



REPUBLIC OF KIRIBATI

# FISHING LICENSE REVENUES

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IN KIRIBATI

2015 Report

**Ministry of Finance and Economic Development and Ministry of Fisheries and Marine  
Resource Development**

December 2015

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## Acronyms

ABS	Australian Bureau of Statistics
EEZ	Exclusive Economic Zone
ENSO	El Niño Southern Oscillation
FFA	Forum Fisheries Agency
GoK	Government of Kiribati
IATTC	Inter-American Tropical Tuna Commission
MFED	Ministry of Finance and Economic Development
MFMRD	Ministry of Fisheries and Marine Resource Development
PIPA	Phoenix Islands Protected Area
PNA	Parties to the Nauru Agreement
RBA	Reserve Bank of Australia
SPC	Secretariat of the Pacific Community
TAE	Total Allowable Effort
VDS	Vessel Day Scheme
WCPFC	Western and Central Pacific Fishing Commission

## 1. Background and Introduction

This review follows a similar review in 2014 and was carried out by the Ministry of Finance and Economic Development (MFED) together with the Ministry of Fisheries and Marine Resource Development (MFMRD), Kiribati in December 2015. The purpose of the review is to ensure that the value obtained from Fishing License Fees in Kiribati in 2014 is at least being maintained compared with previous recent years and possibly increased.

Information for the review was sourced from MFED, MFMRD and the Forum Fisheries Agency. The review summaries data on revenue, volumes of catch, multilateral and bilateral agreements and discusses future trends.

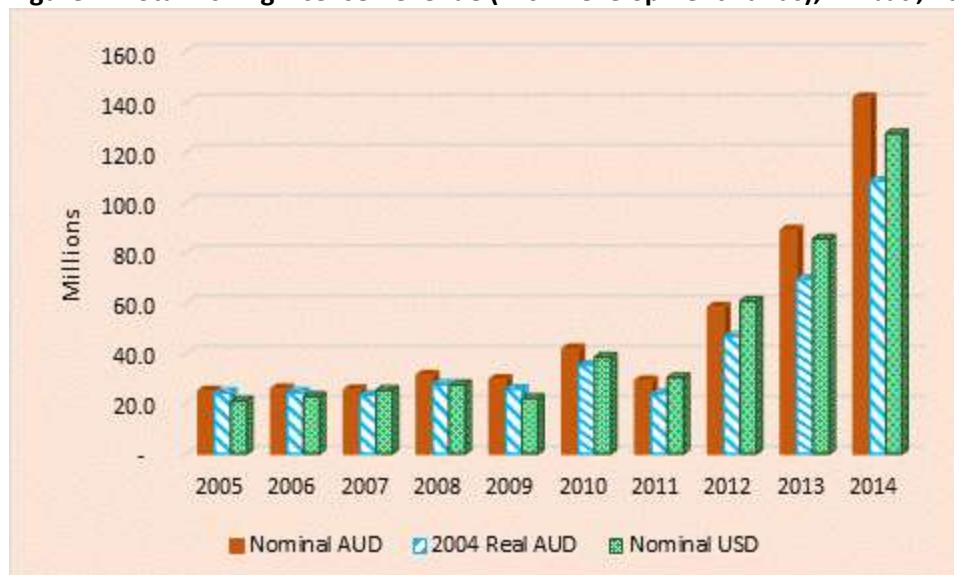
## 2. Overall Revenue Trends

This section discusses overall revenue trends in terms of total revenue from fishing license arrangements. The drivers of revenue trends are discussed, in terms of: i) volumes of catch; ii) market prices of catch; and iii) changes in revenue as a proportion of the market value of catch. The implementation of the Vessel Day Scheme in Kiribati has continued to be the dominant factor in increased revenue from fishing license fees in Kiribati.

### 2.1 Total Revenue

Revenue from fishing licenses in Kiribati has continued to increase significantly over the past few years (Figure 1 and Table 1). From a relatively modest base in 2009 of AUD 29.5 million, the figure climbed to AUD 58.3 million in 2012 to AUD 89.0 million in 2013 and again to AUD 141.6 million in 2014. The total increase between 2009 and 2014 was 380 per cent. This increase is in line with the experiences of similar countries in the Pacific since the Vessel Day Scheme was introduced.

