

## REPORT

# Yemen's Ministry of Agriculture, Irrigation and Fisheries

Part I: Institutional assessment

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## Preface

This report was compiled by a team of staff and consultants working with the International Growth Centre (IGC), a partnership between the London School of Economics and University of Oxford. It was prepared at the request of the Executive Bureau for the Acceleration of Aid Absorption and Support for Policy Reforms (hereafter the Executive Bureau) in the Office of the Prime Minister in the Government of Yemen (GoY). Financing for this study was provided by the United Kingdom's Foreign, Commonwealth and Development Office (FCDO) Yemen office (under the Affordability of Food and Finance in Yemen [AFFY] project). A companion piece—a detailed plan for capacity building—has been produced separately. This report is intended to provide a broader institutional analysis and assessment that will lay the groundwork for the capacity building recommendations.

Both the institutional analysis and capacity building recommendations were compiled between September 2022 and January 2023 through a combination of literature reviews and online searches, along with interviews with Yemeni government officials, which took place either through videoconference or through face-to-face discussions with the local team in Aden. The team was also able to gather data from various Yemeni sources, although the conflict has compromised both the amount and quality of data available. The team did not have access to the institutions or areas controlled by the Houthi *de facto* authorities (DFA), nor to any of the staff, data and information historically based in Sana'a.

The analysis was headed by Dr. Robert P. Beschel Jr. and Paul Dyer, who are based in Alexandria Virginia. Both are non-resident fellows with the Middle East Council on Global Affairs based in Doha. Members of the international team included Michael Schaeffer (independent consultant), who is based in Tunis, and Rina Oberai (independent consultant), who is based in London. The international team worked closely with a local team on the ground in Aden from the the Executive Bureau for the Acceleration of Aid Absorption and Support for Policy Reforms under the Prime Minister's Office. Working under the overall leadership of Dr. Afrah Al-Zouba, this team was managed by Maher Othman and consisted of Tawfik Al-Dobhani and Rim Al-Naggar. Substantive and logistical guidance and support were provided by Camilla Sacchetto from the IGC's State Fragility initiative, IGC based in London, who participated actively in all phases of the team's analysis and operations.

The team would like to thank our counterparts within the Ministry of Agriculture, Irrigation, and Fisheries (MoAIF) for their excellent and enthusiastic cooperation in the preparation of this report. A list of Yemeni and donor officials consulted in the preparation of this report is provided in **Attachment 1**.

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# About

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## **The Executive Bureau for the Acceleration of Aid Absorption and Support for Policy Reform**

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The Executive Bureau for the Acceleration of Aid Absorption and Support for Policy Reforms was established in 2013 to improve of Yemen's Internationally Recognised Government's absorption of pledges from development partners. The overall objective of the Executive Bureau is to work closely with government institutions to accelerate the absorption levels of foreign funds to implement development projects. The Executive Bureau also has the mandate to improve the government's capacity through technical support provided by donors in forms of consultancies, expertise, and capacity building. Importantly, the Prime Minister of Yemen is a member of the Bureau's board of directors.

## **The International Growth Centre**

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The International Growth Centre (IGC) works with policymakers in developing countries to promote inclusive and sustainable growth through pathbreaking research. The IGC is a global research centre with a network of world-leading researchers and a set of country teams and policy initiatives engaged in Africa, South Asia, and the Middle East. Based at LSE and in partnership with the University of Oxford, the IGC is majority funded by the UK FCDO.

## **The State Fragility initiative**

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The State Fragility initiative (SFi) is an IGC initiative that aims to work with national, regional, and international actors to catalyse new thinking, develop more effective approaches to addressing state fragility, and support collaborative efforts to take emerging consensus into practice. SFi brings together robust evidence and practical insight to produce and promote actionable, policy-focused guidance in the following areas: state legitimacy, state effectiveness, private sector development, and conflict and security. SFi has financial support from the FCDO and The Rockefeller Foundation.

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## List of abbreviations

Abbreviation	Meaning
AFPPF	Agriculture and Fisheries Production Promotion Fund
DFA	<i>De Facto</i> Authorities
EB	Executive Bureau Acceleration of Aid Absorption and Support for Policy Reforms
FCDO	Foreign, Commonwealth and Development Office
GDP	Gross Domestic Product
GoY	Government of Yemen
HR	Human Resources
HRM	Human Resource Management
IGC	International Growth Centre
IT	information Technology
MoAI	Ministry of Agriculture and Irrigation
MoAIF	Ministry of Agriculture, Irrigation, and Fisheries
MoCSI	Ministry of Civil Service and Insurance
MoF	Ministry of Finance
MoFW	Ministry of Fish Wealth
MoPIC	Ministry of Planning and International Cooperation
PFM	Public Financial Management

# Yemen MoAIF Institutional Assessment Report

## Executive summary

### Introduction

In principle, the Ministry of Agriculture, Irrigation, and Fisheries (MoAIF) can play a vital role in boosting rural incomes and combatting acute food insecurity in Yemen, which is currently impacting more than 17.4 million Yemenis, or nearly 60 percent of the population. Nearly 70 percent of Yemenis draw their livelihoods from the agricultural and fisheries sectors, although because of low productivity and a host of structural challenges, they currently generate only around 5 percent of Yemen's Gross Domestic Product (GDP). Many national and international analysts have noted the untapped potential of the agricultural and fisheries sectors. Yemen has long been known for its unique agricultural products, such as honey and coffee, and its fish stocks are some of the richest and most diverse in the Arab world. There is large untapped potential that, if fully exploited, would help place the country on a trajectory towards greater prosperity and well-being.

In practice, this potential remains a distant hope. The twin tasks of improving agricultural production and making efficient use of Yemen's limited water resources pose daunting challenges that run well beyond the country's ongoing civil conflict. Most farmers work in modest family-owned plots and raise a small number of animals, often on a subsistence level. Many are farming

in mountainous areas using traditional terraces and are dependent on spate irrigation, where seasonal rainfall is diverted from natural waterways into farmland. Others face arid conditions under increasing threat of desertification. Where farmers have access to pumps, the rising costs of diesel used to pump water out of dwindling aquifers has reduced the profitability of some agricultural goods (particularly fresh vegetables). The infrastructure needed to support the distribution of agricultural products to the marketplace—transport, warehouses, cold storage, and food processing facilities—has been lacking. The civil war has compounded these problems, causing both direct damage to infrastructure and irrigation systems, along with their degradation through a lack of investment in maintenance.

Before the war, Yemen's fisheries sector struggled with multiple challenges that restricted its development. They include low capacity across fisheries value chains, low productivity and quality of products, limited access to profitable international markets, and the unknown environmental carrying capacity of fish stocks, along with declining stocks. Aquaculture and fish farming opportunities are underdeveloped. The cost of the war has been seen in the loss of fish wealth through overfishing and the conflict's impact upon local fishermen, whose activities have been severely hampered and curtailed. Illegal fishing has accelerated throughout the war, and

Yemeni authorities have limited ability to bar foreign ships from their waters. This has depleted resources through overfishing while undermining Yemen's indigenous fishing industry.

The MoAIF was created in December 2020 through the merger of the former Ministry of Agriculture and Irrigation and the Ministry of Fish Wealth. With limited exceptions, the broader organisational structures and reporting relationships of the earlier ministries remain intact. The relocation of the Government of Yemen (GoY) from Sana'a to Aden, however, has meant that much of the properties, staff, equipment, and records originally based in Sana'a are no longer available to the Ministry. In this regard, the Ministry faces both the resource challenges of a newly established ministry and the traditional problems found in integrating two organisations with different missions, traditions, and administrative cultures.

The Ministry's leadership is committed to fulfilling its mandate. The new minister has set it on a strong reformist course, undertaking a number of important initiatives over the past two years. In a tight resource environment, both he and his management team have found creative ways of establishing the new ministry in Aden with little to no operating budget. Yet the Ministry suffers from a broad array of challenges that are severely compromising its effectiveness. Some, such as the difficulty in protecting Yemen's fish stocks from illegal factory fishing or the need to rebuild irrigation infrastructure destroyed in the war, are inherent to the complicated political environment within which the Ministry and the broader GoY operate. Others, such as the lack of a formal organisational structure, the need for a definitive mapping of employees and skill sets, and problems with chronic absenteeism, fall within the Ministry's ability to fix.

## Report outline and context

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This report is the first of two related documents that seek to provide the MoAIF and the Executive Bureau under the Prime Minister's Office with a strategy for strengthening the Ministry's capacity. This document provides an institutional assessment of the current challenges confronting the Ministry. A companion note provides a set of specific reform recommendations and capacity building priorities for the Ministry depending on different funding scenarios.

This document is broken down into three sections. The first examines major strategic issues, including those that impact the broader operating environment (such as the war and fiscal challenges) as well as broader sectoral issues involving agriculture, irrigation, and fisheries in Yemen. It notes that the MoAIF currently confronts a number of challenges within its broader political and economic milieu, such as the bifurcated authority between the GoY in Aden and the Houthi-controlled institutions and territories, as well as uneven territorial control within areas under GoY administration. These challenges are compounded by damaged or destroyed infrastructure and the loss of large numbers of staff, many of whom stayed in Sana'a. Some MoAIF employees have expressed uncertainty that the recent merger will endure, giving the new administrative arrangements a tentative feel and reducing the inclination to enact changes that may need to be reversed in the future.

To compound these problems, the MoAIF is currently starved for resources. The Government is confronting massive economic and fiscal challenges, which make it unlikely that the MoAIF will receive any significant increase in domestic funding from the GoY in the foreseeable future. Donors have also been reluctant to support the Ministry, preferring to bypass both the



GoY in Aden and the Houthi-controlled institutions in Sana'a and work directly with local governments and grassroots organisations. The result is a chronic lack of funding, to the point in which many MoAIF units currently have no operating budget.

## **Broader institutional challenges confronting the ministry**

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The second section of this report drills down on cross-cutting institutional and administrative challenges confronting the Ministry as a whole, including its organisational structure, financial and human resource management practices, information technology (IT) systems, and internal and external communications.

**MoAIF organisation** – The current organisational chart for the Ministry is antiquated and needs to be reviewed and updated. In the context of the merger, there has been some consolidation of back-office staff in the Human Resource Department, but more remains to be done in areas, such as planning, finance, IT, legal, and communications. A realignment is needed between sectoral staff reporting to the Deputy Ministers and staff with Ministry-wide responsibilities, who should report directly to the Minister. More broadly, a number of units exist only on paper. Other units are staffed so thinly that they lack a critical mass to effectively discharge their responsibilities. A revised organisational chart will be both valuable operationally as well as send an important signal that the merger is a reality and likely to endure.

**Financial management** – A key priority will involve strengthening the MoAIF's procedures for public financial management (PFM) to the point in which donors would be comfortable providing direct support to the Ministry. Challenges are found throughout all phases of the PFM

cycle, from initial planning and budgeting through implementation (including cash management, procurement, and financial controls), and finally to review and audit. The disciplines of accounting, procurement, financial management, audit, and financial controls should be a key priority in any capacity building program. In the near-term, the MoAIF should explore the possibility of receiving donor-funded staff on secondment or through contracts. Should greater funding become available downstream, it should look to recruit significant numbers of staff with skills in this area at both the national and sub-national levels.

**Human resource management** – The MoAIF faces major challenges in the management of its human resources that will require years of sustained attention to address. They include the absence of vital information on the size and composition of the workforce (including both the Ministry and its subordinate agencies), the lack of professional skills and mid-level technical staff, and chronic absenteeism and lax work discipline. Its workforce is aging, with most of its management and specialists nearing or past retirement age. In comparison with comparable organisations in the OECD and elsewhere, the Ministry suffers from a U-shaped staff profile, in which technical staff—who typically form the backbone of traditional public organisations—are in relatively short supply vis-à-vis managers and administrative staff. Both the Institutional Assessment and the Capacity Building reports provide an extensive list of recommendations for addressing these problems, centered upon creating a Ministry-wide Human Resource Committee and developing a strategic workforce staffing plan that is updated on a quarterly basis.

**Information technology** – A top priority for any donor-funded programme would be a fundamental overhaul of the Ministry's IT systems and infrastructure. A Director of Information Technology has recently



been appointed, and her office needs to be significantly expanded and strengthened. The Ministry will require a detailed IT scoping study to review the nature of its hardware and software requirements (including software for communications, data recording, statistics, and financial management), and it will need to develop standards and protocols for procurement that will ensure cost effectiveness, redundancy, security, and inter-operability. The Ministry will need to procure the climate-controlled physical space and equipment for a central data centre capable of covering both sectors. It will also need to recruit and develop an IT cadre capable of servicing its expanding digital needs.

## Sector-specific challenges

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The analysis concludes with a deep dive into the institutional workings of the agricultural, irrigation and fisheries sectors, with the goal of informing capacities that need to be developed within the Ministry and priorities for ministerial engagement in the sector. Both sectors face the challenge of mobilising private capital to meet the significant infrastructure, logistical and production challenges caused by the war—a topic that is addressed at length in the Capacity Building report. Both also suffer from the challenge of coordinating with sub-national entities, donors, cooperatives, and users' associations. They face huge financing gaps that significantly constrain their operations, and both struggle with large gaps in technical and managerial data that are detailed in the report.

**Agriculture and irrigation** – The problems confronting the Agriculture Sector are in some respects larger and more pronounced versions of challenges found elsewhere in the Ministry. Since the merger, its organisational chart has evolved more than other sectors and would benefit from careful review and restructuring. Its

workforce appears to be older. Many staff—particularly those in field offices—will either soon be at or are already past retirement age. (This demographic tsunami is probably one of the most important challenges confronting sector management.) The Agriculture Sector has more laboratories and niche research facilities that will need to be rebuilt and re-established in diverse areas, such as milk, honey, coffee, wheat, dates, cotton, livestock, poultry, and meat. Functions, such as agricultural extension, are particularly vulnerable to disruption from the conflict and/or limited operational funding and will require special care in restoring them. With limited exceptions, major capital investments for agriculture and irrigation are heavily dependent upon donor assistance and largely driven by decisions taking place outside of the Ministry.

**Fisheries** – Some of the most important challenges confronting the fisheries sector, such as that of illegal fishing, are currently beyond the Ministry's ability to address by itself. Progress will require improved coordination with a large number of stakeholders, including the Yemeni Coast Guard, the Combined Maritime Forces Command in Bahrain, the governorates, the general authorities for fisheries, and fisheries associations. Fortunately, several sets of activities at the sub-national level hold promise for a viable future division of labour between the MoAIF and others active in the sector, as a number of governorates and municipalities appear to be taking initiatives to manage infrastructure (such as landing sites) within their domain. Several donors such as the World Bank are active in the sector, and greater coordination could help across a range of issues—from improving data on fish stocks to providing training opportunities for Ministry personnel to helping to strengthen incentives for private investment.

## Conclusion

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In the end, a picture has emerged of a ministry confronting tremendous obstacles. The conflict has severely compromised the MoAIF's ability to deliver services to the agriculture and fisheries sectors within its territory and to receive some of the revenues to which it is legally entitled. The MoAIF's recurrent and capital budgets are woefully inadequate, and many units lack any operating budget at all. Its ICT systems are patched together, fragmented, and rely heavily upon unlicensed software and private phones and computers. Critical infrastructure, such as laboratories, irrigation systems, or fish landing sites, have been damaged or destroyed. Senior MoAIF management lack access to the information necessary to efficiently manage the resources under their control. MoAIF is currently starved of the technical staff and skills base that it requires. The size and composition of its workforce is not well-suited for its mission. Its labour force is clearly aging, and its demographic profile is out of balance. Absenteeism is rampant, and many staff lack the basic resources to perform their jobs effectively.

Given these severe challenges and constraints, it is unlikely that MoAIF's leadership—which is talented and reformist in orientation—will be able to rebuild the earlier ministry (or ministries) as they existed prior to 2014. But this presents an important opportunity. Rather than directly engaging in the provision of goods and

services, the new MoAIF can focus upon creating an enabling environment for private sector-led growth. Responsibility and decision-making for routine tasks can be pushed downward to sub-national governments and civil society organisations, improving responsiveness to local needs and circumstances. The MoAIF now has an opportunity to reinvent itself as a modern government ministry, with a focus upon policymaking, regulation, grant making, monitoring and evaluation, licensing, and inspection. If it can achieve this vision, the future for Yemeni agriculture and fisheries will be significantly brighter.

