

Chapter 7

Food Security

'With a world population projected to rise from 6.8 billion in 2010 to over 9 billion by 2050, the world is facing around a 70 per cent increase in food demand...'¹

Background

7.1 DFAT submitted that 'sustainable development and food security, in particular of fish and marine resources, is a core priority specifically for Indian Ocean African and Island states'.² In this chapter, the committee looks at Australia's development assistance to the region with a particular focus on food security.

Australia's ODA to the Indian Ocean rim

7.2 Generally, Australia's Official Development Assistance (ODA) to the region is on a bilateral basis. The table of Australia's ODA to the region provides an indication of the funding that Australia provides to countries in the region. Australia has set priority areas for each recipient. Education is a priority area for Indonesia, Bangladesh, Pakistan and Sri Lanka, health is important in Australia's funding to Indonesia, Bangladesh Pakistan and Tanzania. Food security is also a feature of Australia's funding particularly to countries in Africa.

Food Security in the Indian Ocean rim

7.3 CSIRO reported that farmers in Indian Ocean rim countries face 'a multitude of problems to sustain crop productivity with grain yields stagnant over the past decade and particularly rice production suffering unusually large variations'. Many of the problems are associated with climate variability with, for example, delays in summer monsoons and heavy rains during harvest causing crop failures and food shortages.³ CSIRO noted:

Climate change is beginning to affect agricultural productivity through shifts in rainfall patterns, changing temperature regimes and increased climate variability as well as climatic extremes. Farmers in South Asia report they are observing these changes and that their historic weather

1 CSIRO, *Submission 11*, p. 4.

2 *Submission 30*, p. 22.

3 CSIRO, 'Can seasonal climate forecasts improve food security in Indian Ocean Rim countries in a variable and changing climate?', National Research Flagships, Climate Adaptation, www.ausaid.gov.au/countries/southasia/swa-regional/documents/csiro-scf-factsheet.docx (accessed 3 May 2013).

knowledge and experience are progressively less useful in the agricultural planning process.⁴

Australian Bilateral Overseas Development Assistance to the Indian Ocean rim⁵

Region	Country	2011-12 \$A million
South-East Asia	Burma	47.6
	Indonesia	558.1
	Timor-Leste	123.7
	<i>East Asia Regional Program</i>	<i>108</i>
South Asia	Bangladesh	92
	India	25
	Maldives	5
	Pakistan	92.8
	Sri Lanka	43.5
	<i>South Asia Regional Program</i>	<i>25</i>
Middle East	n/a	
Africa	Kenya	30.9
	Madagascar	0.05
	Mauritius	1.4
	Mozambique	15.2
	South Africa	5.5
	Tanzania	7.8
Total		1,185.55

7.4 DFAT's submission states that between 2009–10 and 2011–12 Australia will have provided over \$839 million for bilateral and global food security efforts.⁶ AusAID provided examples of how this funding for global food security assists the Indian Ocean rim region.

- In sub-Saharan Africa, the Australian Centre for International Agricultural Research (ACIAR) and CSIRO work to build the capacity of African regional

4 CSIRO, 'Can seasonal climate forecasts improve food security in Indian Ocean Rim countries in a variable and changing climate?', National Research Flagships, Climate Adaptation, www.ausaid.gov.au/countries/southasia/swa-regional/documents/csiro-scf-factsheet.docx (accessed 3 May 2013).

5 DFAT, *Submission 30*, p. 66. Note: These figures are approximates, based on allocations for 2011-12 figures in millions. AusAID's development assistance to Africa is framed by key sectors and regions of focus, with some bilateral support to select countries. (75 per cent of the Africa program is delivered through partners.)

6 *Submission 30*, p. 59.

organisations, including new ways of farming, building scientific innovation, and distribution of information and expertise to smallholder farmers.

