MAIF). Through regular monitoring, reviews and validations, it aims to refocus on longer term developmental objectives and support mobilizing resources accordingly.

=== Yemen NAFSIP 2024-2030. Draft version for Endorsement, September 2023 ===