**Figure 1: Total Fishing License Revenue (Excl. Development Funds), Kiribati, 2005-2014**



Sources: MFED, RBA, ABS

**Table 1: Total Fishing License Revenue (Excl. Development Funds), Kiribati, 2005-2014**

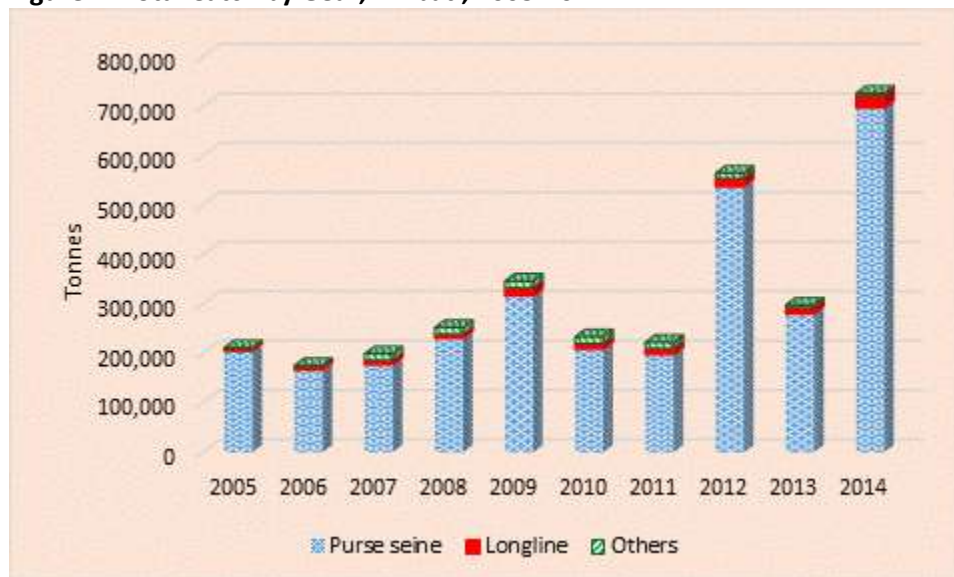
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Nominal AUD millions</b>	25.0	25.8	25.4	31.2	29.5	41.7	29.1	58.3	89.0	141.6
<b>2004 Real AUD millions</b>	24.3	24.3	23.3	27.6	25.5	35.1	23.7	46.6	69.2	108.2
<b>Nominal USD millions</b>	21.0	22.7	25.1	27.5	22.0	38.4	30.3	60.6	85.4	127.3

Sources: MFED, RBA, ABS

Trends in 2015 for the revenue from fishing license fees show a similar pattern to what was experienced in 2014 with an even higher income forecast. For the year to the end of December, 2015, the revenue from fishing license fees had reached in excess of \$200 million which exceeded the budget estimate for 2015 of \$75 million. Total revenue in 2015 has outstripped the record figure set in 2014.

## 2.2 Volumes

Catch volumes continue to rise particularly with regard to purse seine vessels (Figure 2 and Table 2). Total volume in 2014 was a record level of 725,854 tonnes with purse seine vessels making up 96% of the catch. In 2014, Kiribati was considered the most productive tuna fishing EEZ in the Central and Western Pacific. There continues to be some volatility in the volume of catch with volumes in 2013 much lower than 2012 but the trend continues to increase from the volumes experienced in the early 2000s.

**Figure 2: Total Catch by Gear, Kiribati, 2005-2014**

Source: Forum Fisheries Agency and MFMRD database

**Table 2: Total Catch by Gear (metric tonnes), Kiribati, 2005-2014**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Purse seine	93,162	204,697	166,746	177,033	230,690	316,360	209,010	197,759	537,613	280,120	697,176
Longline	11,889	4,478	6,290	9,131	8,074	16,209	11,145	12,137	16,324	11,942	24,046
Others	2,622	2,070	2,060	12,819	13,190	13,577	13,159	12,602	10,277	5,425	4,632
<b>Total</b>	<b>107,673</b>	<b>211,245</b>	<b>175,096</b>	<b>198,983</b>	<b>251,954</b>	<b>346,146</b>	<b>233,314</b>	<b>222,498</b>	<b>564,214</b>	<b>297,487</b>	<b>725,854</b>

Source: Forum Fisheries Agency and MFMRD

Volumes of Skipjack continued to rise to a record high in 2014 of 572,217 tonnes while the other major species, Yellowfin was the highest in 2012. Volumes of Bigeye and Albacore were highest in 2014. The volume of Skipjack was 79% of the catch in 2014, followed by yellowfin 16% and lastly by Bigeye 5%.

