

# BUILDING A BETTER YEMEN

**Charles Schmitz**

MIDDLE EAST | APRIL 2012

CARNEGIE ENDOWMENT

FOR INTERNATIONAL PEACE

WASHINGTON DC ■ MOSCOW ■ BEIJING ■ BEIRUT ■ BRUSSELS

# **BUILDING A BETTER YEMEN**

**Charles Schmitz**

**MIDDLE EAST | APRIL 2012**

**CARNEGIE ENDOWMENT**

---

**FOR INTERNATIONAL PEACE**

**WASHINGTON DC ▪ MOSCOW ▪ BEIJING ▪ BEIRUT ▪ BRUSSELS**

© 2012 Carnegie Endowment for International Peace. All rights reserved.

The Carnegie Endowment does not take institutional positions on public policy issues; the views represented here are the author's own and do not necessarily reflect the views of the Endowment, its staff, or its trustees.

No part of this publication may be reproduced or transmitted in any form or by any means without permission in writing from the Carnegie Endowment. Please direct inquiries to:

Carnegie Endowment for International Peace  
Publications Department  
1779 Massachusetts Avenue, NW  
Washington, D.C. 20036  
Tel. +1 202-483-7600  
Fax: +1 202-483-1840  
[www.CarnegieEndowment.org](http://www.CarnegieEndowment.org)

This publication can be downloaded at no cost  
at [www.CarnegieEndowment.org/pubs](http://www.CarnegieEndowment.org/pubs).

Cover image © Yemen LNG

# Contents

<b>Summary</b>	<b>1</b>
<b>Introduction</b>	<b>3</b>
<b>Assessment of the Yemeni Economy</b>	<b>4</b>
<b>Yemen's Resources</b>	<b>5</b>
<b>Labor Export: Labor as a Natural Resource</b>	<b>7</b>
<b>Labor as the Source of Growth</b>	<b>8</b>
<b>Capital</b>	<b>10</b>
<b>Water</b>	<b>11</b>
<b>Fiscal Crisis</b>	<b>12</b>
<b>Conclusion</b>	<b>13</b>
<b>Notes</b>	<b>15</b>
<b>Further Reading</b>	<b>17</b>
<b>About the Author</b>	<b>19</b>
<b>Carnegie Endowment for International Peace</b>	<b>20</b>

# YEMEN

- International Boundaries
- ⋯ Governorate Boundaries
- ★ Country Capital
- Governorate Capital

SAUDI ARABIA

RED SEA

SAADA  
● Saada

AMRAN

AL-JAWF

HADRAMAUT

AL-MAHRA

HAJJA

● Al-Hazm

● Al-Ghayda

Hajja ● Amran ●

MARIB ● Marib

AL-MAHWIT ●  
AL-HUDAYDA ●

★ Sanaa

SANAA

SHABWA

Al-Mukalla ●

DHAMAR ● Dhamar

AL-BAYDA

● Ataq

RAYMAH

IBB ● Ibb

AD DALI ● Ad Dali

AL-BAYDA ● Al-Bayda

Hanish Islands (YEMEN)

Taiz ● Taiz

TAIZ

ABYAN

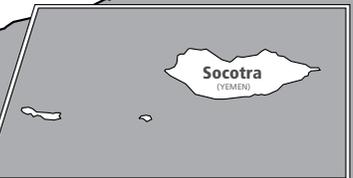
LAHIJ ● Lahij

● Zinjibar

ADAN

● Aden

GULF OF ADEN



ERITREA

DJIBOUTI

SOMALIA

ETHIOPIA

---

## Summary

The Yemeni economy is often portrayed as a dire picture of impending disaster, as the country runs out of oil and even more devastatingly of water. Yemen's economic problems are real, but they are not caused by an absolute, irreparable shortage of resources. Rather, it is Yemen's contentious politics and its lack of institutional development that constitute the main obstacle to surmounting present economic difficulties.

With liquefied natural gas reserves, mineral riches, a once-prominent deep-water port, opportunities for tourism, and more, Yemen is in many ways rich in resources. And Yemen's oil wealth has enabled it to make significant strides in economic development over the last few decades. But growth has stemmed primarily from oil revenues, not from the state's fostering of domestic labor, infrastructure, or investment—all sources of sustainable, long-term economic growth and stability. The country's institutions and infrastructure have long been neglected. Water resources have been depleted and inefficiently used in the agricultural sector, the government has no means of collecting taxes, and labor is not being put to good use at home.