- In Kenya working through the UK Department for International Development to build measures for resistance to drought for subsistence farmers.
- In South Asia, AusAID works through ACIAR and CSIRO to conduct work on improved use of water resources, irrigation systems, farming methods and seed varieties.⁷

7.5 AusAID also invests in global food security funds which work at government level to develop improved agricultural policies for the distribution of seeds, technology and dissemination of better farming methodologies. In addition, Australia is assisting countries outside the rim to help with their food security. For example, in Zimbabwe Australia's contribution on food security is concerned with how supplies from farm to factory are organised, and making the supply chain work effectively to benefit the population.⁸

7.6 DFAT outlined the hope that Australia has of using the opportunity afforded by becoming chair of IOR-ARC to work with IOR-ARC member countries to pursue 'targeted development outcomes' in areas such as climate change and sustainable fisheries.⁹

CSIRO

7.7 Under an AusAID funded program, CSIRO will partner with universities, government and non-government agencies in Australia, India and Sri Lanka in a new IOR-ARC initiative that 'aims to enhance food security in the Indian Ocean rim by reducing agricultural production risks associated with a variable and changing climate.'¹⁰ CSIRO noted that collaboration on food security with Indian Ocean rim countries can be useful to Australia in that countries like sub-Saharan Africa and parts of South and South-East Asia have agriculture systems similar to Australia.¹¹ DFAT similarly observed that this CSIRO-managed seasonal climate forecasting food security project may present Australia with other opportunities to work with IOR-ARC members 'to pursue targeted development outcomes, including in areas such as sustainable fisheries and climate change adaption'.¹²

7 Ms Rauter, AusAID, *Committee Hansard*, 6 December 2012, pp. 8–9.

8 Ms Rauter, AusAID, *Committee Hansard*, 6 December 2012, p. 7.

9 *Submission 30*, p. 55.

10 CSIRO, 'Can seasonal climate forecasts improve food security in Indian Ocean Rim countries in a variable and changing climate?', National Research Flagships, Climate Adaption, www.ausaid.gov.au/countries/southasia/swa-regional/documents/csiro-scf-factsheet.docx (accessed 3 May 2013).

11 *Submission 11*, p. 4.

12 *Submission 30*, p. 55.

ACIAR

7.8 ACIAR, which specialises in agricultural research, is also working in the area of food security. Its role is 'to work with developing countries...to provide agriculture, fisheries and forestry research partnerships'.¹³ Food security is a key concern in ACIAR's agricultural research in the Indian Ocean rim where it is part of AusAID's overall aid approach. ACIAR noted in its submission that they 'believe there is a much wider ramification in terms of the benefits improved food security can have in the region politically, socially and economically.'¹⁴

Collaboration

7.9 ACIAR is a member of the Consultative Group on International Agricultural Research (CGIAR) which comprises 15 international agriculture research centres, and it is on the fund council, which is the overarching body of that group of fifteen. ACIAR participates in terms of funding but also in terms of partnerships with a number of those centres in providing research to a wide range of developing countries. Dr Hearn of ACIAR informed the committee that the 'centres form one of the biggest multilateral networks of international agricultural research in the world.'¹⁵

7.10 In relation to cooperation in the Indian Ocean rim, Dr Hearn noted that ACIAR is part of the decision making process of CGIAR and many Indian Ocean rim countries would have a CGIAR presence so there is an effective network.¹⁶

Fisheries management

7.11 The fishery industry is a key economic sector in the Indian Ocean rim and one of the most significant renewable resources that Indian Ocean countries have to secure food supplies, maintain livelihoods and assist with economic growth. As a central economic sector, fisheries in the Indian Ocean contribute significantly to the Gross Domestic Product of member states. DFAT noted that the Food and Agriculture Organisation (FAO) estimates that 200 million Africans rely on fish for nutrition, 10 million for income.¹⁷

7.12 According to DFAT, 25 of the Indian Ocean rim's 35 coastal states are developing countries and as such fisheries are a critical source of animal protein and central to alleviating poverty and creating employment.¹⁸ DFAT noted that island states have little land for crops and hence food security is a central concern for them.

7.13 DFAT reported that the Indian Ocean fisheries produce 'around a third of the world's tuna which is estimated to be worth three billion dollars annually, and include

13 Dr Hearn, ACIAR, *Committee Hansard*, 6 December 2012, p. 10.

14 Dr Hearn, ACIAR, *Committee Hansard*, 6 December 2012, p. 10.

15 *Committee Hansard*, 6 December 2012, p. 11.