**Figure 3: Total Catch by Species (metric tonnes), Kiribati, 2005-2014**

Source: Forum Fisheries Agency and MFMRD

**Table 3: Total Catch by Species (metric tonnes), Kiribati, 2005-2014**

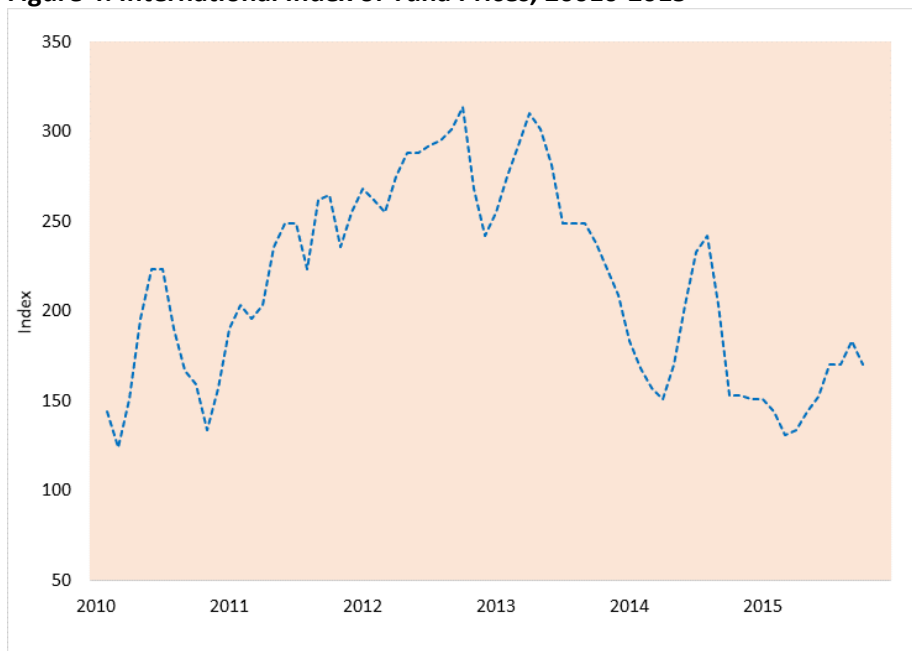
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Albacore	238	300	677	386	1,222	1,320	573	1,287	920	1,644
Bigeye	10,895	12,181	15,480	14,010	24,071	15,693	29,461	33,005	26,879	39,223
Skipjack	149,408	140,749	139,227	151,431	282,533	167,294	151,854	406,876	225,071	572,217
Yellowfin	50,703	21,866	43,599	86,127	38,319	49,006	40,610	123,047	44,618	112,770
<b>Total</b>	<b>211,245</b>	<b>175,096</b>	<b>198,983</b>	<b>251,953</b>	<b>346,145</b>	<b>233,313</b>	<b>222,498</b>	<b>564,214</b>	<b>297,487</b>	<b>725,854</b>

Source: Forum Fisheries Agency and MFMRD

## 2.3 Prices and Catch Values

Increasing prices between 2010 and 2013 partly drove the increases in revenue (Figure 4). However, since 2013, lower prices have been associated with a higher volume of catch. This combination of lower prices but higher volume has meant that the total value of the catch remained at high levels.