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# Introduction and approach

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## Introduction

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1. During the past decade, Yemen has suffered from several acute crises that are severely testing its ability to feed and sustain its population, including a civil war, climate change, illegal fishing, and the degradation of agricultural and irrigation infrastructure. The UN estimates that the war has killed 377,000 citizens as of the end of 2021 directly and indirectly through hunger and disease. Both livelihoods and rural infrastructure have been disrupted and destroyed. Climate shocks have led to both severe droughts and heavy flooding.
2. More recently, the war in Ukraine has reduced foodstuffs available for the broader Middle East and North Africa (MENA) region and caused prices to skyrocket. In April 2022, the United Nation's World Food Programme noted that the cost of a basic food basket—the minimum food needs per family per month—registered an 81 percent hike in Yemen.<sup>1</sup> As a result, Yemen is now confronting a situation of acute food insecurity. More than 17.4 million Yemenis—nearly 60 percent of the population—are currently food insecure. Around 7.3 million are currently at emergency levels of hunger, and another 1.6 million are expected to join them by the end of 2022.
3. The Ministry of Agriculture, Irrigation and Fisheries (MoAIF) could potentially play a crucial role in ensuring that the roughly 70 percent of Yemen's population engaged in agricultural, pastoral, or fisheries activities can improve their productivity, helping to put the country on a course towards expanded food production and improved rural livelihoods. The Ministry's leadership is committed to fulfilling this mission and has set the Ministry on a strong reformist course, undertaking a number of important initiatives over the past two years.
4. Yet the Ministry currently suffers from a broad array of challenges that are severely compromising its effectiveness. Some, such as the difficulty in protecting Yemen's fish stocks from illegal factory fishing or the need to rebuild irrigation infrastructure destroyed in the war, are inherent to the complicated political environment within which the Ministry and the broader GoY operate. Others, such as the lack of a formal organisational structure, the need for

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<sup>1</sup> World Food Programme, 2022

a definitive mapping of employees and skill sets, and problems with chronic absenteeism, fall within the Ministry's ability to fix.

5. This report is the first of two related documents that seek to provide the MoAIF and the Executive Bureau under the Prime Minister's Office with a strategy for strengthening the Ministry's capacity. This document provides an institutional assessment of the current challenges confronting the Ministry. A companion note provides a set of specific reform recommendations and capacity building priorities for the Ministry depending on different funding scenarios.
6. This document is broken down into three sections. The first examines major strategic issues, including those that impact the broader operating environment (such as the war and fiscal challenges) and those that impact these specific sectors. The second section drills down on cross-cutting institutional and administrative challenges confronting the Ministry, including its organisational structure, financial and human resource management practices, IT services, and internal and external communications. The analysis concludes with a deep dive into the institutional workings of the agricultural, irrigation, and fisheries sectors, with the goal of informing capacities that need to be developed within the Ministry and priorities for ministerial engagement in the sector.
7. In the end, a picture has emerged of a Ministry confronting tremendous obstacles. The conflict has severely compromised MoAIF's ability to deliver services to the agriculture and fisheries sectors within its territory and to receive some of the revenues to which it is legally entitled. The MoAIF's recurrent and capital budgets are woefully inadequate, and many units lack any operating budget at all. Its ICT systems are patched together, fragmented, and rely heavily upon unlicensed software and private phones and computers. Critical infrastructure, such as laboratories, irrigation systems or fish landing sites, have been damaged or destroyed. Senior MoAIF management lacks access to the information necessary to efficiently manage the resources under their control. MoAIF's current staff numbers are inadequate. The size and composition of its workforce is not well-suited for its mission. Its workforce is ageing and its demographic profile is out of balance. Absenteeism is rampant, and many staff lack the basic resources to perform their jobs effectively.

8. The severe challenges and constraints confronting the MoAIF will make it unlikely that its leadership will ever be able to rebuild the earlier ministry (or more accurately, ministries) as they existed prior to 2014. But this also presents an important opportunity. Rather than directly engaging in the provision of goods and services itself, the new MoAIF can focus upon creating an enabling environment for private sector-led growth. Responsibility and decision-making for routine tasks can be pushed downward to sub-national governments and civil society organisations, improving responsiveness to local circumstances and needs. MoAIF now has an opportunity to reinvent itself as a modern government ministry, with a focus upon policymaking, regulation, grant making, monitoring and evaluation, licensing, and inspection. If it can achieve this vision, the future for Yemeni agriculture and fisheries will be significantly brighter.

## **Methodology**

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9. The report draws upon a number of approaches in framing its conclusions. An extensive literature review and desk analysis was undertaken at the outset. The research team conducted interviews with senior management and staff within the Ministry to identify critical priorities and challenges, as well as with officials in other ministries (such as the Ministry of Finance [MoF]) and representatives from the development community. Some of these interviews were conducted by videoconference, others were undertaken directly by staff on the ground in Aden. Formal sources, such as organisational charts and budget documents, were utilised whenever possible.
10. The team also undertook several data collection exercises to gather basic information on the Ministry and its operations. In coordination with the MoAIF's Departments of Human Resources and Information Technology, a civil service census was conducted to gather basic quantitative information on the size and composition of the workforce, its education and technical skills, and its demographic profile.
11. While these efforts have allowed the team to compile a clear sense of the issues and challenges confronting the MoAIF, they are not without their own difficulties. The inability of the international team to travel to Aden due to security constraints was a challenge, as was the team's limited access to external stakeholders and perspectives on the functioning of MoAIF. Inputs came mostly from staff based in Aden, raising the question as to whether views from field-based staff and consultants were adequately represented. Official data and records were patchy at best, and the response rate to the civil service census was low. It is hoped that these limitations can be addressed in future analyses by the Ministry or others.

## Recent ministry reforms

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- 12.** MoAIF is currently led by a dynamic leadership team that is trying to restructure and reform the Ministry under difficult circumstances. They have a number of achievements to their credit. They have been able to house both the agriculture and irrigation and the fisheries sector together in a new facility in Aden. The Ministry has consolidated the human resources (HR) function into one department, and plans are underway to consolidate other functions, such as legal. The Ministry has sought to strengthen its relationships with regional offices and affiliated organisations under the GoY, as well as its engagement with the donor community. It has also initiated efforts to rebuild its agricultural research and extension work.
- 13.** The Ministry has taken some initial measures to improve the financial resources available to these sectors. It has facilitated the relocation of both the CAC Bank and the Agriculture and Fishery Promotion Fund to Aden. It was able to successfully pass a cabinet decree increasing the charge for some services it provides. The Ministry has worked with certain donors, such as the UAE, to secure funding for a major irrigation project.

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## Strategic challenges confronting the MoAIF

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### The broader operating environment

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- 14. Institutional development in the context of war.** The MoAIF was formed in 2020 from the merger of the Ministry of Agriculture and Irrigation (MoAI) and the Ministry of Fish Wealth (MoFW). The merger came about during the formation of the new government under Prime Minister Maeen Abdulmalik Saeed in December 2020, when the size of the cabinet was reduced from 36 ministerial portfolios to 24. As such, the Ministry was formed largely as a political act as government leaders sought to put forward a government built on a unity platform. Its merger also reflected a desire by the GoY to make more efficient use of scarce financial resources.

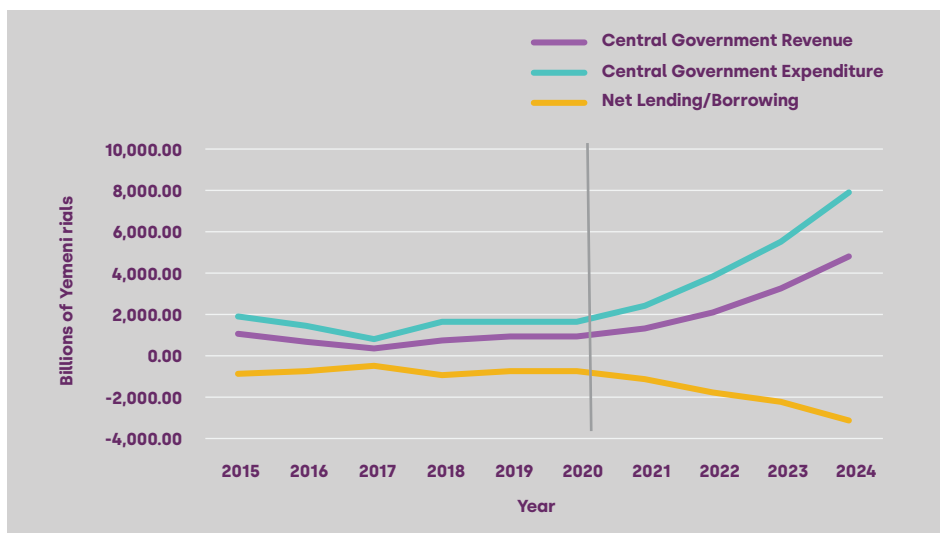
15. While the MoAIF is structured on the legal and institutional foundations of the MoAI and the MoFW, it is in many respects a new institution which is subject to broader political dynamics that it cannot control. The most pressing are highlighted below:

- **Bifurcated authority** – In practice, the two authorities/conflict parties in Sana'a and Aden have maintained a parallel set of ministries throughout the conflict. When *de facto* authorities (DFA) forces seized Sana'a in 2015, they took over the existing MoAI and the MoFW, along with related assets in the capital city and throughout the northern territories that they have subsequently controlled. Many of the technical staff residing in Sana'a remained with the ministries there.
- **Scarce resources** – Having moved to Aden, the internationally recognised GoY sought to re-establish the ministries in Aden. The ministries in Aden have struggled with securing resources needed to deliver services effectively, including building and office space, material resources, and most importantly human resources with needed technical skills.
- **Weak infrastructure** – Since the merger in 2020, MoAIF has maintained a working relationship with various sub-national entities and semi-autonomous institutes and laboratories. There are also publicly owned ports, canneries, and food processing centres. However, after seven years of war, many have either been damaged in the conflict or, lacking maintenance and adequate staffing, have fallen into disrepair.
- **Uneven territorial control** – Local power dynamics have also affected how responsive regional entities are to the MoAIF. Local agricultural offices are directly accountable to regional governors. In cases where the governor is strong politically, as in Hadramaut, these institutions have maintained their capacity. Yet they are also inclined to operate at arm's length from the Ministry. Other local units, particularly in areas subject to prolonged conflict, have seen their capacity collapse. The war also has created opportunities for local leaders and militias to seize control over specific operations, like fish landing sites and port facilities, where they collect fees from fishermen that would otherwise flow to the MoAIF.
- **Weak human resources** – Given the pressures associated with the war, human resources throughout the agricultural, irrigation, and fisheries sectors have suffered. Many skilled professionals working in these sectors left the country to avoid the conflict. Others have found better paying work within the private sector or with international organisations. Within many of the organisations, it has become normal over the course of the conflict for staff to stay out of the office. Many remain on the rolls without working consistently or at all. A significant number of staff have aged into retirement.



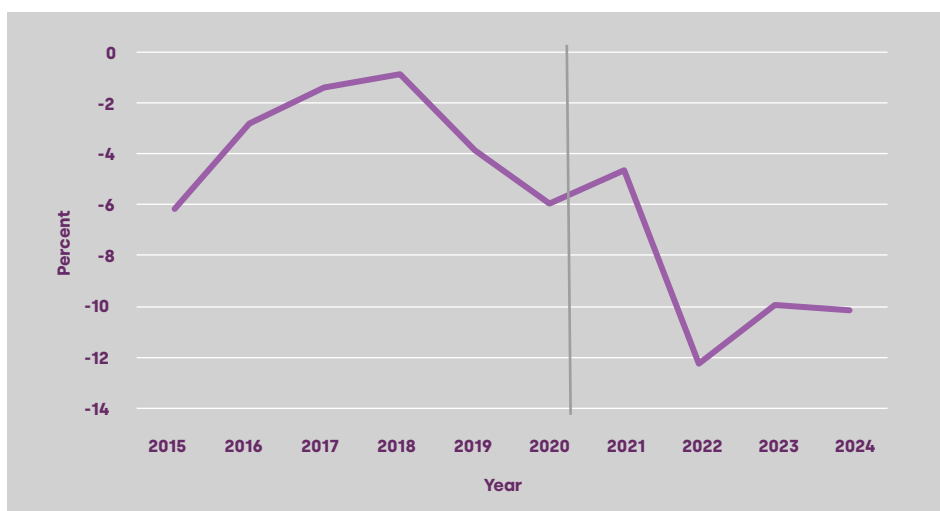
**16. Economic and fiscal challenges.** Yemen is the poorest country in the MENA region, and it is currently facing daunting fiscal and economic challenges and an uncertain global environment. Living conditions for most of the 30 million Yemenis remain difficult. The country faces widespread poverty, rapid demographic growth (over 2.5 percent a year), a lack of clear alternatives to its hydrocarbon-based economy, rapidly depleting water reserves, and poor infrastructure. Oil accounts for approximately 75 percent of government revenues, yet Yemen's oil reserves are in decline, which will adversely affect the future flow of revenues (**Figure 1**). Central government expenditure significantly exceeds revenues, contributing to the expansion in borrowing. With stagnant tax collection and relatively inflexible expenditures (especially on salaries and oil subsidies), the fiscal and current account deficits are projected to remain for the near future (**Figure 2**).

**Figure 1: Government expenditures to exceed revenues (2015-2024f)**



Source: IMF, 2022; Authors.

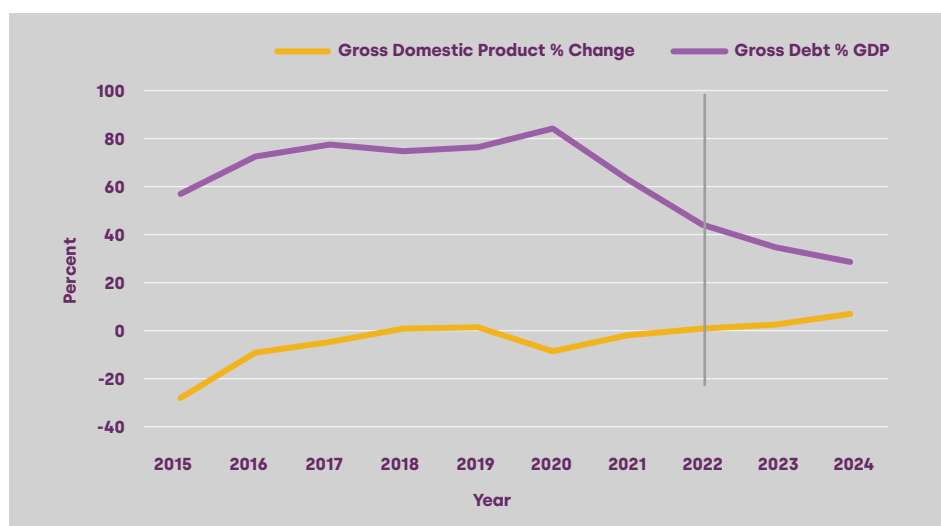
**Figure 2: Significant current account deficits to continue (2015-2024f)**



Source: IMF, 2022; Authors.

17. The authorities have borrowed domestically to finance a growing deficit, including direct financing from the Central Bank, but they have not significantly adjusted expenditure. The result has undermined macroeconomic stability and increased inflation (see **Figures 3 and 4**). As a result, gross public sector debt has increased to more than 80 percent of GDP, threatening debt sustainability. Distortions created by the fragmentation of institutional capacity and the divergent policy decisions between the areas of control have led to acute shortages of basic inputs, including fuel. Without stable sources of foreign exchange, this expansionary monetary policy has accelerated the depreciation of the Yemeni rial. Given Yemen's heavy dependence on imports, the depreciating currency has passed through to domestic prices, contributing to spikes that erode the purchasing power of households and businesses (**Figure 4**).

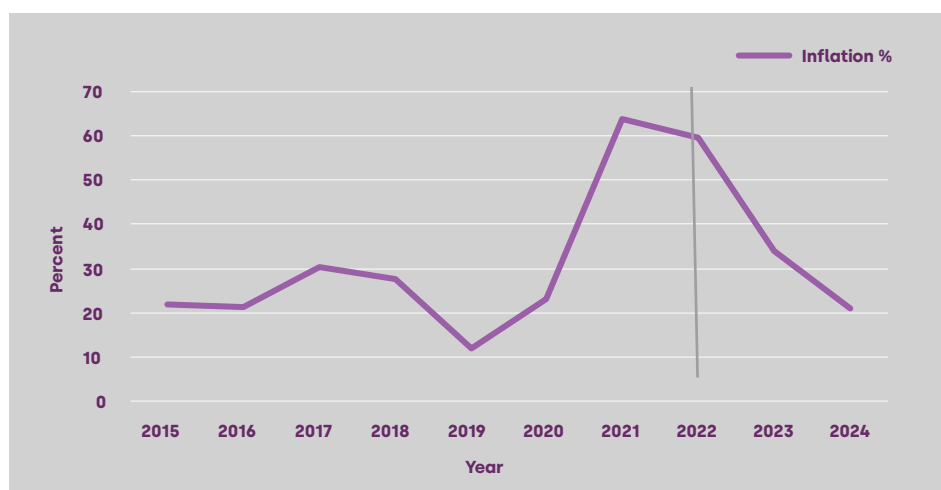
**Figure 3: Gross domestic debt has increased, with limited adjustments on expenditures (2015-2024f)**



Source: IMF, 2022; Authors.