Now, facing political turmoil and a future without relatively easy money coming in from oil, Yemen has some stark choices to make. Ultimately, long-term success depends on the Yemeni state, not on outside help from the United States or Gulf countries—though they can play a critical role in helping to stabilize the Yemeni economy in the short term. At the heart of the matter lies institutional development. Long-term development depends on a strong Yemeni state to strengthen the domestic labor force, build a healthy investment environment, cultivate the private sector, tax citizens to fund state expenditures, and better manage resources. A capable and legitimate state is essential to Yemen's economic future, much more so than the presence of natural resources.



---

## Introduction

Yemen is suffering from two related economic crises: a short-term breakdown of economic infrastructure and a long-term transition away from dependence on oil exports. In the short term, the economy has been used as a weapon in the political fighting that continues to play out in Yemen. Oil pipelines in Yemen's eastern desert were destroyed by opponents of former president Ali Abdullah Saleh in order to deny Saleh export revenues. The lack of fuel, combined with attacks on the electrical grid, cut power to the major cities. In the spring of 2011, government opponents prevented basic cooking gas and diesel fuel from entering Sanaa in the hopes of provoking a political crisis. And now that Saleh has ceded power and Yemen has a new president, the political infighting has continued; however, this time it is the former president's supporters that are causing problems. In March 2012, Republican Guards on the main road from Al-Hudayda to Sanaa refused to allow vehicles to pass for three days and then demanded thousands of riyals in payment for each car. Local tribal fighters opened the road by force.

Yemen's high-stakes, no-holds-barred political battles can produce particularly perverse outcomes in the economy. This is the short-term crisis that the transitional government will be immediately tasked with resolving. International supporters of the interim government can be very effective in helping to rebuild infrastructure, but the long-term success of this effort will depend upon the government's ability to resolve the underlying grievances and issues that drive people to use economic assets as bargaining chips in political games. The grievances of the eastern tribes in the oil-producing areas and along the pipelines will need to be resolved in order to prevent further sabotage.

In the longer term, Yemen is experiencing the painful adjustment associated with a transition away from dependence upon oil exports. And the legitimacy and capacity of the Yemeni state will have to be extended much further in Yemen if the government expects cooperation in its efforts to build a post-hydrocarbon economy. Both the Yemeni economy and state were highly dependent upon oil exports in the 1990s and 2000s. Oil dependence enabled the Yemeni economy to achieve substantial growth over the last two decades. Indeed, well-being as measured in health, education, and income improved significantly even in the face of very rapid population growth—no small achievement.

---

**The legitimacy and capacity of the Yemeni state will have to be extended much further in Yemen if the government expects cooperation in its efforts to build a post-hydrocarbon economy.**

---

However, oil distorted the Yemeni economy and state as well. Economic growth outside of oil was restricted largely to commerce and transportation—those sectors that facilitated the import of consumer goods. Yemen’s oil years did little to stimulate the productive capacity of Yemeni labor because labor productivity had little relation to growth in Yemen’s oil economy. And revenues from oil enabled the regime to eschew the need for an effective state to collect taxes from society. One of the distinguishing features of the Yemeni state is its lack of institutional capacity. The president and his followers ruled

---

**The economy’s long-term performance will be strongly tied to the state’s ability to manage economic growth based upon domestic labor.**

---

through their own personal networks that bypassed institutions and retarded institutional development.<sup>1</sup> Taxation to produce revenue thus presents a formidable challenge for Yemen. The state must not only develop the bureaucratic means to tax but it must also gain the necessary legitimacy that allows for effective taxation.

With the decline of oil revenues, the Yemeni economy will be based to a much greater extent upon domestic labor.

This is a positive development—a more diversified economy is more robust and less dependent upon single sources of income that may fluctuate dramatically. But the newly diversified economy will require the cultivation of Yemen’s domestic labor productivity and a far more capable state to do so. The economy’s long-term performance will be strongly tied to the state’s ability to manage economic growth based upon domestic labor.

Though oil has been a cornerstone of Yemen’s development thus far, economic growth is not dependent on the presence of natural resources.<sup>2</sup> Natural resources can be an asset, but their benefit to the economy depends upon the ability to use the resources productively for long-term growth. Thus far, Yemen’s revenues have been used primarily for current consumption rather than investment in the future.

Water resources, for instance, are scarce—not because they are running out so much as they are badly managed. The state’s inability to manage society has meant that water withdrawals have exceeded groundwater recharge. Effective management is necessary to regulate withdrawals and allow groundwater recharge. It will also be incumbent upon the state to improve the efficiency of water use in the agricultural sector.