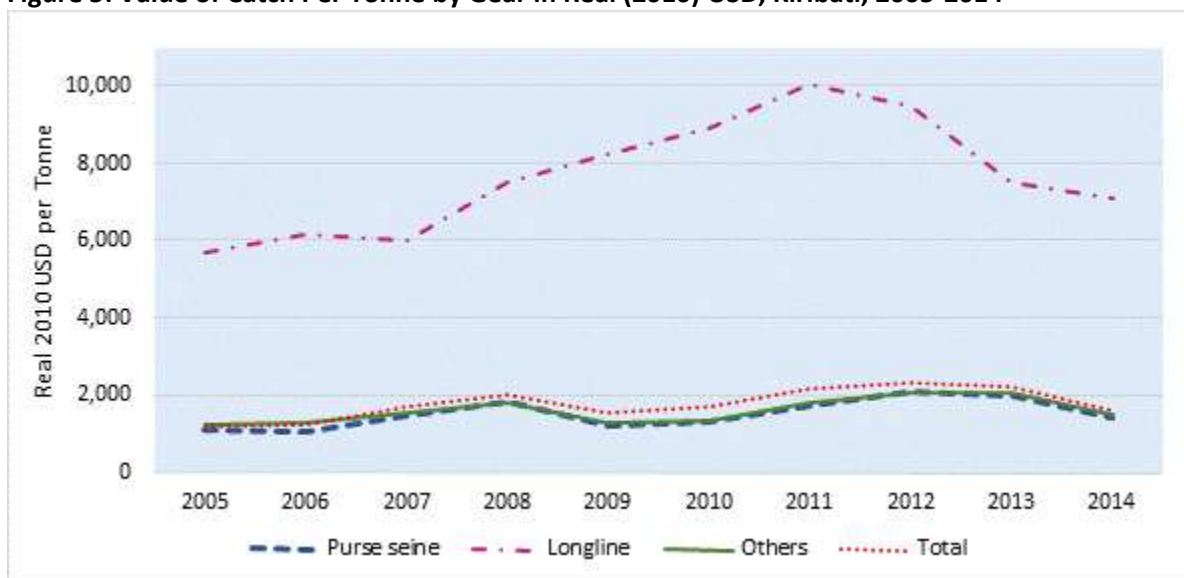
**Figure 4: International Index of Tuna Prices, 20010-2015**



Source: [www.atuna.com](http://www.atuna.com)

Trends in prices and overall catch values over time are depicted in the following figures and tables. The value of the catch in Kiribati per tonne (Figure 5) peaked between 2011 and 2013 depending on the type of fishing carried out. Longline fishing which is aimed at the higher end of the market achieves the highest value of the catch per tonne.