18. In summary, both MoAIF and the broader GoY operate within an extremely constrained resource environment, in which central government revenues are significantly below expenditures and large current account deficits are expected to continue. To date, most donor support has focused upon emergency relief and has bypassed the government, flowing directly through international aid agencies. Even though the MoAIF suffers from inadequate funding, these broader fiscal and economic constraints will make it difficult for the GoY to significantly ramp up funding for the Ministry in the near to medium-term.

**Figure 4: Inflation to hit 60% before decelerating (2015-2024f)**



Source: IMF, 2022; Authors.

## **Sectoral challenges: agriculture, irrigation, and fisheries**

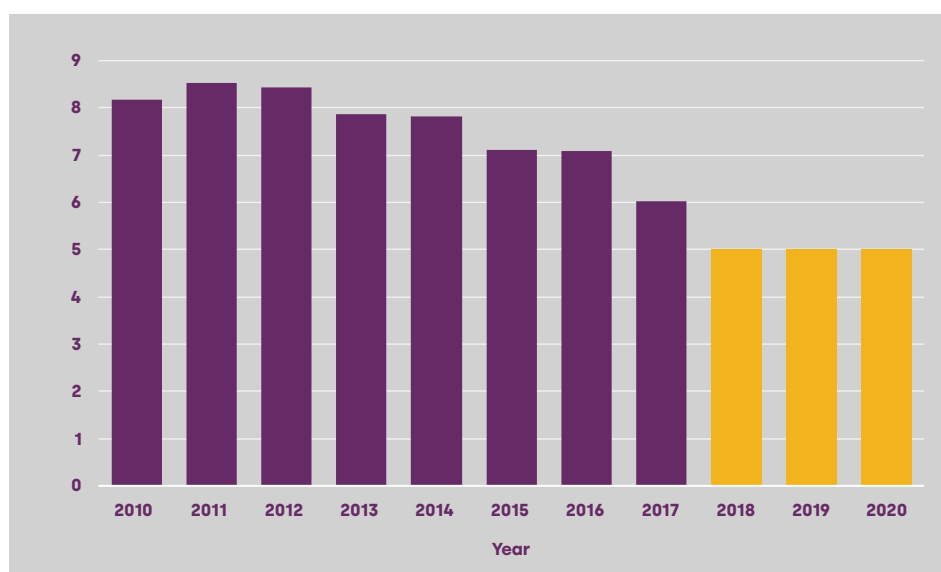
**19. The role of agriculture and fishing in Yemen's economy.** Yemen has long been vulnerable to concerns about food and water security, which have grown markedly over the course of the civil war. Over 70 percent of the population depends on agriculture and fisheries for their livelihoods (including 87 percent of rural women). Yet, most farmers and fishers are smallholders who provide the country with only 15-20 percent of its food needs.<sup>2</sup> Yemen depends on imports for the rest. In fact, while the country is self-sustaining in sorghum and millet, it imports nearly 90 percent of its wheat.<sup>3</sup> This dependence has left it vulnerable not only to port closures and transportation challenges related to the war, but also to international shocks in commodity prices seen during the COVID-19 pandemic and the Russia-Ukraine war. Overall, while the agriculture and fisheries sector provide livelihoods to much of the population, they account for only an estimated 5 percent of Yemen's gross domestic product (GDP), reflective of the low levels of productivity in the sector (see **Figure 5** below)<sup>4</sup>.

<sup>2</sup> UN, 2022

<sup>3</sup> UN, 2022

<sup>4</sup> The United Nations estimates agriculture and fisheries account for 13 percent of GDP; however, the World Bank estimated agriculture and fisheries as making up 10 percent in 2010, a figure that has declined gradually since. Naturally, estimates during the conflict have suffered from a lack of input data (UN, 2022).

**Figure 5: Agriculture and fisheries in Yemen as share of GDP**



Source: World Bank Group (2022a). Data for 2018-2020 are World Bank estimates.

**20. Agriculture and irrigation.** The twin tasks of improving agricultural production and making efficient use of Yemen's limited water resources pose unique challenges that run well beyond the country's ongoing civil conflict. Most farmers work in small family-owned plots and raise a small number of animals, often on a subsistence level. Many are farming in mountainous areas using traditional terraces and are dependent on spate irrigation, where seasonal rainfall is diverted from natural waterways into farmland. Others face arid conditions under increasing threat of desertification. While Yemen's agricultural land is richer than that of many of its neighbours, agricultural productivity has long been low. Moreover, the infrastructure needed to support the distribution of agricultural products to the marketplace—transport, warehouses, cold storage, and food processing facilities—has been lacking.

**21.** The smallholder nature of most farming means that few farmers can maintain extensive irrigation systems or access the water resources needed to keep animals and crops thriving in Yemen's often arid environment. Most depend on communal, traditional systems that catch and store seasonal rains. Where farmers have access to pumps, the rising costs of diesel used to pump water out of dwindling aquifers has reduced the profitability of some agricultural goods (particularly fresh vegetables). The civil war has compounded these problems, causing both direct damage to irrigation systems and their degradation through a lack of investment in maintenance.

**22.** Even as Yemen faces a crisis in food security, many farmers continue to grow qat to feed demand for the drug, which remains profitable even as transportation and marketing costs increase. Qat production has remained strong throughout the war, bringing farmers a steady return that has allowed investment in solar pumps and fertilizer.<sup>5</sup> The stimulant drug is grown across large parts of Yemen, using at least 15 percent of its farmland and 38 percent of the water used by the sector.<sup>6</sup> Tomatoes and fresh vegetables, on the other hand, go to waste in large numbers. Water pumping and fertilizer costs cut into profits, while the lack of efficient transport and storage facilities results in spoilage.

**23.** Water scarcity and insect infestation (locusts and army fall worm) have taken a serious toll on agricultural production. There have also been a series of severe weather incidents—including several typhoons—that have damaged agricultural land through flooding and accelerated erosion. Review of satellite imagery in 2020 suggested that some 257,000 hectares of agricultural land are exhibiting distress (about 17 percent of all agricultural land in Yemen).<sup>7</sup> This includes nearly 39 percent of agricultural land in the Upper Valley of the Hadramaut governorate, 43 percent of cropland in Marib, and 42 percent of the southern delta around Aden—an area important for the growth of millet, sorghum, wheat, and maize.

**24. Fisheries.** Yemen has a lengthy coastline, rich and diverse marine ecosystems, and a long tradition of artisanal fishing. As USAID has noted, prior to the conflict, fishing was the most productive sector in Yemen's economy. It ranked second only to oil and gas in terms of Yemeni exports and contributed 15 percent of Yemen's GDP.<sup>8</sup> Today, the sector still employs over 70,000 small-scale fishermen and provides a main source of food security, earnings, and employment for Yemenis living along the western and southern coasts, including 50 localities along the Gulf of Aden and the Arabian Sea. The fisheries industry is also a major source of foreign exchange earnings and government revenues. UNDP has noted that the sector is consistently identified as key for the country's development.<sup>9</sup>

**25.** Before the war, Yemen's fisheries sector struggled with multiple challenges that restricted its development. They include low capacity across fisheries value chains, low productivity and quality of products, limited access to profitable international markets, and the unknown environmental carrying capacity of fish stocks, along

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**5** Conflict and Environment Observatory, 2020

**6** Aldaghabashy, 2017

**7** Conflict and Environment Observatory, 2020

**8** USAID p. 3, 2019

**9** UNDP, 2020a

with declining stocks.<sup>10</sup> Aquaculture and fish farming opportunities are underdeveloped.<sup>11</sup> Value chain actors focus on volume rather than differentiation and value-adding processes.

- 26.** In fisheries, the cost of the war has been seen in loss of fish wealth through overfishing and the conflict's impact upon local fishermen, whose activities have been severely hampered and curtailed. By one count, at least 334 fishermen have been killed or injured by airstrikes, shelling and sea mines since the conflict began in 2015.<sup>12</sup> An estimated US\$6.9 billion in damage has been done to harbours, landing centres, and boats.<sup>13</sup> Illegal fishing has accelerated throughout the war, and Yemeni authorities have limited ability to bar foreign ships from their waters.<sup>14</sup> This has depleted resources through overfishing while undermining Yemen's indigenous fishing industry. Anecdotally, this overfishing can be seen in declining yields for Yemeni fishermen, with boats having to go farther out and stay out longer to catch fish for the local market. Without the materials required for longer fishing expeditions, particularly onboard cold storage, Yemeni boats often return with fish that are already starting to spoil, leading to lower quality catch available at local markets and less profit for struggling fishermen.

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## Broader institutional and operational challenges

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- 27.** This section outlines the broader institutional challenges confronting the MoAIF as a whole. It focuses upon major cross-cutting issues for the Ministry that are common to all sectors and units, including organisational structure, procedures for financial and human resource management, IT, and communications, and public relations. Sector-specific institutional arrangements and challenges are discussed in the following section.

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**10** FAO, 2018

**11** USAID, pp. 24-25, 2019

**12** Mohammed, 2021

**13** Norwegian Refugee Council, 2022

**14** Middle East Eye, 2020

## Organisational structure

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28. Any effective organisation relies upon clearly defined roles, responsibilities, and reporting relationships. The MoAIF currently lacks an up-to-date formal organisational chart. A *de jure* structure, based on organisational charts for the MoAI and the MoFW as proscribed by-laws regulating each former ministry, was constructed after the merger. A graphical representation of this organisational structure is provided in **Attachment 2** below. However, these charts do not represent the current structure of the Ministry, nor have they been updated. Conversations with MoAIF staff indicate that the earlier organisational charts may never have been fully implemented as formally conceived.
29. MoAIF staff stated that several new organisational charts have been considered in recent years. However, none have been formally agreed upon due to a combination of factors, including the complexity of the merger and its ongoing implications, uncertainties in the external authorising environment (including whether the merger will endure), and internal bureaucratic disagreements within MoAIF regarding new structures and reporting relationships.
30. The current set of reporting relationships suffers from several drawbacks. They include:
- A mismatch between units listed in the formal organisational chart and their *de facto* equivalents, especially in Agriculture and Irrigation. In the case of Fisheries, there is a general alignment between the *de facto* and *de jure* organisational structures, although several ministry responsibilities have been subsequently devolved to semi-autonomous general authorities. With Agriculture and Irrigation, there are significant discrepancies, with several departments having been merged in a *de facto* manner and others remaining unstaffed due to budgetary and personnel limitations.
  - Both the *de jure* organisational chart and the *de facto* existing structure contain administrative divisions that may no longer be necessary. An example is the division between Agriculture Production Development and the Agricultural Services Sector, where the functional and administrative breakdown between these divisions is unclear and may no longer be required.
  - There is a current mismatch between units serving a cross-ministry function yet reporting to various sectoral heads. For example, the staff in the Fisheries Financial Department appears to handle procurement for the entire Ministry. Staff serving a ministry-wide function should report up to the Minister and not to the Deputy Ministers for Agriculture or Fisheries.



- There are other uncertain reporting relationships, particularly with regards to MoAIF staff working at the governorate level, as well as state-owned enterprises (SOEs) and other subordinate agencies. In the Fisheries sector, for example, many of the subordinate units, such as the General Authorities in Fisheries, agencies, such as the Centre for the Study of Marine Life, and the canneries report directly to the Minister, whereas it would make more sense for them to report to the Deputy Minister for Fisheries.
- Several units exist only on paper and are not currently staffed (such as the Department of Land Surveying and Reclamation under the Irrigation Sector or the Coastal Women's Development Department under the Fisheries Sector).

**31.** With the notable exception of the Human Resources Department, there has been limited consolidation of units under the new Ministry. It is not surprising that field operations and front-line service delivery units continue to operate within their traditional sectors and reporting relationships. Yet there does not appear to have been much consolidation of back-office functions, such as planning, legal affairs, IT, and financial management. Where consolidation has happened, it seems to have been undertaken in an *ad hoc* manner to meet immediate needs, while staff seek to adhere to the traditional organisational structures laid out by law as much as possible.

**32.** Such approaches reduce the long-term clarity regarding organisational structure and responsibilities. The structured integration of back-office functions would bring a number of benefits, including better coordination and greater fungibility of scarce skills across the organisation. Looking downstream, it could also simplify capacity building efforts and lead to potential cost savings by eliminating overlap and duplication.

**33.** There is increasing acceptance among staff that greater clarity in MoAIF's organisational structure is required. However, this has yet to translate into the imposition of a new structure upon the organisation—an exercise that will require expending significant political and bureaucratic capital in overcoming potential institutional resistance. Next steps would include preparing and rolling out a formal organisational chart across the Ministry, bringing together all units performing ministry-wide functions directly under the Minister, and consolidating the back-office functions into joined-up units. **It is important that the new organisational chart reflects actual units and reporting relationships as they stand today.** An aspirational organisational chart could also be developed covering additional functions and/or units that would be created should the Ministry's funding situation and human resource capabilities improve.

- 34.** Outside of the Ministry headquarters, there are a number of organizations that support the work of the Ministry and report to the Minister. On the agriculture side, these include regional offices as well as a number of laboratories and testing centers focusing on plant health, animal health, and the introduction of new breeds. There are also a number of public firms affiliated with the Ministry, including but not necessarily limited to the General Seed Multiplication Corporation (GSMC) and several well drilling companies, which were not privatized during reforms in the early 2000s.
- 35.** In parallel, there are a number of large private companies that provide agriculture services and inputs to farmers which do not report to the Minister but play an important role as stakeholders. Agricultural cooperatives are among the most important. Local cooperatives represent the interests of small farmers and bring them together as a bloc to enhance their shared economic interests and to work collaboratively with the Ministry and donors to build local capacity. Prior to the war, these cooperatives were brought together under the Agricultural Cooperatives Union based in Sana'a. The ACU remains active as an organization; however, it operates in the north of the country which remains beyond MoAIF's control. Local cooperatives in liberated parts of the country seem to operate independently, working closely with donors to run training and farming development programs.
- 36.** On the fisheries side, more responsibilities for the sector have been distributed to local organizations, including landing sites and ports; fish processing and canneries; research institutions such as the General Authority for Marine Sciences; and general authorities for fisheries. These general authorities for fisheries are responsible for regulating fishing at the local level. The interests of artisan fishers are typically represented by local associations or unions, like the Al-Mukalla Fishermen Association. These associations have historically worked with government and large businesses within the value-added chain to promote economic outcomes for fishermen.
- 37.** The Cooperative and Agricultural Credit Bank (CAC Bank) is another important organization affiliated with the Ministry. CAC Bank was established in 1982 to finance investment projects and financial and banking services for the agricultural and fisheries sectors. In 2004, the mission and structure of the bank was reformed. It continued to offer financial services to the agriculture and fisheries sectors, but it also expanded its banking services to the wider population. As a quasi-independent organization, its board continues to report to the Minister of Agriculture, Irrigation and Fisheries. To support the agriculture and fisheries sector in recent years, CAC Bank has cooperated with the Ministry and the Agriculture and Fisheries Promotion Fund to provide "white loans" to farmers and fishermen, with the AFPP responsible for covering the interest on these loans.

- 38.** Finally, the MoAIF continues to play an important role in regulating the export and import of agricultural goods. This role includes providing permits for the export of plants and plant products (including seeds), fruits and vegetables, pesticides, and animals, while collecting associated tariffs. For imports, it similarly provides permits for the import of pesticides, plants and plant products, fruits and vegetables, fertilizers, animals and veterinary inputs. The MoAIF's Plant Protection Department is also responsible for managing quarantine and phytosanitary certification to protect Yemeni agriculture from external diseases and similar risks.
- 39.** Given circumstances on the ground, it was impossible to secure a full and comprehensive list of affiliated organizations and to fully assess their capacity in the wake of six years of civil conflict. Moving forward, this effort should be prioritized as part of the initial data collection effort under any reform scenario.

## Financial management

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- 40.** The MoAIF currently lacks funding for even the most basic operations, such as purchasing fuel for the motorcycles used in agricultural extension work. Capital budgets are almost entirely supported by donors with limited coordination with the Ministry. The Ministry must strengthen its systems for public financial management and procurement, both to ensure that its limited resources are used to best advantage as well as to provide assurance to donors that MoAIF is a trusted partner and that donor contributions will be used efficiently for the purposes intended. This is especially true if donors are to rely more on MoAIF for programme implementation in the future, as per the Ministry's aspirations.
- 41.** Unfortunately, as the discussion in **Attachment 3** on PFM indicates, MoAIF's current PFM systems and procurement practices fall well short of what would be required for donors to provide the Ministry with direct budget support. Challenges can be found throughout all phases of the PFM cycle, from initial planning and budgeting through implementation (including cash management, procurement, and financial controls), and finally to review and audit.
- 42.** To reassure potential donors, the Ministry will need to enhance financial transparency and accountability. New mechanisms should be developed and implemented through existing state institutions—such as the Ministry of Planning and International Cooperation (MoPIC) and the MoF, which will take time to implement. In the near-term, the Ministry needs to develop mechanisms to carefully engage with donors and track their work in the agriculture, irrigation, and fisheries sectors. Furthermore, MoAIF should review its oversight procedures governing how federal funds are distributed to other actors at the provincial and local levels to help ensure transparency, control, and accountability.