An effective and capable Yemeni state is a key factor in the country’s future economy. Both the immediate problems and long-term growth are strongly related to the state’s capacities, abilities, and legitimacy.

## **Assessment of the Yemeni Economy**

Yemen is often described as the poorest economy in the Middle East. In the United Nations Development Program’s (UNDP’s) index of human development in

2011, Yemen is ranked 154th out of 187 countries, placing it in the category of the lowest human development. But assessing economic achievement or poverty is not as straightforward as many make it seem. Statistics on economic achievement and deprivation are used as weapons in political discourse and so care needs to be taken to contextualize the numbers.

Yemen is poor on a global scale, but its standard of living is better than the sub-Saharan African average and on par with the South Asian average. Next to Saudi Arabia (\$16,190) and Oman (\$18,260), Yemen's per capita gross national income (GNI) of \$1,070 is poor. But Ethiopia's per capita GNI of \$390, Eritrea's of \$340, and Kenya's of \$790 make Yemen look much better. India's per capita GNI (\$1,330) is only slightly higher than Yemen's. Measuring poverty rather than average national income yields similar results. Using the UNDP's Multidimensional Poverty Index, about 52 percent of Yemenis were poor in 2011. In most of sub-Saharan Africa, 70 to 90 percent of the population is poor by this measure. Clearly Yemen is poor, but on a par with South Asia and better off than sub-Saharan Africa.

And contrary to the persistent image of a stagnant development disaster, Yemen has made significant strides over the last four decades. All of the indicators of well-being have been rising steadily and major achievements have been realized in the last twenty years. World Bank data indicates that literacy rates have risen from 34 percent in 1994, the year of Yemen's civil war, to 62 percent in 2010. Literacy among those aged fifteen to twenty-four is 82 percent (Puerto Rico's literacy rate, by comparison, is 87 percent) and literacy is rising fastest among young women. Life expectancy has risen significantly and infant mortality has fallen, as have fertility rates. Yemenis are much healthier, are better educated, and are significantly wealthier than even twenty years ago when the Republic of Yemen was established.

Still, policymakers are concerned about the Yemeni economy because the achievements of the past two decades were dependent in large part on oil revenues, which threaten to disappear entirely very soon.

## Yemen's Resources

Yemen was never a significant producer of oil. Even at its height, the country produced a small fraction of what Saudi Arabia, Kuwait, Iran, or the UAE produce. Nevertheless, oil has been very significant for Yemen's domestic economy over the last two decades. It has made up about a third of gross domestic product (GDP), provided about three-quarters of state revenue, and accounted for nearly all of Yemen's export revenue.

Currently, Yemeni oil production is declining because the country's reserves are running out and there is little new exploration for new oil. Even with such

---

**Yemen is poor on a global scale, but its standard of living is better than the sub-Saharan African average and on par with the South Asian average.**

---

exploration, oil industry specialists do not expect major new finds in Yemen. Meanwhile, domestic consumption is rising, and soon production will not even satisfy domestic demand, much less provide revenue for growth and investment.

Yemen does have other natural resources, chief among them natural gas. At \$4.5 billion USD, Yemen's liquefied natural gas (LNG) project is the largest investment project in Yemen's history, but the project will only bring about a quarter of the revenue that oil brought to the economy. In the 2000s, average export income from crude oil was about \$5 billion per year. The LNG project will bring about \$1 billion to the economy per year over the next twenty years. (Worker remittances, by comparison, bring approximately \$1.5 billion per year in a total economy of \$26 billion.) Though most of the income from the LNG project will be distributed to foreign shareholders, some of the profits will remain in Yemen, with the state-owned Yemen Gas Company owning 16 percent of shares and the government's pension fund owning another 5 percent. The Yemeni government will also collect tax revenues from the project estimated at an average of \$100 million per year, and those revenues

---

**Further development of Yemen's mineral potential will require settling Yemen's multiple security crises.**

---

will increase toward the end of the life of the project. But the state budget in the last decade was about \$6 billion, so relatively speaking, taxes from the LNG project will only contribute a small fraction of the state revenue that oil provided in the past.

There is good economic potential in the mining and mineral sector in Yemen as well. There is substantial interest in Yemen's mineral riches and there have already been some investments in the mineral sector, including a zinc deposit at Jabal Salab and exploration of a massive sulfide deposit northwest of Sanaa by Vale, one of the largest mining companies in the world.<sup>3</sup> Further development of Yemen's mineral potential, though, will require settling Yemen's multiple security crises. Investors are hesitant to invest in places where armed conflicts are simmering and unpredictable.