16 *Committee Hansard*, 6 December 2012, p. 11.

17 *Submission 30*, p. 22–23.

18 See for example, DFAT, *Submission 30*, p. 58.

the valuable Southern blue fin tuna fishery'.¹⁹ It noted that tuna is of particular importance for livelihoods and food security for people in the region, with 'half the tuna caught in the Indian Ocean by small vessels in the waters off coastal states'.²⁰ DFAT informed the committee that if managed well, fisheries resources hold significant economic development potential. According to the FAO, some coastal nations could increase their Gross National Product (GNP) up to 5 per cent with more effective fisheries regulation.²¹

Australia's contribution

7.14 Australia recognises the central role of fisheries in 'regional food security and as a sustainable source of economic development for the coastal states in the region'. For example, the Department of Agriculture, Fisheries and Forestry (DAFF) noted that 'further development of artisanal—that is local scale and small-scale—commercial fisheries is important for regional employment'. It explained that as such:

...the department's engagement seeks to enhance and protect the sovereign rights of coastal states, including Australia, thereby providing opportunities for further development of fisheries within sustainable limits by those coastal states.²²

7.15 DAFF explained that the key aspect of the department's engagement in the Indian Ocean rim is its work on fisheries cooperation:

Australia's priority when engaging in international fisheries issues is to work with other nations for the long-term sustainability of highly migratory straddling fish—that is, fish that cross borders—and shared fisheries resources important to Australia, and to meet our international obligations.²³

7.16 Australia is engaged with a number of regional fisheries management organisations to:

- ensure the sustainable management of shared fisheries resources through the adoption and implementation of appropriate fisheries management measures;
- secure access to migratory, high seas, straddling and shared fish stocks for Australia; and
- enhance regional and food security through fisheries-based economic growth.²⁴

7.17 Australia is a member of the Indian Ocean Tuna Commission (IOTC) and signatory to the Southern Indian Ocean Fisheries Agreement (SIOFA). DFAT did not

19 *Submission 30*, pp. 22–23.

20 *Submission 30*, pp. 22–23.

21 *Submission 30*, pp. 22–23.

22 Mr Thompson, DAFF, *Committee Hansard*, 22 March 2013, p. 24.

23 Mr Thompson, DAFF, *Committee Hansard*, 22 March 2013, p. 24.

24 DFAT, *Submission 30*, p. 58.

refer to the Fisheries Support Unit, though it was mentioned in the IOR-ARC 2011 Communiqué.

Indian Ocean Tuna Commission

7.18 DAFF leads Australia's engagement in the Indian Ocean Tuna Commission. The Commission is responsible for conservation and long-term sustainable use of tuna and tuna-like species in the Indian Ocean and adjacent seas. The Commission is established under the FAO.²⁵ DAFF explained that the Indian Ocean Tuna Commission as the main fisheries body in the region:

... has a vast number of members from right across that region—anyone who touches the border, plus countries that have historically fished in the region. So we end up with countries like Korea, Japan, the EU and China also being participants.²⁶

7.19 According to DAFF, however, the interests of the major fishing nations outside the region—Korea, Japan, the EU and China—'end up being quite different to those of the coastal states'. It stated that they are only interested in commercial fishing, which then creates 'a lot of tensions, and, with large memberships, things move slowly'.²⁷

Southern Indian Ocean Fisheries Agreement (SIOFA)

7.20 The Southern Indian Ocean Fisheries Agreement (SIOFA) is a regional regime intended to ensure the long-term conservation and sustainable use of fishery resources other than tuna in the high seas areas of the Indian Ocean. The Agreement establishes a mechanism to manage non-highly migratory species in the southern Indian Ocean rim region. Australia deposited an instrument of ratification to the Agreement on 23 March 2012.²⁸ Presently only three Indian Ocean countries have signed the agreement—Australia, Mauritius and Seychelles.²⁹

Fisheries Support Unit

7.21 The Fisheries Support Unit was established as a coordinating body under IOR-ARC in 2004 and is hosted by the Sultanate of Oman. The Fisheries Support Unit aims to encourage coastal state engagement on fisheries issues, with a particular focus on increasing their capacity to implement responsible conservation and management practices.³⁰

25 *Submission 40*, p. 1.