- 43.** These PFM improvements can be accomplished by: (1) developing a web-based (open) financial management system; or (2) utilising an off-the-shelf stand-alone financial management system. Web-based systems are increasingly being used in other post-conflict settings (e.g., Somalia), however such systems would require additional investments in communications infrastructure and the Ministry's ICT capacities. Stand-alone systems, where the Yemen budget accounts are introduced as the key elements of the general ledger, can be developed and modified. However, these systems must be engineered to assure that they are aligned with any national financial management system.
- 44.** Another key to unlocking better PFM capabilities is to introduce significant training in accounting, procurement, financial management, audit, and financial controls. These disciplines should be a top priority in any capacity building program.

## Human resource management

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- 45.** The MoAIF faces major challenges in the management of its human resources that will require sustained attention over multiple years to address. They include the absence of critical information on the size and composition of the workforce (both for the Ministry and its subordinate agencies), an unbalanced demographic profile and aging workforce, the lack of professional skills and mid-level technical staff, and chronic absenteeism and lax work discipline.
- 46. HR databases.** The Ministry maintains only a basic inventory of its workforce, which shows the date of appointment, anticipated retirement, and the qualifications of each Ministry staff.<sup>15</sup> To date, the HR departments of the Ministry of Fisheries and the Ministry of Agriculture have been merged. However, the new HR department still maintains separate employment and payroll lists for the former Ministries of Agriculture and Fisheries. Salaries used to be paid through direct bank deposit but are now paid in cash—a significant step backwards that should be addressed as soon as possible in coordination with the Ministry of Civil Service and Insurance (MoCSI) and the MoF.
- 47.** Since record keeping is fragmented and there is currently no established HR database for the entire Ministry, it is difficult to obtain accurate, up-to-date records of employment. With the assistance of MoAIF's IT and HR Departments, the team sought to conduct a civil service census, and the results of this exercise are

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<sup>15</sup> A desk top review of Civil Service Ministry (website) indicates that the MoCSI operates an Oracle-based database. It is not clear whether this database has been upgraded and is currently operational, nor whether it incorporates all civil servants. However, one consequence of such fragmentation of the personnel database can be the inclusion of multiple entries of a single individual permitting the payment of multiple salaries to the individual.

presented in **Attachment 4**. The census yielded 197 responses out of an estimated workforce of around 4,500+ (including affiliated entities and field-based staff). Unfortunately, this sample figure—while useful in suggesting some important trends that were validated in discussions with Ministry staff—does not meet the threshold of being representative of the Ministry as a whole. It is imperative that the census exercise be rolled out and completed across the Ministry at the earliest possible date.

**48. The exact size of the Ministry’s workforce is unclear.** According to the HR directorate there are a total of 339 persons that are available in the combined Ministry headquarters in Aden, including contractors and secondees (see **Table 1**). Ministry staff stated that additional hiring is currently underway, and the number of staff based at headquarters was likely to expand to around 400 in the near future. Additional data gathered from the governorates of Abyan, Al-Dhale, Al-Jawf, Al-Mahra, Hadramout, Lahj, Marib, Socotra, and Taiz indicated around 3,883 staff and 348 consultants were employed by the Ministry, for a total of 4,231.<sup>16</sup>

**Table 1: MoAIF staffing (HR database)**

Sector	HQ (Primary employees)	Secondees	Contractors	Subtotal
Agriculture	39	111	87	237
Fisheries	35	47	20	102
<b>Subtotal</b>	74	158	107	
<b>Total</b>	<b>339</b>			

**49.** It is difficult to verify whether these numbers exist merely on paper or represent actual employees. MoAIF managers noted that a significant number of employees in both headquarters and the field do not attend work on a regular basis. MoAIF managers shared anecdotal evidence that many staff had stayed on past retirement age and even that some had died but were still on the rolls. Although not representative, preliminary results from the civil service census appear to confirm these assessments, finding that around 16 percent of the total sample are currently serving past the mandatory retirement age of 60. Around 28 percent of the sample have served more than 30 years—another retirement benchmark. It should be noted that these two categories may overlap.

<sup>16</sup> Team analysis, November 2022.

**50.** Actual staffing within the Ministry is a fraction of what it used to be, as many employees—particularly among the technical cadres—do not appear to have transitioned from Sana’a<sup>17</sup> to Aden. For example, one senior MoAIF official estimated that more than half of the Ministry’s employees working in the fisheries sector remained in Sana’a. It is unclear the degree to which some of those employees working for ministries in Sana’a are included in some of the estimates for total employment used by the Ministry in Aden, particularly when discussions focus on long-term responsibilities for pensions and future retirements.

**51. Staff demographic profile.** A related problem is that the Ministry’s demographic profile and recruitment appear to have been heavily skewed by the conflict. The MoAIF’s workforce is clearly aging, and the mean age of census respondents is 49 years old for the Ministry as a whole. At 52 years old, it is even higher for regional agricultural offices. The average years of service for employees is around 18.5 years. Only 7 percent of Ministry employees are under 30 years old, and 27 percent are under 40 years old. Younger employees are disproportionately concentrated in Aden, and more than half of the census respondents in the regional agricultural offices are 55 years and older. The average tenure of service for regional agricultural offices is 25 years and fully 67 percent of such staff are retirement eligible, indicating the possibility of a massive wave of retirements in regional offices within the next few years.<sup>18</sup>

**52. Recruitment.** Recruitment patterns have been oddly “U” shaped. Just under 30 percent of employees appear to have been recruited over 30 years ago, while 35 percent have been recruited within the last five years. In contrast, only 5 percent of employees have served in the Ministry for 5-10 years. This dynamic undoubtedly reflects the difficulty in recruiting staff during the complicated period from 2012 to 2017, followed by a ramp-up in recruitment after the Ministry transitioned from Sana’a to Aden. This is likely to deprive the Ministry of more seasoned junior staff who can coach and mentor their peers, which feeds into a disconnect that several MoAIF managers noted—namely staff joining with academic degrees but lacking practical field-based skills.

**53.** Furthermore, recruitment does not appear to have been geographically uniform, with new hires concentrated at headquarters in Aden. Regional agricultural offices and general authorities across various governorates appear to largely have retained the same staff during much of the conflict. They have limited new hires while depending on an aging workforce. In many cases, they maintain large employee rolls of salaried public

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<sup>17</sup> Team interview with MoAIF management, November 2022.

<sup>18</sup> These figures may be influenced by selection bias, which should be carefully examined in the final census data.

servants, many of whom are past retirement age and are retaining their current employment status (often without working) until their pensions come through. While the Ministry headquarters faces these challenges to a degree, they have engaged in some recruitment. However, new full-time, formal contracts are not being approved. Rather, the Ministry is bringing in new talent both through secondment and through temporary contracts. Employees in headquarters appear to have a younger average age—43 years compared with a Ministry-wide average of 49. Nearly 66 percent of respondents from headquarters are secondees or temporary workers, as compared with 12.5 percent at regional agriculture offices and 37 percent at general authorities.<sup>19</sup>

**54.** Many managers complained that their staff often lack the specific skills or professional qualifications and experience necessary to perform their tasks. An initial review of employee educational background indicates that an impressive number (around 65 percent) may have bachelor's degrees. The proportion with advanced degrees—including 7 percent with master's and 5 percent with Ph.Ds.—is probably less than one would find in comparable ministries within the OECD or the GCC, but is still respectable. However, it is likely that the preliminary census may have under-represented employees with a secondary school education or less.

**55. Staff skills.** Job titles and professional classifications for staff in each department do not appear to be up to date. Job descriptions are brief and do not provide clarity on tasks and expected outputs or performance.

**56.** A serious concern is that the limited data available suggests a "U"-shaped curve in terms of the proportion of management, technical and administrative specialists working in the Ministry, as opposed to the "inverted U" that is common in many public sector agencies. In OECD countries, the bulk of public employees typically consist of front-line staff (police, teachers, traffic engineers, etc.), who are supported by a smaller managerial cadre above and a limited number of administrative staff below.<sup>20</sup> In Yemen, there are relatively large numbers of administrative staff compared to managers and technical specialists—a phenomenon that was evident both in the preliminary survey results and in staff assessments conducted by the team in Aden (see **Table 6** in **Attachment 4**). This further underscores the critical lack of technical staff to perform the actual work of the Ministry.

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<sup>19</sup> It is possible that some of these findings may be influenced by selection bias.

<sup>20</sup> The composition of MoAIF's administrative cadre is uncertain, and it is likely to include a range of skilled, semi-skilled and unskilled workers who appear to perform a variety of tasks. In many countries, such cadres have been significantly reduced over the past 20-30 years as automation has made many of these functions less relevant.



**57. Absenteeism.** According to estimates by various interviewees, currently on any given day around 25 to 35 percent of staff no longer show up for work. There appears to be little or no monitoring of attendance and inadequate sanctions for absenteeism. Although there are legal processes for disciplining non-performing staff, they are cumbersome and do not appear to be used often. In fact, many managers seem inclined to provide continued leniency or flexibility in this regard, understanding the limited access they have to experts and specialists with needed skills. As one noted, "they come when we need them."

**58. HR recommendations.** The need to improve human resource management (HRM) was identified by many MoAIF managers as a high priority. Low staff capacity, poor attitude and lack of training were noted as major problems by interviewees and they saw a need for an HRM division to plan future human resource requirements, recruit and assign qualified staff, and develop relevant training programs. The need for improved training and certification of staff was also emphasised.<sup>21</sup>

**59.** Developing an improved HRM capacity will be a long-term challenge and will need to take account of wider public sector reform programmes across government. In the short term, steps should be taken to improve the information that is available about current staff, and to strengthen attendance and performance management. The HR Department should establish a single source of information on staff and the data should be brought up to date and reviewed for completeness and accuracy. A senior HR Council should oversee strategic staffing, including the preparation of a dedicated workforce plan that should guide future recruitment. A standardised set of technical skills and specialties should be developed and rolled out, and employee qualifications should be verified against this list during a review process. In the near term, there may be opportunities to leverage various donor programmes for staff training. Downstream, MoAIF will need to develop its own in-house capacity for training and staff development. These topics are addressed in detail in the companion report on Capacity Building.

## Information technology

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**60.** The Ministry's deficiencies are hampered by country-wide IT challenges. Yemen remains at the bottom of the global rankings for connectivity—meaning low bandwidth, high latency and some of the most costly access in the world.<sup>22</sup> Because Yemen lacks internet exchange points and data centres to process requests locally, almost all internet traffic must be routed internationally,

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<sup>21</sup> See attachment 1: List of interviewees.

<sup>22</sup> Al-Sakkaf & Alexander, 2022

slowing connection speeds considerably.<sup>23</sup> Reliance on routing traffic through the international internet network adds to the pressure on the country's limited international bandwidth, which is less than a tenth of the global average per capita. The Ministry's mobile coverage is patchy and limited to 2G and 3G technology, leaving it unable to access most internet services.

**61.** The Ministry's IT infrastructure will need to be rebuilt almost from scratch, and interviewees underscored the need for significant upgrades to MoAIF's current IT systems and staff capacity. The Ministry aspires to high-speed internet and a broadband network covering all departments and sectors. It would like to connect both the agricultural and fisheries sectors under a common platform and ensure that documents and data can be shared electronically. It would also like to gather data electronically from the governorates. Currently, the Ministry has a small IT department located in the Minister's office, where around 12 computers are connected through a LAN network. Hardware and peripherals also exist here but are not readily available elsewhere in the Ministry. Current IT challenges include:

- There is no inventory of the Ministry's IT equipment. Most capacity is centred on standalone computer terminals with printers linked by LAN. The limited availability of hardware and software forces many staff to rely upon their own equipment.
- A number of operating systems and application software packages are unlicensed. This leaves the Ministry with no way to securely update software. It leaves internal users open to security threats and viruses.
- The absence of common specifications and standards for IT-related procurement results in problems of standardisation and reduced inter-operability.
- The lack of an email network for the Ministry forces staff to rely on their personal accounts for communication, raising questions of confidentiality, data protection, and archiving. Most work-related communication appears to take place using personal WhatsApp accounts.
- Data is kept on flash drives, limiting shared use and raising the risk of sensitive information being lost or stolen.
- There is no central server or database and no data backup or access to reliable power.
- There is an acute lack of dedicated staff trained in ICT issues.

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**23** Al-Sakkaf & Alexander, 2022

62. Despite these challenges, some progress has been made in a few areas. For example, a Director of IT has been identified. An informal IT department has been created and plans are underway to create an IT Centre, but this is still in the advanced concept stage. The Ministry seeks to develop a fibre-optic network to link staff in its headquarters in Aden.

## Internal and external communications

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63. Currently, the MoAIF's internal and external communications functions are in their nascent stages. A Director General for Communications and Public Relations has been designated, but there are currently no support staff (the Director General suggests that around four such staff would be optimal). Nor does the unit have any budget for operational expenditures. The Ministry's communications work appears to be largely reactive in nature, focusing on facilitating and arranging meetings or supporting translation. The bulk of this effort appears to be targeted towards the agricultural sector.

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## Sectoral operations and challenges

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64. This section moves away from broader challenges that cut across MoAIF as a whole and seeks to drill down into the specific institutional issues affecting the agricultural and irrigation sector and the fisheries sector. It also elaborates upon how some of the broader trends highlighted above manifest themselves within a specific sectoral context.

## Agriculture and irrigation

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65. **Strategic role and mandate.** Ministries of agriculture are typically responsible for a wide range of regulatory, promotional, and research services supporting agricultural production and rural development. Ministry experts play important roles in studying and fighting plant and animal diseases and invasive species, in testing new plant and livestock varieties, and in facilitating the production and distribution of inputs like fertilisers. They also provide valuable market information on prices and food production. Other common functions include consumer protection and safeguarding food quality and safety. Beyond this, Ministry engineers are often responsible for managing public water projects, as well as building and maintaining dams, canals, and irrigation systems. In many countries, the ministry of agriculture manages subsidies for agricultural inputs and products, as well as being involved in the promotion of agricultural exports.

**66.** As with the fisheries sector, there are significant gains that can be made in terms of value added in agriculture beyond meeting Yemen's nutritional needs, gains that can stimulate job creation and improved livelihoods along the value chain. In addition to training and extension services, providing inputs like fertilisers and pesticides, and technical support in production, there is a marked need for support in post-harvest infrastructure and logistics to ensure that more food gets to market and does not spoil. This includes resolving the current dearth of warehousing, cold storage, and efficient transport to market. Beyond this, there is a need for energy-efficient solar pumps and, more importantly given the water scarcity issues in Yemen, support in developing drip irrigation and water-efficient crops.

**67.** There is a strong inclination for the Ministry to take on a leading role in providing these services and redressing market failures in agriculture. However, in light of MoAIF's scarce capacity and resources, it should focus on leveraging local financing, where possible. This would ensure that the available services better target the needs of local farmers and rural communities, while the central Ministry focuses its limited resources on regulation, research, and promotional activities that can best be performed at a national level. Moreover, there is a risk that the Ministry crowds out opportunities for an emergent private sector response if it takes on too many areas of market failure. Rather, it should support and enable private investments, where possible, in agricultural service provision, transportation, and infrastructure development.

**68. Sectoral organisation.** In Yemen, the old MoAI structure, as set out in Republican Resolution No. 160, reflects the type of broad mandate outlined in paragraph 59 above. Under the law—which current employees still seek to adhere to as much as possible—the new Ministry includes four major divisions: (1) Agricultural Production and Development; (2) Agricultural Services; (3) Irrigation and Water Resources; and (4) an administrative support division. Each of these divisions are further divided into legally mandated directorates and units aimed at providing a wide array of services. They range from quality inspection to agricultural production support to irrigation and land development, as well as broader social development in rural areas. **Attachment 6** provides a detailed exploration of each of these units and how MoAIF staffing aligns with them.