Additionally, the port of Aden is a huge natural deepwater port. Aden was the third-busiest port in the world in the 1950s and it has the ability to regain its prominent role in the region, given good management of the port and strategic thinking for its future. The free zone in Aden, a center for regional and international investment in Yemen, also has potential, but the development of the free zone is tied to the more difficult issue of managing the institutional framework to harness Yemeni labor for economic growth.

Yemen also has good potential in tourism. Its physical geography is spectacular and its high mountains provide a pleasant summering spot for Gulf inhabitants from the humid sandy plain that is the eastern Arabian Peninsula. Yemen's cultural heritage, including its distinctive architectural styles, is a rich treasure that attracts travelers from all over the world. As is the case with mining and the port of Aden, however, Yemen's tourism industry is dependent

upon solving Yemen's security crises, developing tourism's infrastructure, and providing a stable and secure environment.

The decline of Yemen's oil is of concern to many who worry about the Yemeni economy because the state spent oil revenues for current expenditures, did not foster long-term growth in other sectors, and now cannot adequately manage its natural resources because it lacks the proper infrastructure. This is an outcome of Saleh's political strategy. The Saleh regime intentionally inhibited institutional development in order to maintain its power. Just as Yemen's security forces were divided among many different command structures in order to maintain personal dependency upon the person of the president, Yemen's economic institutions are weak so that Yemeni businessmen became personally dependent upon the graces of the (former) president. Such a strategy may have been effective in maintaining Saleh's rule for a long period of time, but it did so at the expense of building the foundations of a future economy.

---

**The Saleh regime intentionally inhibited institutional development in order to maintain its power.**

---

## **Labor Export: Labor as a Natural Resource**

In the 1970s and 1980s Yemen's economic growth was tied to emigration of Yemenis to the oil-rich countries of the Persian Gulf. Wages sent home from these Yemeni workers abroad raised incomes in Yemen and stimulated the transition of the country's agricultural economy into a massive commercial network for the importation of consumer goods. But as the Yemeni economy and population grew, the income from remittances remained flat and thus the relative importance of remittances to the economy declined dramatically. The decline in remittances has been relative, not absolute. The value of remittances remained more or less constant, despite the general belief that the remittance era ended when the Saudi government expelled Yemeni workers after Yemen voted "no" on the 1990 United Nations Security Council resolution on Iraq.

Yemen still has an abundance of labor eager for the chance to work in the Persian Gulf countries, the Gulf Cooperation Council (GCC), or elsewhere. There is plenty of room for expansion of Yemeni labor emigration, but the barriers to expansion in the Arabian Peninsula, the most likely place for Yemenis to go, are political. The GCC countries complain that Yemeni labor is unnecessary, that the structure of Gulf economies has changed such that unskilled construction labor, which the Yemenis typically provide, is no longer needed and that only more skilled labor is required. Analysis of the labor market in the Gulf reveals while it is true that construction no longer dominates the economies, among the large foreign labor force in these countries (90 percent of residents of the UAE are foreign workers) there are many low-skilled labor positions, including in construction. And there is a growing demand for

service-sector workers. These positions do not require years of training and a university education. Hotel workers, for example, can be easily trained.

The issue is not so much the skill of Yemeni workers, but the desire of the Gulf to keep labor in a very vulnerable position. The Gulf states are interested in foreign workers from Asia who have no desire to settle in the Gulf and make no demands upon the states. Their relationship with a country is tied to employment alone, so their presence and employment are extremely vulnerable to the demands of employers.

Yemeni workers by contrast are culturally closer to Gulf citizens. They speak Arabic, are Muslim, and are linked to the tribal heritage of the Peninsula. Yemenis will demand respect and might possibly make claims to citizenship if they live most of their lives in the Gulf countries, as many Asian expats do.

Yet, allowing labor in may actually be in the best interest of these states. Gulf countries fear Yemen's instability. They want a stable Yemen that will not be a security threat to the Arabian Peninsula. If those concerns are serious, the most important way they can help in the short term is to allow Yemeni labor into the GCC in far greater numbers. There are already some programs in Yemen that train Yemeni workers for construction in the Gulf, but the Gulf could do far more to relieve some of the problem of unemployment in Yemen and at the same time increase Yemeni income through remittances. All of those

steps would help support Yemen's economy as it struggles with political turmoil and transitions away from oil.