26 Mr Thompson, DAFF, *Committee Hansard*, 22 March 2013, p. 24.

27 Mr Thompson, DAFF, *Committee Hansard*, 22 March 2013, p. 24.

28 DAFF, *Submission 40*, p. 3.

29 Food and Agriculture Organization of the United Nations (FAO), 'Regional Fishery Bodies Summary Descriptions, South Indian Ocean Fisheries Agreement (SIOFA)', <http://www.fao.org/fishery/rfb/siofa/en> (accessed 3 May 2013).

30 DAFF, *Submission 40*, p. 3.

7.22 The Unit is one of IOR-ARC's flagship projects. Its aims are to engender greater cooperation among member states; to share experience, consolidate and mobilize resources and improve fish trade activities; and promote sustainable fisheries practice. The unit recognises that the challenge is 'to grow and sustain this important industry and to propose solutions to the threats facing the industry, namely, illegal and over-fishing, the depletion of stocks and pollution of the Indian Ocean, to name just a few'.³¹ The Consulate-General of the Sultanate of Oman's submission identified three key priority areas for IOR-ARC in regards to fisheries management:

- study of coastal and offshore tuna resources with special reference to Oman;
- study of migration and genetic characterisation of the shared stock of kingfish in GCC waters; and
- biodiversity in the seas of Oman off Oman.³²

7.23 Professor Rumley noted that the fisheries research unit 'does not really have the regional support that perhaps the Omanis think it should have'.³³

Commission for the Conservation of Southern Bluefin Tuna

7.24 Since 1994, the Commission for the Conservation of Southern Bluefin Tuna has been the global manager of the southern bluefin tuna. Commission decisions are taken by consensus and are binding on Australia. In the past, the Commission has struggled to conserve and manage the global southern bluefin tuna fishery effectively and, until recently, disputes between its members and disagreement over the status of the stock have impeded its efforts to address overfishing of the resource.³⁴

Capacity constraints

7.25 DFAT acknowledged that the Indian Ocean rim region 'is mindful of the need to ensure sufficient fish for domestic consumption (fish continues to provide a significant source of protein to many people)'. It noted, however, that environmental degradation and climate change place additional pressures on crop production, which makes the problem of food security acute.³⁵ It also drew attention to the increased activity in fishing in the Indian Ocean:

In addition to traditional fishing vessels from Japan, Taiwan and South Korea, domestic fleets in Indian Ocean coastal states, particularly Indonesia, are expanding and European vessels are entering the Indian Ocean following the depletion of Atlantic Ocean fish stocks.³⁶

31 IOR-ARC, Fisheries Support Unit, <http://www.iorarc.org/projects/flagship-projects/fisheries-support-unit.aspx>, (accessed 25 April 2013).

32 *Submission 25*, p. 2.

33 *Committee Hansard*, 2 October 2012, p. 5.

34 *Submission 40*, p. 4.

35 *Submission 30*, p. 23.

36 *Submission 30*, pp. 22–23.

7.26 There is also the problem with illegal fishing. In this regard, DFAT observed that many developing states 'lack the resources to patrol their waters effectively to guard against IUU [illegal, undeclared and unregulated] fishing',³⁷ explaining:

...there is a security dimension to the fisheries issue because they believe that they are unable effectively to police and to control their own EEZs [Exclusive Economic Zones]. There is substantially more discussion of soft security issues in IOR-ARC than there was a few years ago.³⁸

7.27 The editorial essay attached to the submission from the Professor Rumley, also noted that weaknesses in the region in terms of surveillance and policing of broad maritime claims. It suggested that this gap in capacity means that marine resources, especially fisheries, are under threat from illegal fishing activities by unscrupulous foreign fishers.³⁹ DAFF similarly noted the capacity constraints and governance and skills level that frustrate the efforts of the developing countries in the region to protect their fish reserves. It referred to their:

- inability to manage and regulate their own fisheries;
- difficulty in retaining data on fish population and catches and on being able to keep track of the foreign boats operating in the area; and
- limitations in applying new measures.⁴⁰

7.28 DAFF explained that the coastal states are resistant to introduce more measures to improve fisheries management because 'they know it will be very hard for them to implement them' and they do not want to be found in breach of international rules.⁴¹ In DAFF's view, further cooperation in the Indian Ocean 'could certainly help build capacity in the whole area of fisheries management and the capacity to report on fisheries and implement the measures that people agree to'.⁴² It suggested that:

Any work through the new Indian Ocean bodies that can help build capacity, skills and governance levels will contribute to better fisheries management.⁴³

7.29 Drs Bateman and Bergin argued that fisheries management and marine scientific research should receive greater attention as part of our region-wide efforts.⁴⁴

37 *Submission 30*, p. 23.

38 Mr Pierce, DFAT, *Committee Hansard*, 22 March 2013, p. 5.

39 Indian Ocean Research Group (IORG), *Supplementary Submission 6B*, p. 14.

40 Mr Thomson, DAFF, *Committee Hansard*, 22 March 2013 p. 27.

41 Mr Thomson, DAFF, *Committee Hansard*, 22 March 2013 p. 27.

42 Mr Thomson, DAFF, *Committee Hansard*, 22 March 2013 p. 27.

43 Mr Thomson, DAFF, *Committee Hansard*, 22 March 2013 p. 27.

44 Sam Bateman and Anthony Bergin, *Our western front: Australia and the Indian Ocean*, Australian Strategic Policy Institute, March 2010, p. 4.

Broader security matters

7.30 Depleted fishing stocks also has broader implications for the security of the Indian Ocean. Dr Bateman noted that the prime causes of piracy around the world are the same as for criminal activity generally—lack of economic opportunity, employment, and effective policing. He argued that a further factor, linked to contemporary piracy off the Horn of Africa and in Southeast Asia, has been the decline in fish stocks and overfishing, particularly by commercial interests.⁴⁵

7.31 AusAID noted that part of the \$4.3 million assistance to date which it has provided to assist with counter-piracy measures has gone to improve food security in the region. It is funding activities in Kenya, Tanzania and Somalia linked to better food security and agricultural production. The aim is to assist in providing 'job opportunities for people so that they do not see piracy as their only job option'.⁴⁶

Conclusion

7.32 Clearly, rising demand for fish, climate change, overfishing, and an influx of fishers from outside the region are placing increased pressure on fish stocks in the Indian Ocean and underscore the need for sustainable management and tighter controls over unregulated fishing.

7.33 The committee notes Australia's active membership in a number of fisheries management organisations associated with the Indian Ocean. Developing countries in the region are also members but the committee is aware that their voices may be drowned out by the larger fishing nations outside the region whose interests are commercial fishing. The committee can see an important role for Australia to continue to advocate for and support the smaller countries in the region to ensure that organisations such as the IOTC take account of their concerns. There may also be a role for IOR-ARC to have a stronger presence in such organisations.

Recommendation 4

The committee recommends that the Australian Government:

- **increase its support for the smaller developing countries in the Indian Ocean rim to assist them develop the capacity to monitor, control and regulate fishing activities in their waters;**
- **provide greater assistance and increase efforts to help the smaller developing countries represent their interests in international fora such as the IOTC; and**
- **through the Troika—India, Australia and Indonesia—encourage the larger and more developed countries to collaborate and collectively spearhead active engagement in promoting the health of marine life in**

45 Sam Bateman, 'Background paper for the Perth Counter-Piracy Conference', *Special Report Issue 47—Calming troubled waters: global and regional strategies for countering piracy*, pp. 10–11.

46 Ms Rauter, AusAID, *Committee Hansard*, 6 December 2012, p. 6.

the Ocean; to assist the smaller developing countries to protect their fish stocks from over exploitation; and to grow their fishing industry in a sustainable way.