- 69.** As noted in the earlier discussion on organisational structure, since the move to Aden, the gaps between the formal legal structure and the actual organisation have been particularly pronounced. The agriculture sector lacks many of the human and financial resources necessary to perform its mandated tasks effectively. In practice, the Ministry has responded by spreading available staff thinly across multiple units to the point in which several lack a critical mass that would allow them to function effectively. In some cases, units exist only aspirationally. Many functions have been merged or have been left undeveloped while sector staff focus on priority tasks.
- 70.** Looking forward, the *de facto* revisions to organisational structure imposed by resource limitations may open up opportunities to restructure the Ministry in positive ways. For example, the sectoral administrative division between Agriculture Production Development and Agriculture Services need not be retained in the future. Rather, the consolidation of these two sectors into one could improve policy and operational coordination and reduce cost. Some units, such as Agricultural Extension and Training and Agricultural Marketing and Trade, could remain as distinct departments, although it is important to support local extension and training services rather than seek to duplicate this capacity at a central level. Others, such as Plant Protection and Animal Health and Quarantine, could be merged with the Departments of Plant Production and Livestock and Animal Wealth within the Agriculture Production sector.
- 71. Staffing.** Under the MoAIF, the Agricultural Production and Development Division and the Agricultural Services Division have in practice been merged under the Deputy Minister for the Agriculture Sector, while Irrigation and Water Resources have been placed under another deputy minister. Underneath the deputy ministers, several mandated departments and units exist only on paper, waiting to be staffed. Other departments and units, such as the Department for Rural Women or the Poultry and Horticulture Support Units, are so thinly staffed that it is unlikely that they can achieve basic thresholds of operational effectiveness. There is a particularly urgent need for expertise in the area of livestock support.
- 72.** Parts of the new agriculture and irrigation division have been able to attract a number of experienced technicians with previous sector experience. This is particularly true for the Irrigation Department, which has been able to retain a significant number of experienced irrigation engineers. Regional agricultural offices also appear to have retained many staff from the former Ministry. However, many of them are now approaching or have already passed retirement age, as noted above, raising significant concerns about how this function will be supported in the future.

**73. Funding.** Another important challenge facing the Agriculture Sector is the lack of operational funding to cover needs outside of staff pay. This limits the ability of staff to extend services to beneficiaries and to engage with local stakeholders. Restrictions on transport and fuel in particular have constrained the ability of field officers to meet with partners or to make site visits. The Ministry has been able to tap into a limited amount of funding from the Agriculture and Fisheries Production Promotion Fund (AFPPF) (see below) to enable engineering teams to visit dams and other irrigation infrastructure, but such support does not replace a needed operational budget. Without this budget, staff have a difficult time demonstrating to stakeholders that the Ministry has a presence in their lives and a role to play in helping improve agricultural production and associated livelihoods.

## Fisheries

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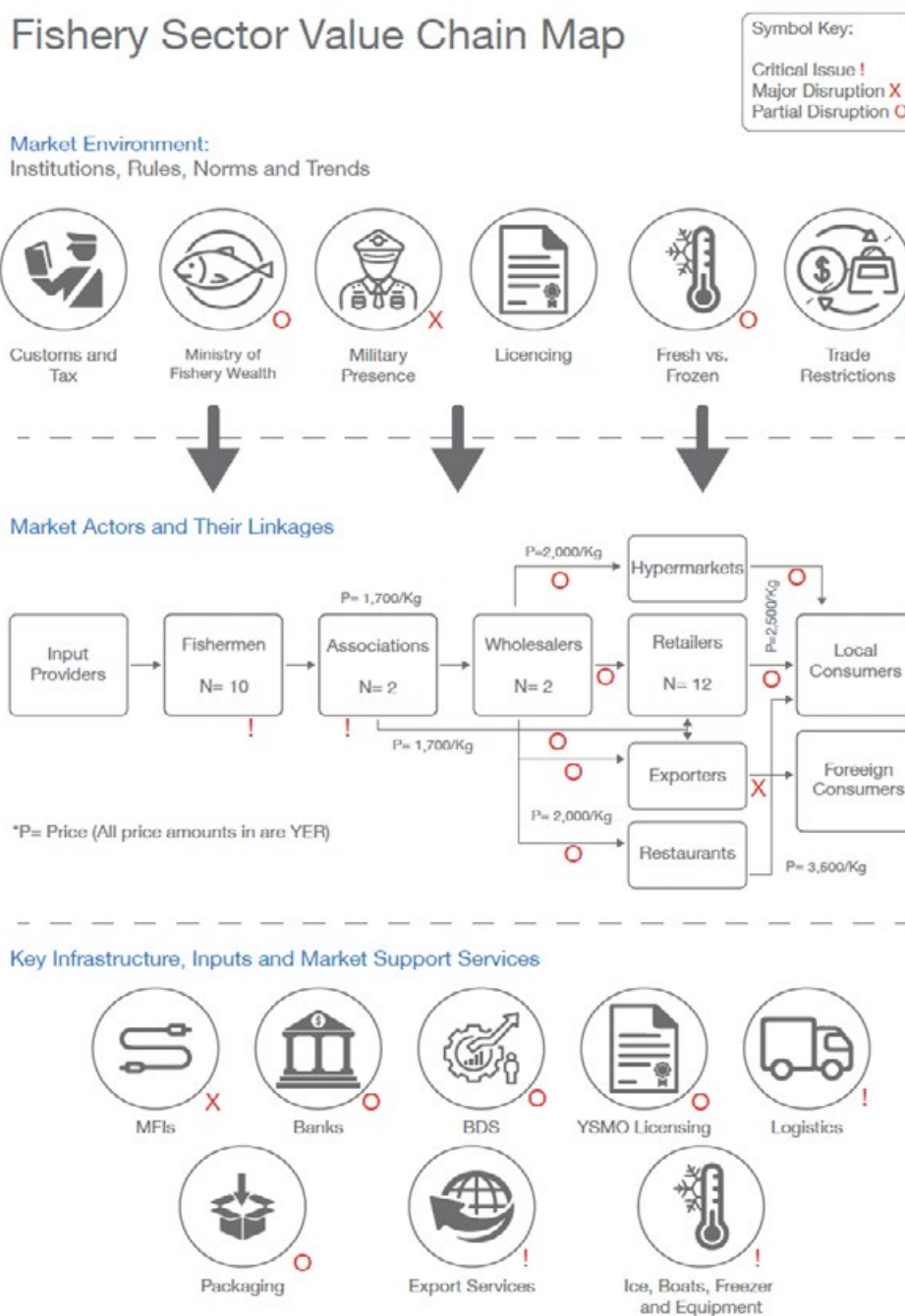
**74. The value chain.** The fisheries value chain faces several types of constraints ranging from input supply, production, processing, and output marketing, to improving support services and enhancing the enabling environment (see **Figure 6** below). Critical challenges lie, for example, along the production value chain. Fishermen lack productive inputs and capacity in good fishing practices, such as post-harvest handling.<sup>24</sup> Their fishing gear and equipment is poorly maintained. The quantity and quality of fresh catches are negatively affected by poor facilities onboard, as well as by poor storage and transportation on shore. Support is needed to improve access to inputs for fishing (e.g., ice, fish-finding technology), to improve infrastructure and logistics support (e.g., restoring damaged landing sites, improving storage and processing facilities) and to enhance access to markets. Some donors, such as the World Bank, are currently active in addressing these problems.

**75.** In meeting these sectoral challenges, the Ministry faces a host of institutional and other problems. As noted above, the Yemeni navy and coast guard are not in a position to monitor fishing grounds and to prevent illegal industrial fishing. Some of the landing centres are not directly under GoY control, and militias and other actors impose their own levies and do not provide data on fish stocks or catches. Other landings have been damaged or destroyed during the conflict. The Government's National Fisheries Strategy, intended to govern its operations from 2012 to 2025, has never been implemented as envisioned.

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<sup>24</sup> Fathallah, & Hammoud, 2022

**Figure 6: Fishery sector value chain map<sup>25</sup>**



**Technical requirements.** The Ministry lacks a wide variety of technical equipment necessary to support its work, ranging from subscriptions to global satellite systems for identifying and tracking fishing boats to long distance communications systems to marine maps and GPS systems for monitoring position to emergency back-up systems to provide consistent power on shore. Laboratories for testing and certification have come under stress during the conflict, although



some appear to still be operational and functioning at acceptable standards. The Fisheries Research Authority—which is responsible for supporting fisheries management, aquaculture development and stewardship of the marine environment—lacks research equipment, funding, and a qualified workforce to carry out its projects.<sup>26</sup>

**76. Organisation.** Within MoAIF, the Fisheries Sector has historically been organised into four departments, and this structure appears to have been retained largely intact after the merger in 2020. The first is the Production Services and Marketing Department, the second is the Planning and Projects Department, and the third is the Traditional Fishing Sector. A fourth department consists of sector-wide units, including the Department of Financial Affairs and Maintenance, the Department of Internal Auditing and Inspection, and the Coastal Women's Development Department (which as noted above is currently not active). According to interviews with MoAIF staff, around 80 percent of employees in the fisheries sector were in Sana'a when the ministry relocated to Aden, and around 50 percent remain there.

**77. HR issues.** Conversations with MoAIF fisheries staff flagged a number of important HR challenges that are common throughout the Ministry. Many units are seriously understaffed, with only around 5-6 employees each, yet hiring has been severely constrained. Absenteeism is problematic. Yet overstaffing also appears to be a concern in some of the affiliated organisations, such as the General Authorities. The General Authority workforce appears to be aging, with an average age of 47 and an estimated 23 percent of staff already serving past retirement age. These perceptions of MoAIF management appear to be validated by initial census data.

**78. Relations with cooperatives.** There are around 70 fisheries cooperatives and associations. In principle, they could serve as important partners to ensure better quality control, marketing, and distribution of fish in local markets and potential export markets. Cooperatives and associations have the authority to take care of auctioning at the landing or auction sites and provide support to fishers. They had a key role in the fisheries sector prior to the war (even providing services, such as healthcare, education, social welfare, water supply, and electricity). However, following the conflict, associations and cooperatives were not adequately representing fishermen in negotiations with authorities and were reducing their support activities due to budget constraints. Consequently, many fishermen are refusing to pay their membership fees.<sup>27</sup> **Some donors are supporting the capacity building of cooperatives (e.g. the recent World Bank SFISH project**

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<sup>26</sup> USAID, p. 17, 2019. These points were also affirmed by interviews with Ministry staff.

<sup>27</sup> UNDP, 2020b; Fathallah, & Hammoud, 2022



**will support to improve the service provision and management of 35 fishery associations and cooperatives and at least 15 women-led associations). Given the importance of these stakeholders, a priority will be to improve the relationship between cooperatives and the Ministry and the regional fishing authorities, which has deteriorated during the conflict. This improved relationship, along with capacity building efforts, will help cooperatives reestablish their role and the regain the trust of its members.**

**79. Relations with donors.** The MoAIF would benefit from more robust engagement with development partners who are supporting various activities in the sector. For example, the World Bank is supporting the provision of location-specific fisheries statistics and other relevant data/information that are important for Yemen to manage illegal fishing practices and overfishing. This will help to strengthen the fisheries sector extension and research capabilities. The World Bank is also supporting implementation of the national fisheries strategy and plans, which will be critical for the Ministry as it transitions into its new capacity. Equally important will be undertaking a fish stock assessment by FAO and reactivating fish stock research by the Marine Science Centre, which will help in managing marine resources sustainably

### **Agriculture and Fisheries Production Promotion Fund (AFPPF)**

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**80.** The AFPPF is an important instrument for the Ministry now and going forward. Established in 1993, the Fund resources were built on a tax on diesel (one rial per litre). In turn, these resources have been used over time to support agricultural and fisheries projects, including mechanisation, greenhouse building, dam and canal building, fertiliser purchases, and gear for farmers and fishermen. The fund has worked closely with cooperatives to identify local needs and support them. It has also been used to support small loans to farmers and fishermen from CAC Bank, paying interest on the loans.

**81.** The fund represents an important resource for future development in the sector. International organisations have expressed an interest in working with the fund, such as using the fund to support their projects. However, this interest does not reflect the current situation of the fund. The original fund's assets were not transferred to GoY control following the seizure of Sana'a by DFA forces. A new fund was re-established under the GoY in 2019. It has been receiving the one rial per litre of diesel tax. The Minister has asked the Presidential Leadership Council to increase this amount to four rials per litre, but this has yet to be passed. Currently, the fund has less than US\$2 million in assets which are held at CAC Bank.

- 82.** The government is eager to put these funds to effective use to support the agriculture and fisheries sectors. Minimal funds have been spent recently on greenhouses and gear for cooperatives. Ministry irrigation experts have been able to use these funds to support some rehabilitation of irrigation systems. The fund has been used also on a limited basis to support the costs of field visits and trips for consultation on irrigation systems, serving to plug gaps in operational funding at the ministry.
- 83.** The approach is not sustainable and, in the aggregate, makes for inefficient use of the fund's limited resources. This approach is also open to undue political influence and waste. Moreover, a large-scale role for the fund in the marketplace—such as a provider of equipment—would crowd out a potential role for small businesses and local lenders, who would otherwise help build value into the agricultural and fisheries service markets. Rather than providing micro-finance, a fund role in investing in larger-scale public goods, like irrigation infrastructure, would be a more impactful use of its resources.

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# Attachments

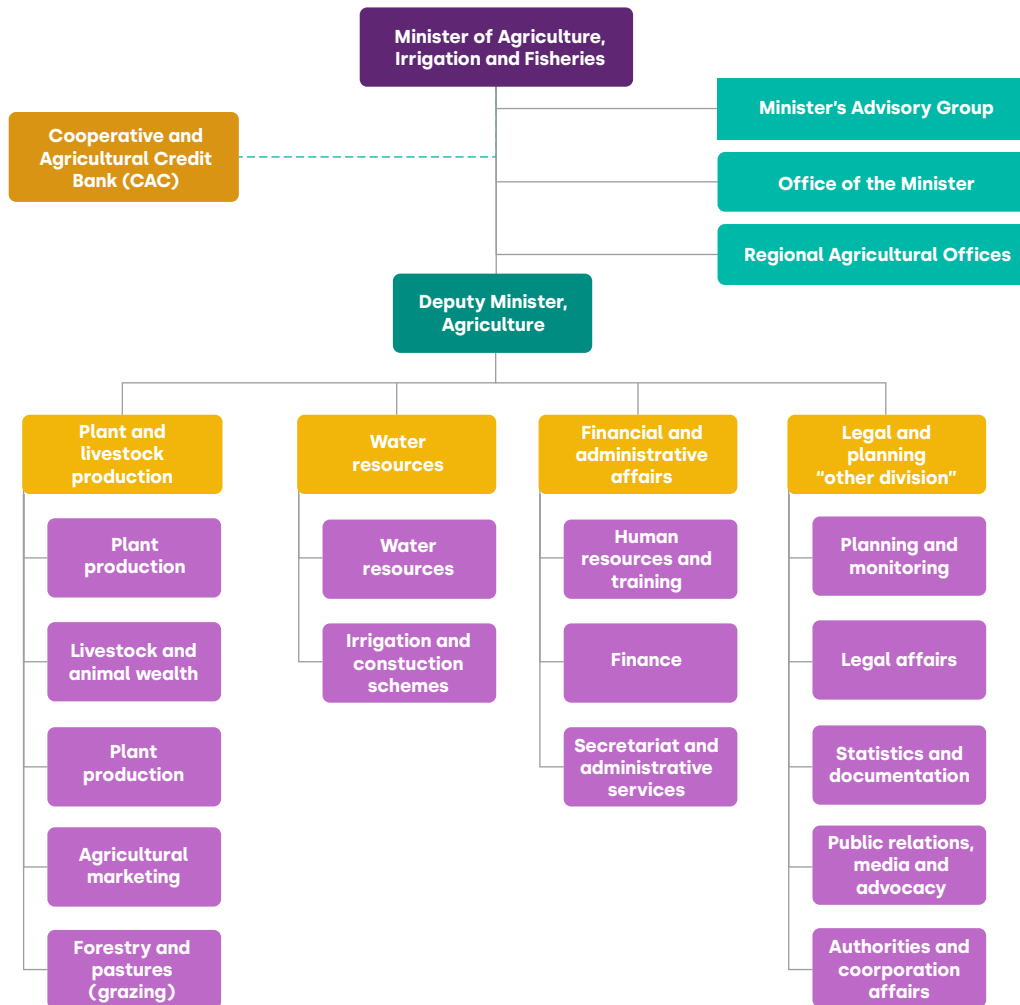
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## Attachment 1: List of interviewees