The United States could also help by playing a more effective role in coordinating regional efforts to bolster the Yemeni economy. Saudi Arabia just purchased \$60 billion worth of U.S. weapons—the largest weapons deal in history. Clearly the United States considers Saudi Arabia a key ally and the Saudis depend upon the United States for

security. Such a close security alliance should allow for better efforts to relieve the problem of unemployment in Yemen, a country that both Saudi Arabia and the United States consider a key source of instability in the region.

Labor export will help relieve only some of Yemen's economic challenges though, and exporting labor will not solve the problem of stimulating domestic economic growth. Long-term sustainable economic growth will depend upon domestic labor's employment in the domestic Yemeni economy.

---

**Long-term sustainable economic growth will depend upon domestic labor's employment in the domestic Yemeni economy.**

---

## Labor as the Source of Growth

Certainly in the short term, oil revenues will be sorely missed in Yemen, but oil or other natural resources are not the determinant of growth; rather, it is labor that is the source of wealth. Sub-Saharan Africa, for instance, is resource

rich, yet its economies are the poorest in the world. Japan meanwhile is natural resource poor, yet it is one of the richest economies in the world. There, wealth is produced by human labor that transforms raw materials into commodities.

Japan's success is due to its capacity to import natural resources and use them in manufacturing where labor productivity is extremely high. Yemen has plenty of labor; its problem is harnessing that labor for economic growth.

Tapping into labor to produce economic growth requires first providing the social incentives and institutions that lead people to work, save, and invest. In Yemen today, the first thing that people do when they accumulate

any wealth is to transfer it outside the country. Investments are not safe in the country as a result of the lack of even physical security these days given the Arab Spring turmoil, but more significantly, in the long term people do not feel assured that the fruits of their labor are safe.

A common assumption is that securing investments (including one's own labor) means establishing the rule of law, enforcing property rights, and limiting state involvement in the economy. Yet, it is not that market economies grow when property rights are secure and the state stays out of the economy, but rather growth occurs when the incentives to labor and investment, regardless of their external form, stimulate growth.

Take China as an example. Beijing's experience demonstrates that there are alternative ways of providing incentives to labor and savings. Local Chinese officials ran the village enterprises that were the heart of Chinese growth in the 1980s and 1990s and private property did not exist, yet people could see that their efforts would be rewarded. They worked hard and the Chinese economy grew rapidly. The Chinese experience is illustrative of the fact that it is not the particular form of economic institutions, such as private property, that is the key to growth, but rather it is the incentives underlying the institutions that are critical. And contrary to the wisdom that states are inefficient, the local town enterprises in China were extremely efficient.

In Yemen, political involvement in the economy retards growth rather than stimulates it, and people do not feel secure that their labor efforts will be rewarded. Rights to property and the enforcement of contracts in Yemen are secured by individuals, not the state, so people must find their own means of continually enforcing their claims. Needless to say, those who do not command the forces necessary to hold onto their wealth have little incentive to invest in Yemen. Thus the common saying in Yemen is that the "powerful eat the weak," and one of the major demands of the ongoing protests is the building of what Yemenis call a "state of institutions." By this they mean a state with strong rule of law and with institutional processes determining outcomes rather than individuals.

---

**Tapping into labor to produce economic growth requires first providing the social incentives and institutions that lead people to work, save, and invest.**

---

The problem is compounded by the way that politics drives resource allocation. The Saleh regime gave state contracts to key allies in the regime. It also politicized the private sector in Yemen by making private Yemeni capital dependent upon the person of the president—only those in favor with the leader could maintain their business in Yemen. Thus one's protection and rights depended upon one's relationship with Saleh and his regime.

Politicizing resource allocation is not unusual. It occurs even in the most developed of economies; in the United States, for instance, it is called pork barrel politics. The real question is how these political decisions affect economic outcomes. During its economic transition, the South Korean state was very involved in making decisions about the economy and who should benefit, but these decisions resulted in increased labor productivity. South Korea was even famous for its corruption during the 1970s and 1980s, but clearly this corruption did not impede economic growth.

In Yemen, however, the manner in which power has been exercised has been detrimental to economic growth. This does not mean that the Yemeni state must withdraw from the economy, but rather that reforming the relationship between power and the economy is necessary to stimulate growth. Rather than using the economy to bolster the political position of the president, the power must be used to bolster the productivity of the economy.