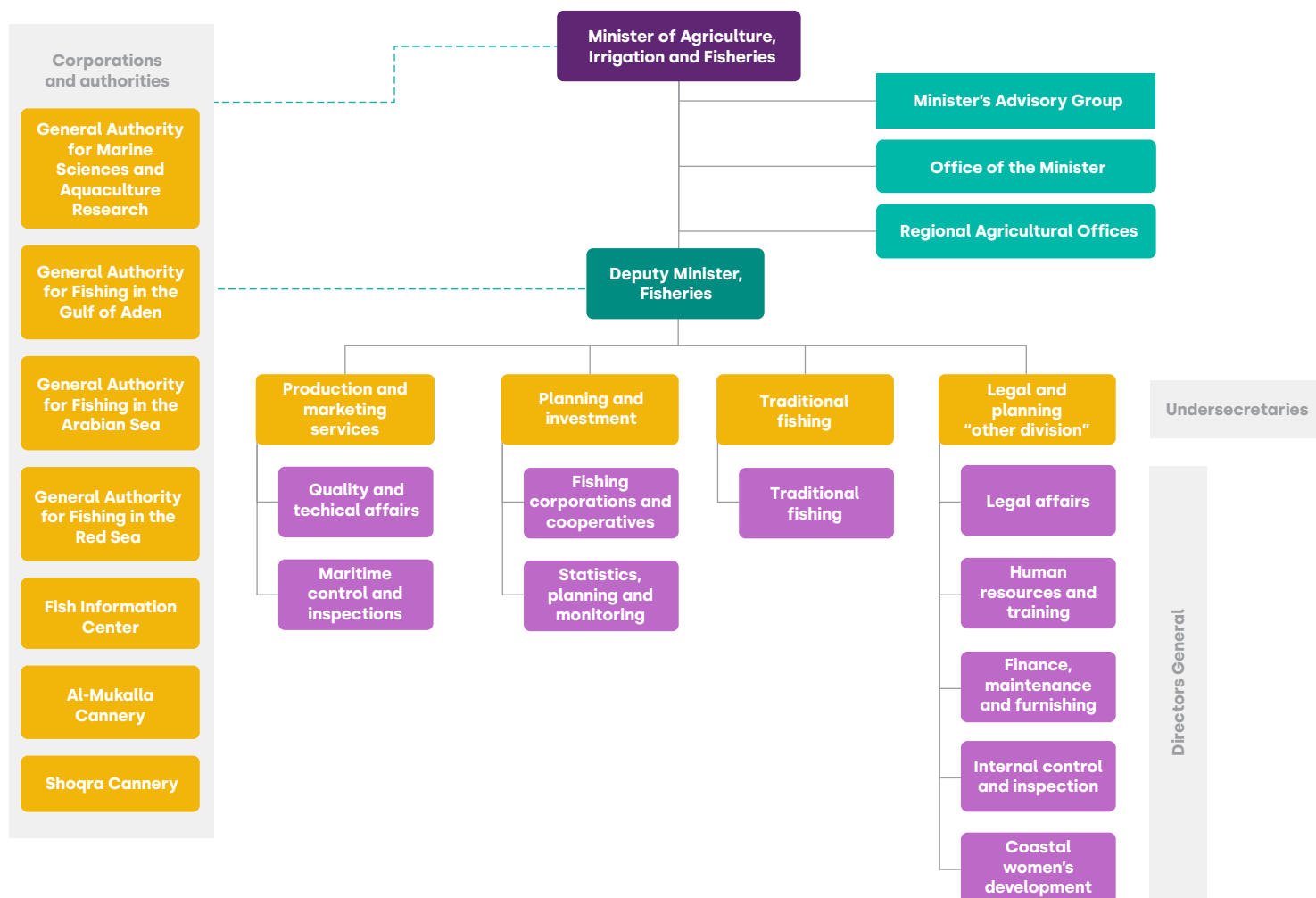
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Name	Title	Sector/Organisation
1. Waddah Al-Awsagi	Fishing Cooperatives	MoAIF-Fisheries
2. Ghazi Al-Ahmar	Head of Marketing Dept.	MoAIF-Fisheries
3. Musaed Al-Kutaibi	Minister's Office Manager	MoAIF
4. Mohammed Allan	Deputy Minister	MoAIF-Fisheries
5. Fuad Ali	Deputy Team Leader, ERD <sup>28</sup> Unit	UNDP
6. Rafat Al-Shaibani	Head of Finance and Procurement	MoAIF-Fisheries
7. Masha'al Al-Mas	Head of Legal Department	MoAIF
8. Rasheed Al-Shabouti	Head of Plant Production	MoAIF-Agriculture
9. Walid Al-Shaikh	Manager, Human Resource Dept.	MoAIF
10. Bushra Al-Shirae	Programme Analyst, ERD Unit	UNDP
11. H.E. Salem Al-Sukatari	Minister	MoAIF
12. Abdu Hamid Al-Sururi	Manager, Communications	MoAIF
13. Ahmed Alzamiki	Deputy Minister	Irrigation
14. Michele Dibenedetto	Team Leader, ERD Unit	UNDP
15. Ahmed Fada'k	Head of Sea Inspection & Quality Control	MoAIF-Fisheries
16. Shukri Fadhel	Head of Water Schemes	MoAIF-Irrigation
17. Nahid Hussein	Deputy Resident Representative	UNDP
18. Helen Naber	Senior Environmental Specialist	World Bank
19. Abdulmalik Nagi	Deputy Minister	MoAIF-Agriculture
20. Mohamed Al-Nushaili	Head of Marketing and Advocacy	MoAIF-Agriculture
21. Rehab Rafeek	Head of IT Dept.	MoAIF
22. Hana Rasheed	Head of Marine & Sea Life Center	MoAIF-Fisheries
23. Tony Roberts	Project Manager	UNDP
24. Tracy Vienings	Project Manager	UNDP
25. Mayad Yifai	Chief of Party	PRAGMA
26. Anonymous	Focal Point with MoAIF	Ministry of Finance-GoY
27. Anonymous	Focal Point with MoAIF	Central Bank of Yemen (GoY)

## Attachment 2: De jure organisational structure for the ministry of agriculture and irrigation



## Attachment 2 (Continued): De jure organisational structure for the ministry of fisheries



## Attachment 3: Public financial management - Detailed analysis of issues and challenges

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This section provides a more detailed analysis of key issues and challenges in the management of MoAIF's finances. It covers budget processes, accounting, recording, and reporting systems, procurement, and audit and financial controls. It also discusses limitations in staff capacity.

### Budget Processes

**Overview** – MoAIF budgets have historically consisted of several components (e.g., recurrent budget, development budget, a fund for support of fisheries and infrastructure and various amounts for other agriculture and fisheries authorities). The Ministry controls the recurrent budget that funds its central offices. Included in the recurrent budget for the Ministry of Agriculture, for example, are funds provided for the governorates for local agricultural and irrigation services. In all interviews with ministry staff, the chronic lack of funds has been flagged as a fundamental challenge. Staff frequently noted that their budget from the MoF was effectively zero and that they were often forced to rely upon their personal equipment and resources. Budget setting is an ad hoc process, and the approved budget does not relate to the executed budget.

At present, the MoAIF does not have significant power and control over its capital budget. Most development spending over the past several years has been controlled and conducted by international donors. Donors provide grants and loans for their projects, with limited counterpart funding provided by the Ministry.

Development spending by international agencies is conducted outside the MoAIF's financial systems. Their recurrent and development budgets are not approved by the Ministry before being submitted to the MoF. This indicates that each ministry, and effectively any combined ministry, only has command and control of its central office, which clearly limits the Ministry's capacity to direct agricultural and fisheries development strategies.

MoPIC has historically influenced the agricultural and fisheries development budget through the National Five-Year Plan. MoPIC is also tasked with negotiating agricultural and fisheries development projects with donors. In this regard, many of the surveyed MoAIF staff expressed dismay that they have a limited role in the consultation and implementation of donor-funded projects.

Even with the budget that it controls, the MoAIF has been unable to secure funding for their requests in recent years. Upon receiving the recurrent and limited capital budget ceilings from the MoF, MoAIF prepares its own recurrent budget request for negotiation with the

MoF. Despite stipulated ceilings, the Ministry's budget requests usually result in substantial cuts or under-funding.

**Deficiencies in the budget process** – The current process suffers from several important deficiencies, which are outlined below:

- **Budget setting process is an ad hoc bargaining process.** Currently, there are low levels of transparency in the budget-setting process. The process itself is unclear as to how many persons (staff members) participate. The annual budget for line ministries is not based upon needs, strategic planning, performance, or objectives. Rather, a given ministry is awarded a budget based on the relative power of the minister or other senior ministry officials.
- **Approved budget does not relate to executed budget.** Once the budget is approved and enacted, the actual budget available to the line ministry may not closely resemble the approved budget. The Ministry is forced to bargain for every expenditure. It does not appear that the Government's Financial Management Information System (GFMS) is being effectively used to strengthen draft budget execution procedures, including commitment controls.
- **The budget chart of account may have to be revised.** The current budget chart of account structure for MoAIF is dated. The budget chart of account has not considered the current conditions of a merged ministry. The chart of account also does not consider effective performance measurement or accountability. As such, it is difficult to measure whether a ministry has achieved its objectives or not. All commitment control functions are manual.
- **Without clearly articulated fiscal policies and budget guidelines, the budget process remains an ad hoc process with limited goal setting and scant attention paid to performance and service delivery objectives.** Poor ministerial cash management and weak commitment controls, combined with ex post supplemental budget procedures, create an environment of non-transparent budget revision procedures and objectives.
- **Warrants (payment orders) are prepared based on budget allocations and are used as the basis for setting the withdrawal ceilings for Ministry expenditures.** Expenditure commitment control can only be based upon timely and accurate projections on the availability of funds. However, the practice of adjusting the budget release ceilings after the issuance of the original monthly profiles undermines commitment control implementation as spending ceilings themselves become unpredictable over the intended forward looking budget period. The weak budget and financial allocation process undermines the effectiveness of internal controls for non-salary expenditure.

## Accounting, recording, and reporting

Government accounting standards are applied across all ministries consistently.<sup>29</sup> The appropriations accounts adopt some of the mandatory standards of International Public Sector Accounting Standards (IPSAS), such as comparison between budget and actuals, the inclusion of financial assets and liabilities, and the details of revenues and expenditure. Yet not all the mandatory standards are met.

**Accounting practices** – The accounting system, which lacks an effective chart of accounts and is based upon manual single entry, remains weak with delays in the production of annual accounts. Although the Fiscal Law stipulates that the annual accounts are to be submitted to Audit within six months of the close of the fiscal year, in practice there is a long delay in their production. The annual accounts are cash based, do not follow international accounting standards, and do not include data on budget revenue and expenditure outturn.

In the absence of a comprehensive chart of accounts and an IT-based general ledger, cash receipts and payments are recorded manually in cash books against respective budget categories. The Accounting Department is also responsible for preparing the aggregate annual accounts. The data included in the existing reports are not dependable due to a weak accounting system and they are not classified according to international standards, such as the GFS/M 2001/2014. Although the government provides guarantees for borrowing by state-owned enterprises, many of these guarantees are not reported in ministerial reports or in reporting to the MoF.

**Cash-based accounting** – Yemen has adopted a strict cash accounting basis for its accounts with the fiscal year, defined as January 1 to December 31st.<sup>30</sup> Outstanding commitments for goods, works, and services (open purchase orders) not delivered by the 31st of the last month of the fiscal year (except for emergencies) are cancelled. Uncleared cheques are not honoured and must be reissued in the next fiscal year. One consequence of the implementation of the cash accounting system is that it does not strictly match expenditure periods to budget estimate periods, as would be the case for modified cash accounting, with a consequence of slightly biasing downwards the measure of actual expenditure to original budget estimates.

**Financial reporting** – The Central Bank of Yemen submits monthly budget release reports to the MoF, based upon payments made to the MoAIF. The final accounts directorate of the MoF consolidates the accounts prepared by the ministries. Financial reporting is sometimes

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<sup>29</sup> Starting with the 2009 budget year, the central government adopts a budget based on economic, administrative, and functional classification for formulation, execution, and reporting.

<sup>30</sup> See Ministry of Finance (Yemen) and Central Bank Yemen (Websites).



challenged by international donors for not providing complete or timely data with respect to the expenditures executed in their projects.

The ministries submit monthly budget execution returns. However, these are submitted on average 8-12 weeks after the close of the period. These reports do not distinguish between commitments and expenditure. They do, however, distinguish advances and payments and allow direct comparison of budget implementation to the original budget. The reporting format allows ministries to report on accrued arrears, but this is often not adhered to. With frequent delays in the submission of monthly and quarterly budget execution reports, their effectiveness as a management tool has been compromised.

## Procurement

Internal ministry procurement rules, processes, and procedures are well developed on paper.<sup>31</sup> There are two levels for reviewing and approving proposals for ministry-funded projects: a technical committee that has evaluation and approval powers for lesser-valued contracts, and a higher-level committee for contracts of larger value. The technical committee is supposed to be composed of ministry employees who have relevant technical backgrounds. The higher committee also appoints the technical committee for relevant contracts.

**Table 2: MENA regional comparative procurement review and challenges**

Improvements	Egypt	Jordan	Libya	Morocco	Tunisia	Yemen
Enhancing transparency in procurement		X	X	X	X	X
Improving professionalism of public procurement	X	X	X	X	X	X
Preventing /detecting irregularities and corruption in procurement	X	X	X	X	X	
Strengthening accountability and control mechanisms		X	X	X	X	X
Support government policy goals		X	X	X	X	

Source: OECD 2016.

<sup>31</sup> Under the 2007 Tender Law, all Ministers are responsible for approving their ministries' public tenders. As detailed in the 2009 Executive Regulations, tenders over the ministry's delegated threshold are sent to the High Tender Board (HTB) for review and approval. The line ministries' mandate is to deliver the government's policies in the form of services, public works, and goods by means of the approved procurement process. Each ministry has established tender boards to review and approve tenders for public services, works and goods according to the 2007 Tender Law and the 2009 Executive Regulations.

**Table 2** above outlines public procurement challenges in select MENA countries as surveyed by OECD (2016). Although procurement systems are improving in most MENA countries, Yemen practices are the most problematic. The OECD and various World Bank reviews indicate that there are challenges in several areas including:

- Lack of integration of national legal frameworks and multiplicity and fragmentation of laws and systems.
- Weaknesses of the essential procedures of public procurement systems (such as unclear content and institutional hierarchy), which results in poor and sometimes no enforcement of operational and procedural requirements.
- The lack of professionalisation of public procurement, which results in low capacity, high turnover and implementation deficiencies, along with problems in retaining qualified talent within the High Tender Board and the Ministerial Tender Board.
- Difficulty in introducing modern tools to public procurement systems, such as e-procurement.

According to interviewees, the key constraint and biggest challenge to effectively and responsibly moving public goods and service delivery from the national to the subnational level is capacity. Time and resources will be required to train procurement specialists and deploy them to the governorates and districts, and to undertake regular audits in a sample of communities and report the results. Senior officials view this weak capacity—in particular, the risks of delegating increased responsibility for implementing tender bids to local authorities that do not have the required competence and knowledge—as a greater risk than gaps and inefficiencies in existing finance and procurement systems.

## **Audit and financial controls**

**Internal audit and financial control** – The applicable legal and regulatory framework require each ministry to have a pre-disbursement (internal) auditor appointed by the entity and reporting to it. The role of the internal auditor is to audit the expenses prior to disbursement and to clear procurement contracts prior to signature, with the aim of checking the regularity of the expenditures. Some discussants worried that the professional skills of the internal auditor may be inadequate. Furthermore, the internal audit function at the Ministry appears to combine the roles of financial controller and internal auditor.

*Ex ante* expenditure control is the responsibility of the financial controller. Like the internal auditor, the financial controller is located within a line ministry, but unlike the internal auditor, the financial controller is appointed by the MoF and reports to the MoF and not to the Ministry. The financial controller oversees clearing all expenditures after the internal auditor has completed the pre-disbursement audit phase and before they are sent for payment (*ex ante* control)—a widespread practice in the region.

The financial controller oversees clearing the entire procurement procedure before any contract is implemented. This control consists of reviewing any budget authorisation prior to the contract signature, an invitation to tender, the advertising of bids, the reward process, and the consultation of required authorities and clearing all purchase orders issued by the budget officer once the contract is implemented. The financial control function consists primarily in checking the availability of budget appropriation, compliance with financial regulations, and the comprehensiveness of the related documentation. At both stages (contract and purchase orders), the control is not meant to be a control of efficiency or value for money, nor a control of the materiality of the works achieved or service delivered. Rather, it is a desk review. The clearance of the financial controller can be lengthy and cumbersome and often requires multiple reviews of the file in some ministries and at the provincial level. The duration of the control is not set and thus is difficult to assess.

**External Audit** – The Central Organisation for Control and Auditing (COCA) has full and complete authority over auditing all public entities, including local authorities and public corporations for which the Government has more than a 50 percent ownership stake. It has authority over all security ministries, departments, and agencies (under some security clearance controls) and is not restricted as to what, whom, or where it can report its findings. In light of staffing limitations, not all central government entities, public enterprises, and local authorities are audited annually. The scope of audit performed pertains to financial audits and compliance audits. In limited cases, performance and value for money audits have been undertaken. There are efforts to comply with International Organisation of Supreme Audit Institution (INTOSAI) standards. However, the political developments of the last decade have slowed down these efforts.

## Capacity constraints

While there is considerable capacity in many PFM areas, most ministerial spending units are operating on a manual basis with very limited computer/IT capacity. Capacity development of the public sector is at a critical stage, as the lack of investment in personnel over a long time has left employees both technically and managerially unable to meet the needs of the Ministry or the fiduciary requirements of donors. Decentralisation efforts over the past several years have moved additional responsibilities directly to local authorities, further exacerbating these capacity challenges.

Beyond strengthening staff capacity, a comprehensive change management programme is needed to address structural issues within the Ministry. Also needed is a complete drilled-down assessment and strategy to ensure the support functions of the Ministry in finance, procurement, HR, communications, IT, policy, and planning can fully support a ramp-out in technical functions. An ambitious change management programme assumes the funding will be available to support expanded ministry functions and mandate in sustainable manner.

A commitment must be made to both fund MoAIF adequately and to provide capacity building to many units that have not received adequate resources for many years, as well as to potentially consider new models of public-private partnerships that will allow MoAIF to work around these constraints.

## **Attachment 4: Key findings from the civil service census**

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### **MoAIF employee census findings**

In December 2022, the MoAIF conducted an online census of its employees and consultants. The survey was intended to be comprehensive, covering all 340 or so existing Ministry workers in headquarters and those deployed in regional offices in the field. As of January 2023, data has been received from 197 individual respondents. This includes 50 individuals working in Ministry headquarters, 112 working in regional agriculture offices, and 35 working in general authorities related to fisheries.

In reflecting on the relevance of data from these respondents, it is important to understand that the modest response rates may create bias that can feed into results.<sup>32</sup> A civil service census is intended to be comprehensive with a 100 percent compliance rate. The response rate for this sample is not sufficient even to be representative of the broader population of Ministry employees. Yet the results are likely to reflect broader trends throughout the Ministry and provide some insight into basic staff demographics. These findings are reported with the caveat that all data below refer to respondents rather than the staff at large, and there may be modest discrepancies between these figures and the entire population of employees and consultants.

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<sup>32</sup> As a general rule, we would anticipate that women would be more proactive in filling out the survey questionnaire than men; headquarters-based staff would be more proactive than those in the field; younger employees versus older (particularly those serving past retirement age); and staff with higher levels of education would be more proactive than those with lower education levels. The results may be biased in that direction.

## Age

The mean age of respondents in the census is 49 years old, with the youngest being 23 years old and the oldest 67 years old. The average age is highest within the regional agriculture offices (52 years old), and slightly lower among respondents from the general authorities for fisheries (47 years old). Within the ministry headquarters, the average age is 43 years old, with the youngest being 26 years old and the oldest 65 years old.

Note that 10 individuals are not included in these age numbers because they failed to report their birth dates accurately, so overall mean age may be slightly higher. More importantly, the large number of younger workers in headquarters suggested by the data may reflect a bias in terms of survey completion by younger staff and consultants, which could also be repeated in the analysis below on employee terms and conditions of service. It could also reflect legitimate trends in recruitment and should be carefully analysed when the full census data is available.

**Table 3: Institution staff respondents by age category (percent)**

Institution	18-24	25-34	35-44	45-54	55+
Ministry headquarters	0	37.5	22.9	25.0	14.6
Regional agriculture offices	1	6.7	12.4	26.7	53.3
General authorities for fisheries	0	17.7	29.4	23.5	29.4

## Tenure

Similar trends are found in tenure within the Ministry. Overall, the average tenure within the three types of institutions is 18.5 years, ranging from less than a year to 45 years. For regional agriculture offices, the average is 25 years. It is 14 years for general authorities in fisheries. For the Ministry's headquarters staff, the average is 7 years, with a minimum of less than a year and a maximum of 45 years.

There are a few caveats here. First, some might have interpreted this question as meaning tenure with the MoAIF, others with the MoAI or the MoFW.<sup>33</sup> Second, this might reflect a bias within the data towards new, temporary workers (with older, more established workers not having finished the survey). Finally, as with birth date data, there are several individuals who report having started their employment

<sup>33</sup> The team has inserted a clarifying question in another staff survey to be conducted in January 2023.

with the MoAIF within the past month and seven staff at Ministry headquarters who report having started within the last year.

## Job Type

There is a wide variety of positions and job types within the three institutional entities surveyed. To simplify the analysis and to remain in categories within which we have some statistical power, they have been categorised into either managerial (managers, heads (سهيئرد), specialists (technical experts, senior specialists, specialists), and administrative (secretaries, accountants, bookkeepers, and archivists).

Overall, our sample is 18.3 percent administrative, 35 percent specialists, and 46.7 percent managerial. The large managerial population is probably driven by high managerial responses to the survey from regional agriculture centres (52.6 percent management) and general authorities in fisheries (51.4 percent). Rather than reflecting the structure of the organisation, these results may suggest that managers felt some incentive to respond to a survey request from the Ministry. The response from Ministry headquarters is divided evenly between administrative (34 percent), specialists (36 percent), and management (30 percent). Even these more balanced figures may be biased when compared with our understanding of staff structure through interviews and HR records, which with a few exceptions are generally heavily concentrated on administration and management.

**Table 4: Job types by institution (percent)**

Institution	Administrative	Specialists	Management
Ministry headquarters	34.0	36.0	30.0
Regional agriculture offices	14.3	33.0	52.7
General authorities for fisheries	8.6	40.0	51.4

## Contract Status

Overall, nearly 70 percent of respondents report having long-term, official contracts with their organisations. Besides these salaried positions, 4.6 percent are seconded from other government organisations and 25.9 percent are on temporary contracts, which have been used to enable hires at a time when government offices cannot offer salaried contracts. Temporary contracts seem to be particularly high in the headquarters data.

**Table 5: Contract status among various institutions (percent)**

Institution	Permanent	Secondment	Temporary
Ministry headquarters	34.0	14.0	52.0
Regional agriculture offices	87.5	0.0	5.7
General authorities for fisheries	62.9	4.6	31.4

At Ministry headquarters, temporary contracts have been used to bring on board most new hires. This is reflected in the correlation with job types: 94 percent of administrative positions are under temporary contracts, while 44 percent of specialist positions and 13 percent of managerial positions are under temporary contracts.

## Gender

Our survey received a healthy response from women (34 percent). While one cannot confirm bias, the possibility of significant discrepancies in response rates cannot be ruled out. The potential bias may reflect a sample bias towards Ministry headquarters staff, where 40 percent of respondents are women (as opposed to 36 percent in regional agriculture centres and 17 percent in general authorities for fisheries).

Despite this possible bias, it is relevant to analyse gender data by job types as a means of assessing women's roles in the organisation. Within Ministry headquarters, women make up 71 percent of administrative staff and 20 percent of management and 28 percent of specialists. It should be noted that women hold many of the high-level specialist and engineering positions in the regional agriculture offices. Several also hold management and specialist positions at headquarters.

**Table 6: Female share by job type within various organisations under MoAIF (percent)**

Institution	Administrative	Specialists	Management
Ministry headquarters	70.6	27.8	20.0
Regional agriculture offices	62.5	37.8	28.8
General authorities for fisheries	66.7	7.1	16.6

Men are under formal contract at higher rates than women. Overall, 62.6 percent of women have contracts while 73 percent of men have them. Within Ministry headquarters, however, 20 percent of women have contracts, while 43 percent of men have contracts. This is largely reflective of recent hires by temporary contracts for administrative positions.

## Education

Most respondents across the Ministry and its affiliates hold bachelor's degrees or higher. Bachelor's degree holders make up 65 percent of respondents. Those with master's and doctorates make up 7.1 percent and 4.6 percent respectively. Another 12.2 percent have training in addition to a secondary degree.

These general figures are consistent across the different institutions. The high rate of graduate degrees among the general authorities for fisheries are due largely to the research focus of the General Authority for Maritime Studies and Aquaculture.

**Table 7: Educational Attainment within Different Institutions (percent)**

Education Level	Ministry headquarters	Regional agriculture offices	General authorities for fisheries	Total
Basic	2.0	3.6	2.9	3.1
Secondary	0.0	11.6	8.6	8.1
Secondary +	14.0	12.5	8.6	12.8
Bachelor's	78.0	62.5	54.3	65.0
Master's	4.0	5.4	17.1	7.1
Doctorate	2.0	4.5	8.6	4.6

Educational attainment by age among MoAIF employees and employees of associated entities demonstrate minor but interesting changes over time. The number of respondents with basic education has increased among younger employees, as has the number with bachelor's degrees. Older employees have higher educational attainment levels in general, reflective of the need for higher degrees to secure managerial and specialist positions. They also seem to have



focused on securing job-relevant training after obtaining secondary degrees over securing bachelor's degrees.

**Table 8: Educational attainment by age group (percent)**

Education Level	18-24	25-34	35-44	45-54	55+
Basic	0.0	6.4	2.9	2.8	1.4
Secondary	100.0	3.2	5.9	4.2	11.0
Secondary +	0.0	3.2	2.9	25.0	12.3
Bachelor's	0.0	87.1	82.4	52.1	57.5
Master's	0.0	0.0	5.9	8.3	11.0
Doctorate	0.0	0.0	0.0	8.3	6.9

When viewed by contract type, those with formal contracts tend to have secured higher degrees at a higher rate, which is probably reflective of both age and pre-war career incentives. Temporary workers have higher shares of those finishing only basic education, an impact perhaps of the war on the education system and the use of the public sector to provide jobs to those in need. At the same time, temporary workers have a high share of those with bachelor's degrees. It is easy to read too much into these results when looking at percentages alone. It is important to bear in mind that the smaller shares represent very small numbers. For example, those temporary workers with basic degrees account for only four respondents.

**Table 9: Educational attainment by contract (percent)**

Educational Attainment	Permanent	Secondment	Temporary
Basic	1.5	0.0	7.8
Secondary	8.8	11.1	5.9
Secondary Plus	12.4	33.3	7.8
Bachelors	62.0	44.4	76.5
Masters	9.5	0.0	2.0
Doctorate	5.8	11.1	0.0

## Retirement

In interviews with MoAIF staff, many underscored the Ministry's heavy dependence upon experts and managers who had reached retirement age. The preliminary census results tend to confirm this analysis. Pensions equal to 6 percent of final income are available to men at 60 years old and women at 55 years old with at least 10 years of contributions. For men with at least 25 years of contributions, retirement age is 50 years old. For women with at least 20 years

of contributions, retirement age is 46 years old. Retirement is also available at any age with 30 years of contributions.

The following table breaks down the share of the respondents for each institutional level of MoAIF and its affiliates that are: (1) currently "eligible" for retirement, (2) eligible or above retirement age, or (3) eligible and soon to be eligible to retire (will meet eligibility requirements within 5 years). Around 16 percent of the total sample are currently serving past retirement age, and 28 percent of the sample of served more than 30 years. (These two categories may overlap).

**Table 10: Retirement status by institution (percent)**

Institution	Retirement eligible	Retirement eligible + age	Retirement eligible and soon to retire
Ministry headquarters	10.2	16.3	18.4
Regional agriculture offices	66.9	66.9	75.2
General authorities for fisheries	23.4	26.4	41.2
MoAIF and affiliates	44.7	46.9	54.6

## Attachment 5: Detailed organisational review of the agriculture and irrigation sector

Under the terms of the agricultural ministry by-law, the earlier Ministry of Agriculture and Irrigation was divided into four administrative sectors: (1) Agricultural Production Development; (2) Agricultural Services; (3) Irrigation and Land Reclamation; and (4) Administrative Support. With the merger of the Agriculture Sector with Fisheries, the Agricultural Production Development and Agricultural Services Sector were reorganised under a Deputy Minister for Agricultural Development, along with the Administrative Division. Irrigation and Land Reclamation were reorganised under a Deputy Minister for Irrigation. Mandated departments and units under each of these administrative divisions, as well as current compliance and staffing under the MoAIF, are discussed below.

### Agricultural production and development

Under the by-laws, the Agricultural Production and Development sector supports the work of farmers in providing them with technical support that enables them to raise crops and livestock in an efficient and healthy manner, helping to research and introduce new genetic varieties, best practices, and compliance with standards. The sector also supports rural women depending on agriculture.

**Plant production directorate** – Under existing by-laws, the General Directorate for Plant Production is responsible for determining appropriate types of agricultural production within Yemen's

environment, carrying out experiments with new crops or varieties, seed propagation and distribution, and providing extension services and technical support in coordination with agricultural cooperatives. Prior to the war, the MoAI had established five sub-departments under the Agricultural Production Department, including Coffee, Agricultural Crops, Horticulture (fruits and vegetables) and Forestry. A fifth unit was responsible for coordination with agricultural cooperatives.

Under the MoAIF, this directorate includes one unit manager focused on coffee production and one unit manager focused on horticulture. This ensures that the ministry has some expertise in key areas of agricultural production. However, the department lacks a director, and its staff report to the Deputy Minister for Agriculture. No staff have been assigned to work in the coffee unit, the crop unit, or the forestry unit, and no staff have been tasked with engagement with cooperatives.

**Livestock and animal wealth directorate** – This department is responsible for supporting livestock development and protection through research on breeding and nutrition, studies to support the introduction of new genetic lines, and determination of the country's production requirements, as well as providing technical support and extension services to farmers, herders, and cooperatives. The department is also responsible for the promotion of beekeeping and honey production. Finally, the department is tasked with documenting Yemen's wildlife and the protection of their ecosystems. Prior to the war, MoAI had established four units under the Livestock and Animal Wealth Directorate: Beekeeping, Poultry, Feed, and Wildlife.

The Deputy Minister has stressed the urgency of hiring skilled technicians in the livestock area. Currently, there is a director for the Livestock Department; however, the only active unit is the Poultry unit, which includes one manager and an assistant. The Beekeeping, Feed and Wildlife units are not active.

**Rural women's development directorate** – While not captured in the by-laws, Rural Women's Development has long been a priority for the earlier MoAI, given the dependency of most rural women upon agriculture for their livelihoods and the large part of the rural labour force that they make up. Towards this end, under the current MoAIF structure, the ministry has maintained the Department of Rural Women's Development with a director in place. This department has two operational units: (1) Rural Women's Activities Support, with one manager and an assistant; and (2) Monitoring and Evaluation, also with one manager and assistant. The Technical and the Training and Awareness units that were operational prior to the war are not functioning at this time.

**Quality inspection directorate** – The General Directorate of Quality Inspection is responsible for regulating the quality of agricultural production. The directorate sets standards, monitors compliance and carries out periodic inspections in food production and warehouse spaces. The directorate is also responsible for monitoring animal

breeding and production projects, along with farms and feed production. Under the directorate there are four units: (1) Technical Inspection; (2) Coordination and Registration; (3) Laboratories; and (4) Agriculture Equipment.

Currently, the department has a director and a technical inspection team. The team consists of a manager, an administrative assistant, and five inspectors who operate in the field. No teams are in place for the Coordination and Registration and Agricultural Equipment units. Laboratories are not staffed, and many have either been damaged during the recent conflict or have fallen into disrepair.

## **Agriculture services**

Under the by-laws, another sector supports agriculture through the provision of technical services. The Agriculture Services Sector includes general directorates for Agricultural Extension and Training; Plant Protection; Animal Health and Quarantine; and Animal Marketing and Trade. Currently the MoAIF has been unable to re-establish these technical services due to human resource and material constraints. While regional agricultural offices retain some capacity in these areas, it will be important to establish these services in the future, as they will provide valuable technical support in areas, such as preventing disease and promoting Yemeni agricultural products abroad.

**Agricultural extension and training** – The General Directorate for Agricultural Extension and Training provides agricultural extension services for Yemeni farmers, helping to build capacity and spread awareness of the latest methods used in agriculture. It also works with authorities to build infrastructure for extension services, as well as working with farmers to identify training needs. The directorate coordinates with the Agricultural Research Authority to study agricultural problems, circulate research recommendations, and transfer agricultural research results to extension services.

**Plant protection** – The General Directorate of Plant Protection is responsible for plant and environmental protection, setting policies that limit the spread of disease, infestation, and pollution from misuse of pesticides. It works to educate farmers about these policies. The directorate is also responsible for regulating pesticide use and implementing quarantine and control efforts to limit the spread of disease and infestation. To support these capacities, it carries out field monitoring, controlled experiments, and case documentation.