## Capital

Increasing investment in Yemen is another key to stabilizing the economy. At least in the near term, that investment will likely come from domestic Yemeni investors rather than foreign investors because Yemeni investors understand local customs and they know how to best secure and safeguard their investments. They know how to manage labor and how to deal with the state.

There are indeed Yemenis with capital to invest, but most of them have left Yemen because of the regime of Ali Abdullah Saleh. It was clear to these investors that Saleh wanted to control the private sector for political gains. They will return if they feel that the new government has the capacity to stabilize the country and will allow them to cultivate their businesses.

Foreign investors will invest in oil and gas or in mining operations, but there is little foreign investment outside of these areas. Fortunately, foreign investment is not crucial to Yemen's growth. As Rodrick has shown, growth is largely driven by domestic rather than foreign investment.<sup>4</sup> In fact, foreign investment usually follows rather than causes growth. If there is no growth, foreign investors will not put their money into a country in order to create growth. They are looking for opportunities, not to build an entire economy from scratch. That is the responsibility of the state and local elites, who will invest and reinvest in the local economy because they know local society, the opportunities, and the state.

## Water

A critical resource issue of grave concern in Yemen is water. Yemen's per capita water supply is one of the lowest in the world. Even so, water is also not an insurmountable barrier for Yemen's economy. Its water problems are less a question of scarcity than they are a question of management, as is true for the economy at large.

Yemen has more natural water resources than Saudi Arabia and the Gulf states, but these states are able to supplement natural water sources with energy-intensive desalination plants. Yemen, however, has neither the capital nor the energy to spend on desalination plants and there are no rivers draining into Yemeni territory. Large amounts of fossil water are found in the eastern Hadramaut region, but it is too expensive to transport this water into the populated mountain highlands of western Yemen and thus has not been exploited except in small local areas. So, Yemen depends upon the rain.

There are several ways that Yemenis use this water. The first is rain-fed agriculture. About half of Yemen's agriculture is rain fed and most of this agriculture is in the western highlands where the rains fall. Yemenis are famous for building highland terraces on steep, rocky mountainsides to develop productive soil by capturing sediment carried by runoff. Water that does run off from the highlands descends to the sea in great washes. That water is used in spate or flood irrigation, mostly on the alluvial plains along the Red Sea and Gulf of Aden and in the basins of the highlands around Sanaa and Amran. Flood irrigation is used on less than a fifth of Yemeni agricultural land.

About a quarter of Yemen's agricultural land is watered by wells. Yemenis have long dug wells by hand, but in the last half of the twentieth century, drilling rigs, tube wells, and pumps enabled Yemenis to draw water from deeper and deeper in the earth. This increased the water available, but tube wells began drawing faster than groundwater could be replenished; thus today Yemenis use about 165 percent of their annual rainfall, effectively borrowing on the future.

One of Yemen's first challenges to sustainable water use is to regulate sub-surface withdrawals. The state does not have the capacity yet to regulate water withdrawals except in Sanaa, where it has managed to prevent new drilling.

The second challenge is to increase the efficiency of Yemen's water consumption. Ninety percent of Yemen's water is used in agriculture, though agriculture only contributes 10 percent of GDP. And that water use in agriculture is extremely inefficient. Yemen has a negative water balance, meaning that water evaporates faster than it enters the area, which is why there are no lakes or even permanent rivers in Yemen today. In such an arid environment, irrigation technologies focus on preventing evaporation and loss into the ground during conveyance. Yemeni irrigation from wells is extremely inefficient, however, with very high losses into the soil and from evaporation.

Small technological changes can save considerable amounts of water in Yemen's agricultural sector, but here again, effective agricultural extension services are needed to develop and disseminate technologies for water efficiency. Water resources are scarce, but the issue is not one of exhausting a nonrenewable resource as much as managing a renewable one.

Water scarcity also raises the question of water accounting in the national economy. "Virtual water" is a concept that takes into account the water used in producing a commodity. For example, importing rice, which takes a lot of water to produce, into Yemen means importing the virtual water used in the production of that rice. For Yemen, the concept is potentially useful because it allows planners to think about allocating Yemen's resources not only based on price but also on water usage.

One proposal discussed in the agricultural ministry is to promote the production of Yemeni-style qat, a plant used to produce a popular stimulant, in Ethiopia where there is plenty of water. Qat production accounts for about 40 percent of the water used in agriculture. Importing qat from Ethiopia makes sense in terms of water accounts, but the issue is how to compensate Yemeni producers of qat, for whom the crop is extremely lucrative. This is the kind of issue that requires coordination and planning by the state in order to move the economy toward a more efficient allocation of water resources.