**Animal health and quarantine** – The General Directorate of Animal Health and Veterinary Quarantine is responsible for monitoring animal health and controlling and eradicating epidemics and animal infectious diseases, including bee diseases and diseases common to animals and humans. To this end, it conducts field research, runs national animal immunisation campaigns and supervises the control of epidemics. It also regulates the export, import and transit of animals.

**Agricultural marketing and trade** – The General Directorate of Agricultural Marketing and Trade is responsible for supporting the marketing of Yemeni agricultural products both locally and abroad. It researches market opportunities and the competitiveness of Yemeni goods, and it also represents Yemen at international conferences and trade shows. It sets the regulations and technical standards governing the trading and marketing of agricultural products, including standards for the classification and quality of agricultural products. It works with specialised marketing organisations and organises promotional campaigns while also working to raise marketing awareness among farmers and food producers.

## The Irrigation Sector

The Irrigation Sector is overseen by the Deputy Minister of Irrigation, who is supported by three administrative staff, a bodyguard and driver. Its earlier *de jure* structure under MoAI had two departments focused on water resources and irrigation construction. Its current *de facto* structure has four departments, although one is not active. The sector struggles with securing the technical expertise needed to design, implement and repair irrigation systems and to promote water-efficient alternatives to traditional approaches. Unlike many other units, it has been able to keep in place a small team of qualified engineers focused on infrastructure.

**Farming irrigation** – The General Directorate of Farming Irrigation monitors precipitation and regulates and coordinates the use of irrigation water among farmers, determining the irrigation requirements for different crops. The directorate maintains dams and traditional irrigation systems, while designing and promoting the use of modern irrigation methods and innovative methods to decrease the use of Yemen's scarce water resources. Prior to the war, there were three units under the directorate: Irrigation Systems, Irrigation Awareness, and Irrigation Use Surveillance.

Under the MoAIF, no director has been assigned to head this directorate; however, there is a manager in charge of the Irrigation Systems unit, supported by one assistant. There are no active staff members assigned to the Irrigation Awareness unit or the Irrigation Use Surveillance unit; these functions are carried out when needed by staff in other departments.

**Irrigation infrastructure** – The General Directorate for Irrigation Infrastructure is responsible for research and planning associated with irrigation. They document appropriate placement, carry out feasibility studies and prepare technical standards for irrigation facilities. The directorate manages and supervises project implementation for dam, water storage and irrigation systems; it also oversees their subsequent operation. There are four units under the directorate: (1) Planning and Studies; (2) Engineering; (3) Supervision; and (4) Space Management.

This directorate is one of the better staffed units under MoAIF, and its staffing profile is comparable to what one would typically find in well-established units. It is headed by a director who is supported by an administrative assistant. The director oversees the work of 13 engineers focused on various aspects of dam and irrigation maintenance and development. These engineers work across existing units. While resources supporting these engineers are scarce, the ministry has been able to use funds from the Agriculture and Fisheries Promotion Fund to support limited travel and materials costs for field work focused on revitalising irrigation schemes.

**Forests, rangelands, and desertification** – The General Directorate of Forests, Rangelands and the Combatting of Desertification is responsible for developing strategies to combat desertification and protect natural forest and rangelands as well as studying how they can be used to provide livelihoods in a sustainable manner. This includes documenting wild species, regulating and researching the impact of economic activities on the ecosystem, and propagating plant species that can limit desertification in Yemen.

Currently, this department maintains a small staff of one director, one engineer and one administrative assistant. This leaves the department with very limited capacity to counter the significant desertification and deforestation that has occurred during the civil war.

**Agricultural land inventory and reclamation** – On paper, the General Directorate of Agricultural Land Inventory and Reclamation is focused on expanding land reclamation to increase the area available to agricultural production. It is responsible for creating an inventory of agricultural lands, conducting studies to ensure optimal land use, and protecting the land from further erosion and desertification. The directorate is also responsible for researching ways to return saline land to productivity and for identifying promising investment opportunities. While there is evidence that significant agricultural land loss has occurred during the civil war, this directorate has not been relaunched after the move from Sana'a to Aden and remains unstaffed. In the context of scarce resources, the reclamation of unused agricultural land has taken a backseat to improving productivity on established farms.

### **Administrative functions under the planning and IT sector**

Otherwise known as Administrative Services, the Planning and IT Sector provides the Agriculture and Irrigation sector with cross-cutting support services. It includes several departments that provide important support services, such as Agricultural Statistics, International Relations, and Monitoring and Evaluation. Some have remained as departments under the MoAIF's Agriculture Sector, while others (such as Human Resources and Legal Affairs) have been joined with Fisheries offices and report directly to the Minister.

**Agricultural projects** – The General Directorate of Agricultural Projects develops public infrastructure for the agricultural sector, submitting technical concepts and proposals for strategic projects. The office prepares feasibility studies and identifies investment opportunities; it also supervises projects during development. The directorate also reviews studies submitted to the Ministry by others. Currently, this department includes a director, an engineer, and an administrative assistant. There are no sub-department units.

**Statistics and agricultural information** – The General Directorate of Statistics and Agricultural Information is responsible for maintaining a modern integrated system for agricultural information and statistics; it also conducts statistical studies on the agricultural sector. It publishes regular statistical bulletins and develops statistical models supporting the work of the ministry. Under current structures, this department has one director and two assistants. This small team depends on cooperative relationships with regional agricultural offices to collect local agriculture data.

**Planning, monitoring and evaluation** – The General Directorate of Planning, Follow-up and Evaluation supports the preparation of agricultural development strategies and develops the necessary plans and programmes for implementation. It submits regular reports and proposes solutions to emerging problems and implementation difficulties. Currently it is headed by a director supported by three assistants—a staffing complement that is well below what would be expected for a unit of its type.

**Public relations and international affairs** – The General Directorate of Public Relations and International Cooperation prepares conferences, seminars, and international meetings in the field of agriculture and irrigation. It also makes the necessary arrangements to host delegations and experts visiting the Ministry. The directorate helps to assess international agreements and prepares proposals to facilitate cooperation with other countries. It ensures payment of the Ministry's contributions to Arab, regional, and international unions, organisations, and institutions in the agricultural field. Finally, the directorate is responsible for studying public perceptions about the Ministry and tracking what is published by various media outlets. Currently, this unit is staffed by a director-level specialist with no support staff.

**Legal affairs** – The General Directorate for Legal Affairs is responsible for the preparation of draft laws, decisions and regulations related to the work of the Ministry. It provides legal advice to the Ministry, prepares contracts and agreements, and represents the Ministry before the judiciary. It is responsible for explaining laws and relations to employees and monitoring the implementation of specific laws. In the wake of the merger, the Legal Affairs office for the Agriculture Sector has been joined with Legal Affairs from the Fisheries Sector, with the department reporting directly to the Minister. There is one director-level legal expert supported by two technicians, one with an agricultural background and one with a fisheries background.



**Personnel affairs** – The General Directorate of Personnel Affairs is responsible for drafting workforce, wages, and training plans for the ministry. The office prepares payroll and bonuses, and it manages issues related to appointments, delegation, secondment, resignation, transfer and other cases of service in accordance with civil service legislation, as well as performance appraisal. Under the current structure, Personnel Affairs for the Agriculture Sector and for the Fisheries Sector have been united under one Human Resources Department, with the Director of Human Resources being seconded from the Ministry of Civil Service and Insurance. The director is supported by four assistants. There is also a Staff Affairs Department with one manager within the Human Resources Department.

**Financial affairs** – The General Directorate of Financial Affairs is responsible for ensuring financial performance, rationalising spending, developing the resources of the Ministry, and carrying out follow-up and control over their implementation. This includes drafting the annual budget, monitoring expenditures, and organising the accounting work of the Ministry. It is responsible for estimating the Ministry's needs in terms of fixed and current assets, maintaining warehouse inventories, and ensuring payments for transport, communications, and utilities, as well as collecting fees and levies. It also has an auditing role, providing rapid responses to the Central Organisation for Audit Control and reporting any identified financial improprieties.

Under the MoAIF, the Financial Affairs directorate has one director and two departments: Budgeting Accounting and Current Accounting. Budget Accounting, overseen by one manager, includes four units (Accounting Entry, Budgeting, Auditing, Cashier), but it is unclear how many of these units are staffed. Likewise, Current Accounting has one manager in place. There are nine units under Current Accounting, including Aggregated Accounting, Budgeting, Accounting Entry, Cashier of Plant Quarantine, Cashier of Veterinary Services, Cashier of the Ministry, Services, Auditing of Plant Quarantine, Auditing of Veterinary Quarantine, and Auditing of Quality Inspections. As with Budget Accounting, it is unclear how many of these units are staffed.



## References

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- Al-Sakkaf, N., & Alexander, J. (2022). *Internet access in Yemen should be an opportunity for cooperation, not a target*. The Washington Institute for Near East Policy. Retrieved from <https://www.washingtoninstitute.org/policy-analysis/internet-access-yemen-should-be-opportunity-cooperation-not-target>
- Aldaghabashy, A. (2017). *Khat cultivation fuels food crisis in Yemen*. SciDev.Net. Retrieved from <https://www.scidev.net/global/news/khat-cultivation-food-crisis-yemen/>
- Conflict and Environment Observatory. (2022). *Report: Yemen's Agriculture in Distress*. Retrieved from <https://ceobs.org/yemens-agriculture-in-distress/>
- Fathallah, H. & Hammoud, A. (2022). *Fisheries Value Chain in Yemen: Investment Opportunities and Export Potential, International Finance Corporation*. World Bank Group & Food and Agricultural Organization (FAO). Draft.
- Food and Agriculture Organization (FAO). (2018). *Yemen Plan of Action 2018-2020*. Retrieved from <https://www.fao.org/3/i9054en/i9054en.pdf>
- International Monetary Fund (IMF). *World Economic Outlook (2022)*. Washington, DC. Retrieved from <https://www.imf.org/en/Publications/WEO/Issues/2022/04/19/world-economic-outlook-april-2022>
- Ireland, P. (2022). *Yemen: How fishing communities are fighting back*. Norwegian Refugee Council. Retrieved from <https://www.nrc.no/shorthand/stories/yemen---how-fishing-communities-are-fighting-back/index.html>
- Khachani, K. (2016). *MENA-OECD network on Public Procurement*. OECD. Retrieved from <https://www.oecd.org/gov/ethics/mena-oecdnetworkonpublicprocurement.htm>
- Middle East Eye. (2020). *Iranian ships conducted 'world's largest illegal fishing operations' in Somali and Yemeni waters*. Retrieved from <https://www.middleeasteye.net/news/iranian-ships-conducting-one-worlds-largest-illegal-fishing-operations-somalias-waters>
- Mohammed, S. (2021). *How war destroyed Yemen's once-thriving fishing industry*. New Lines Magazine. Retrieved from <https://newlinesmag.com/reportage/how-war-destroyed-yemens-once-thriving-fishing-industry/>
- United Nations Development Program (UNDP). (2020a). *Fishery Value Chain: A Market Study with Potential COVID-19 Impact Analysis*. Retrieved from <https://www.undp.org/yemen/publications/fishery-value-chain-market-study>

United Nations Development Program (UNDP). (2020b) *A Synthesis Report on Micro, Small and Medium Enterprises in Yemen with Potential COVID-19 Impact Analysis*. Retrieved from <https://www.undp.org/yemen/publications/synthesis-report-micro-small-and-medium-enterprises-yemen-potential-covid-19-impact-analysis>

United Nations. (2022). *Leaving no one behind in Yemen: Steps towards better production, nutrition, environment and life in Yemen*. Retrieved from <https://yemen.un.org/en/203542-leaving-no-one-behind-yemen-steps-towards-better-production-nutrition-environment-and-life>

United States Agency for International Development (USAID). (2019). *The Fisheries Sector in Yemen - Status and Opportunities*. Retrieved from [https://pdf.usaid.gov/pdf\\_docs/PA00WFZJ.pdf](https://pdf.usaid.gov/pdf_docs/PA00WFZJ.pdf)

World Bank Group (2022a). *World Development Indicators*. Retrieved from <https://databank.worldbank.org/source/world-development-indicators>.

### **Other works consulted**

A-Shami, H. (2004). *The Poverty Reduction Strategy and Food Security in Yemen (current and perspectives): as the key components of the socio-economic development plans*. FAO.

Al-Kirshi, A. A. H., & Abbas, T. A. M. (1998). *Protected agriculture in the Republic of Yemen*. AGRIS. Retrieved from <https://agris.fao.org/agris-search/search.do?recordID=QV200000025>

Central Bank of Yemen. (2020). *Quarterly Bulletin: Economic and Monetary Developments*. Issue No. 1. Aden, Yemen. Retrieved from <https://cby-ye.com/files/615d821b9d52b.pdf>

Economist Intelligence Unit (EIU). *Yemen Economic and Political Forecast*. (2021). Retrieved from <https://country.eiu.com/yemen>

International Budget Partnership (2019). *Open Budget Survey 2019*. Retrieved from <https://internationalbudget.org/open-budget-survey/open-budget-survey-2019>

International Monetary Fund (IMF). (2022). *Restructuring Debt of Poorer Nations Requires More Efficient Coordination*. Retrieved from <https://www.imf.org/en/Blogs/Articles/2022/04/07/restructuring-debt-of-poorer-nations-requires-more-efficient-coordination>

Organization for Economic Co-operation and Development (OECD). (2008). *Enhancing Integrity of Public Procurement in Yemen OECD-MENA Governance Program*. Retrieved from <http://www.oecd.org/mena/governance>

Ministry of Agriculture and Irrigation. (2012). *Ministry of Agriculture: National Agriculture Strategy 2012-2016*. Ministry of Agriculture and Irrigation: Republic of Yemen. Retrieved from <https://www.undp.org/yemen/publications/national-agriculture-sector-strategy-2012-2016>

- Sana'a Centre Economic Unit. (2020). *Yemen Economic Bulletin: STC's Aden Takeover Cripples Central Bank and Fragments Public Finances*. Sana'a Centre. Retrieved from <https://sanaacenter.org/publications/analysis/10219>
- Stevens, P. (2005). Oil Markets. *Oxford Review of Economic Policy*, 21(1), 19–42. <http://www.jstor.org/stable/23606815>
- Thabit, M. A. A. (2019). *A Working Paper on Procurement Anti-Corruption in Yemen*. *Arab Journal of Administration*, Vol. 39, No. 4. Retrieved from [https://aja.journals.ekb.eg/article\\_66952\\_bfa7c3f72643f2eb23c201c238bed597.pdf](https://aja.journals.ekb.eg/article_66952_bfa7c3f72643f2eb23c201c238bed597.pdf)
- United Nations Development Program (UNDP). (2021). *Assessing the Impact of War on Yemen: Pathways for Recovery*. New York, New York, USA. Retrieved from <https://www.undp.org/publications/assessing-impact-war-yemen-pathways-recovery>
- United States Agency for International Development (USAID). (2006). *Yemen Corruption Assessment*. Retrieved from [https://www.transparency.org/files/content/activity/2006\\_USAID\\_YemenCorruption\\_EN.pdf](https://www.transparency.org/files/content/activity/2006_USAID_YemenCorruption_EN.pdf)
- United States Agency for International Development (USAID). (2008). *Enhancing Government Effectiveness in Yemen: An Assessment of the Ministry of Agriculture and Irrigation*. Washington, D.C. Retrieved from [https://pdf.usaid.gov/pdf\\_docs/PNADT855.pdf](https://pdf.usaid.gov/pdf_docs/PNADT855.pdf)
- UN World Food Program (WFP). (2022). *War in Ukraine pushes Middle East and North Africa deeper into hunger as food prices reach alarming highs*. Retrieved from <https://www.wfp.org/news/war-ukraine-pushes-middle-east-and-north-africa-deeper-hunger-food-prices-reach-alarming-highs>
- World Bank Group. (2022b). *Yemen's Economic Update*. Retrieved from <https://www.worldbank.org/en/country/yemen/publication/economic-update-april-2022>
- World Bank Group. (2022c). *Yemen - Macro Poverty Outlook*. Retrieved from <https://thedocs.worldbank.org/en/doc/65cf93926fdb3ea23b72f277fc249a72-0500042021/related/mpo-yem.pdf>

# State Fragility initiative

The State Fragility initiative (SFi) is an International Growth Centre (IGC) initiative that aims to work with national, regional, and international actors to catalyse new thinking, develop more effective approaches to addressing state fragility, and support collaborative efforts to take emerging consensus into practice. SFi brings together robust evidence and practical insight to produce and promote actionable, policy-focused guidance in the following areas: state legitimacy, state effectiveness, private sector development, and conflict and security. SFi has financial support from the UK Foreign, Commonwealth, and Development Office (FCDO) and The Rockefeller Foundation.

[www.theigc.org/statefragilityinitiative](http://www.theigc.org/statefragilityinitiative)

# IGC