Yemen will need to prioritize and regulate water use in the broader economy. Choices in agricultural, industrial, and consumer uses of water will need to be made not only on the basis of an immediate economic cost calculus but also based on the long-term sustainability of water. That means the state will need to manage a national water plan, which will, among other things, direct more water to urban consumption in the future.

## Fiscal Crisis

In spite of the political crises of 2011–2012, the Yemeni state is still in relatively good financial health. Over the last decade of generous oil rents, the state built up significant foreign reserves and avoided excessive borrowing. In November 2011, despite ongoing political crises, foreign reserves in the central bank were still \$4.6 billion, down from \$6.1 billion in 2005 but still not bad given the fall in oil revenues due to declining reserves, the collapse of oil prices in 2009 due to the global financial crisis, and the political turmoil that has paralyzed the country.

Yemen does not have access to private international loans, so it relies upon multilateral development banks and foreign governments for its loans. Yemen's external debt is \$6 billion, which is only 23 percent of its GDP, quite low in comparison to most countries in the world. Half of that debt is owed to mul-

tilateral lenders and the other half to the governments of Russia, Saudi Arabia, Kuwait, and Japan. Overall, it does not represent a large burden on the economy.

Yemen's challenge, then, is how to use the money that is granted from foreign sources. Little of the \$6 billion promised to Yemen in 2006 has been spent because Yemen has not had the capacity to utilize these funds. Development projects, for example, have not been undertaken largely because of the state's lack of capacity to organize and implement them.

A related challenge facing the Yemeni government is developing the capacity to raise domestic revenues through taxation. The modern Yemeni state has not relied upon taxation for its income but instead relied upon customs and oil rents. Taxes accounted for only 20–30 percent of state revenue in the last decade; the remainder was largely oil revenues.<sup>5</sup> Oil rents do not require any state capacity to collect and collecting customs fees only requires controlling ports of entry, a relatively easy task. But with oil rents falling, the Yemeni government will have to develop the capacity to raise its revenue from the local economy.

In 2005, a tax bill was passed by parliament, but in practice the collection of taxes has remained weak. In 2010, after a political settlement with leaders of the Yemeni private sector, tax rates were lowered but exemptions were reduced in another effort to raise taxes for the state, though this remains a major challenge.

In order to collect taxes, the state needs effective bureaucracy, but the geographic diversity of regional power in Yemen means that effective state management is more about cooperation among many levels of society than coercion. In this sense, carrots are more important than sticks in Yemen's politics because the country already has a lot of sticks. Effective taxation in the district of Saada, for example, will need a political agreement from the leadership of the Houthi movement, which effectively controls the region now.

Effective taxation, a cornerstone of any state, is dependent upon legitimacy and social cooperation, something the new Yemeni state will need to work hard to gain. If the state is not seen as representing society's aspirations, taxation in Yemen will be impossible.

---

**The geographic diversity of regional power in Yemen means that effective state management is more about cooperation among many levels of society than coercion.**

---

## Conclusion

Yemeni economic growth is dependent upon solving Yemen's political crises and effective state management of the economy as it moves away from oil. One key task for the Yemeni state is developing the ability to tax in order to fund needed state expenditures. Both indirect and direct taxation will require substantial efforts on the part of the government to organize, but the key factor is the legitimacy of the government. When the private sector and private citizens

see that the government is working in their interests, taxation will become a much easier matter of education and organization.

The state must also focus on harnessing the capabilities of Yemeni domestic labor. This means improving education, promoting job training, improving infrastructure, but most importantly coordinating investment that focuses on job growth. Yemen needs not just economic growth, but growth that opens up opportunities for Yemeni labor.

The Yemeni private sector must also be cultivated. The state needs to provide security and a stable and effective regulatory environment, of course, but the private sector must feel that it has a voice in the new government. Long-term development requires a partnership between the state and the private sector to plan strategically for growth in particular areas of the economy. In the immediate future, investment that expands employment is a high priority.

Properly managing water and other natural resources will also help ensure long-term sustainability. A capable and legitimate state is essential to Yemen's economic future, much more so than the presence of natural resources.

Given the political difficulties facing the new Yemeni government, it is unlikely that the leadership will have the capacity soon to dramatically improve the lot of Yemeni labor. International efforts to aid Yemenis should focus on helping rebuild physical infrastructure, promoting employment for Yemenis through facilitating Yemeni labor opportunities abroad and job training programs in Yemen, helping the Yemeni state build bureaucratic capacity, and supporting Yemeni private sector development. These measures may build confidence in the legitimacy and capabilities of the new government, which in turn will enable the new government to begin to implement more extensive plans to promote long-term economic growth based upon domestic Yemeni capabilities.

---

## Notes

- 1 April Longley Alley, “The Rules of the Game: Unpacking Patronage Politics in Yemen,” *Middle East Journal*, vol. 64, no. 3 (Summer 2010).
- 2 Paul Collier, *The Plundered Planet: Why We Must—and How We Can—Manage Nature for Global Prosperity* (New York: Oxford University Press, 2010).
- 3 World Bank, “Yemen Mineral Sector Review,” Report No. 47985-YE, June 2009.
- 4 Dani Rodrik, *The New Global Economy and Developing Countries: Making Openness Work* (Washington, D.C.: Overseas Development Council, 1999).
- 5 Central Statistical Organization, *Statistical Yearbook*, [www.cso-yemen.org](http://www.cso-yemen.org).



---

## Further Reading

- Food and Agriculture Organization. Aquastat, *Yemen*. [www.fao.org/nr/water/aquastat/countries\\_regions/yemen/index.stm](http://www.fao.org/nr/water/aquastat/countries_regions/yemen/index.stm).
- International Monetary Fund. 2010. *Country Report*. 10/300 September 2010.
- Republic of Yemen and the UNDP. 2007. *Poverty Assessment*.
- Republic of Yemen. 2009. Ministry of Agriculture and Irrigation. *Agricultural Statistics*.
- Republic of Yemen. 2010. Central Statistical Organization. *Statistical Yearbook*.
- Republic of Yemen. 2010. Ministry of Planning and International Cooperation and International Food Policy Research Institute. *National Food Security Strategy Paper*.
- Rodrik, Dani. 2011. *The Globalization Paradox: Democracy and the Future of the World Economy*. New York: W. W. Norton and Company.
- Stiglitz, Joseph. 2006. *Making Globalization Work*. New York: W. W. Norton and Company.
- United Nations Development Program. [www.hdr.undp.org/en](http://www.hdr.undp.org/en).
- USAID 2006. *Yemen Corruption Assessment*.
- World Bank International Finance Corporation. 2010. *Yemen Country Profile: Enterprise Surveys*.
- World Bank 2009. "Yemen Mineral Sector Review." Report no. 47985-YE, June 2009.
- World Bank. 2009. "Project Appraisal Document for a Water Sector Support Project." Project no. 46801-YE.



---

## About the Author

**CHARLES SCHMITZ** is an associate professor of Geography at Towson University in Baltimore, Maryland, where he has taught since 1999. Schmitz is a specialist on the Middle East and Yemen. He began his academic career as a Fulbright Scholar and American Institute for Yemeni Studies Fellow in Yemen in the early 1990s. Schmitz's current research interests include the political economy of development in Yemen, international law and counter-terrorism policy, international governance and failing states, and the sociology of contemporary Yemeni society. Currently, Schmitz is president of the American Institute for Yemeni Studies and a member of the executive board of the Council of American Overseas Research Centers.

# Carnegie Endowment for International Peace

The **Carnegie Endowment for International Peace** is a private, nonprofit organization dedicated to advancing cooperation between nations and promoting active international engagement by the United States. Founded in 1910, its work is nonpartisan and dedicated to achieving practical results.

As it celebrates its Centennial, the Carnegie Endowment is pioneering the first global think tank, with flourishing offices now in Washington, Moscow, Beijing, Beirut, and Brussels. These five locations include the centers of world governance and the places whose political evolution and international policies will most determine the near-term possibilities for international peace and economic advance.

---

The **Carnegie Middle East Program** combines in-depth local knowledge with incisive comparative analysis to examine economic, sociopolitical, and strategic interests in the Arab world. Through detailed country studies and the exploration of key cross-cutting themes, the Carnegie Middle East Program, in coordination with the Carnegie Middle East Center, provides analysis and recommendations in both English and Arabic that are deeply informed by knowledge and views from the region. The Carnegie Middle East Program has special expertise in political reform and Islamist participation in pluralistic politics throughout the region.

WASHINGTON DC ■ MOSCOW ■ BEIJING ■ BEIRUT ■ BRUSSELS

# THE GLOBAL THINK TANK

CARNEGIE ENDOWMENT

---

FOR INTERNATIONAL PEACE

[CarnegieEndowment.org](https://www.CarnegieEndowment.org)