**Figure 5: Value of Catch Per Tonne by Gear in Real (2010) USD, Kiribati, 2005-2014**

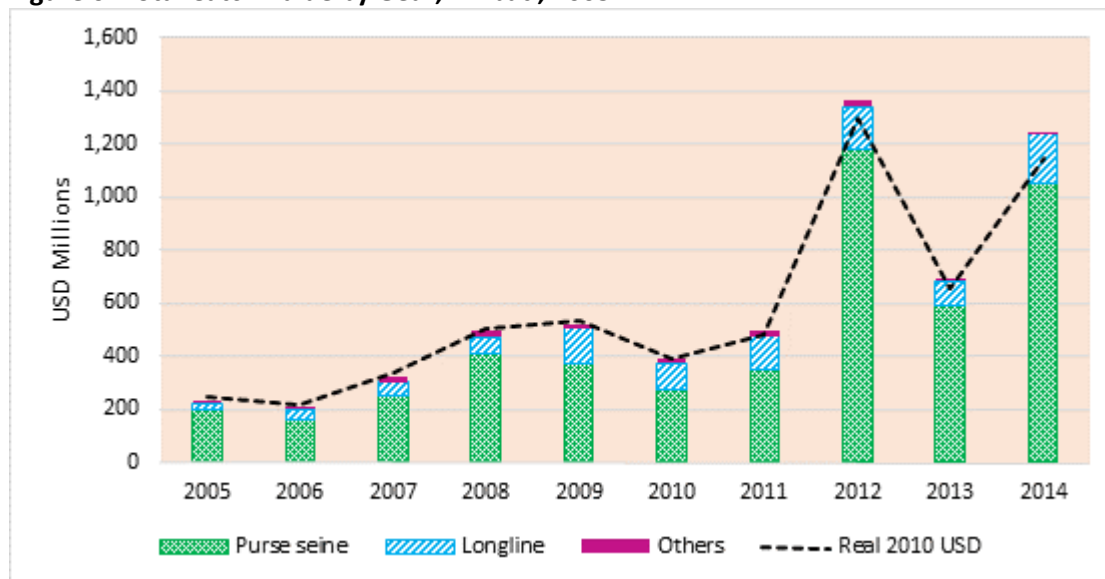


Source: Forum Fisheries Agency, World Bank

**Table 4: Value per Tonne by Gear (Real 2010 USD)**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Purse seine	1,083	1,054	1,467	1,796	1,199	1,305	1,707	2,080	1,962	1,388
Longline	5,664	6,154	6,006	7,519	8,217	8,913	10,072	9,478	7,490	7,073
Others	1,222	1,262	1,531	1,815	1,296	1,350	1,786	2,065	2,070	1,502
<b>Total</b>	<b>1,181</b>	<b>1,239</b>	<b>1,679</b>	<b>1,981</b>	<b>1,531</b>	<b>1,671</b>	<b>2,168</b>	<b>2,293</b>	<b>2,186</b>	<b>1,577</b>

Source: Forum Fisheries Agency, World Bank

**Figure 6: Total Catch Value by Gear, Kiribati, 2005-14**

Source: Forum Fisheries Agency and World Bank

**Table 5: Total Catch Value by Gear, Kiribati, 2005-14 (USD Millions)**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Purse seine	198.48	162.44	246.96	409.18	373.16	272.75	348.22	1,177.22	587.16	1,050.51
Longline	22.71	35.78	52.15	59.94	131.03	99.33	126.10	162.91	95.56	184.64
Others	2.26	2.40	18.66	23.64	17.31	17.76	23.22	22.35	12.00	7.56
<b>Total USD</b>	<b>223.46</b>	<b>200.62</b>	<b>317.77</b>	<b>492.76</b>	<b>521.50</b>	<b>389.84</b>	<b>497.54</b>	<b>1,362.48</b>	<b>694.72</b>	<b>1,242.71</b>
<b>Real 2010 USD</b>	<b>249.50</b>	<b>217.01</b>	<b>334.18</b>	<b>499.06</b>	<b>530.06</b>	<b>389.84</b>	<b>482.31</b>	<b>1,294.01</b>	<b>650.28</b>	<b>1,144.65</b>

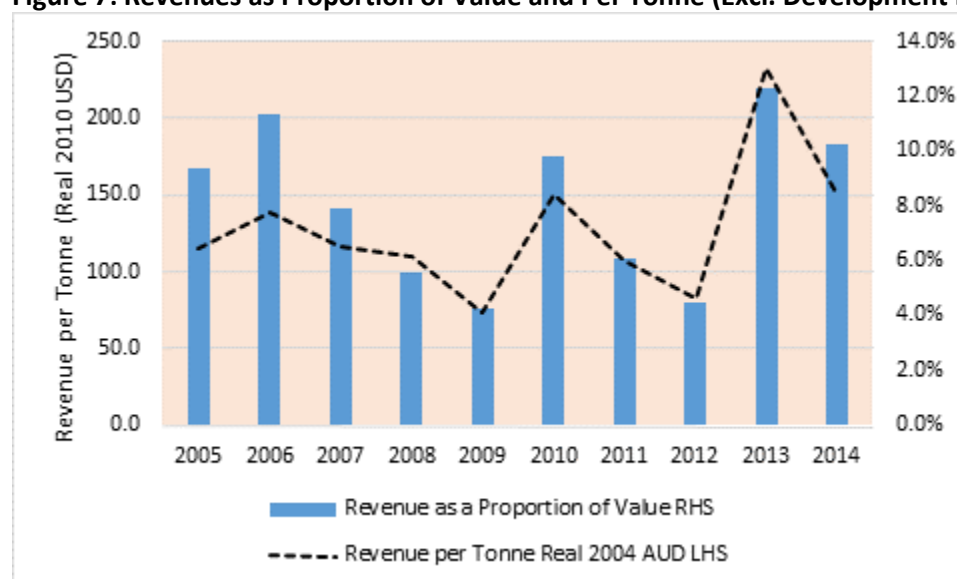
Source: Forum Fisheries Agency and World Bank

## 2.4 Value Capture

Changes in the amount of revenue over time are not totally dependent on changes in the volume of the catch and world prices. The proportion of the value of catch that flows to the Government of Kiribati (GoK) as license revenues has changed dramatically, particularly in recent years. The proportion hit a peak in 2013 (12.3%) but the proportion in 2014 was lower (10.2%) but still much higher than figures in recent years prior to 2013. The higher volume of catch in 2014 explains this change. The revenue per tonne in real terms has fluctuated over time, as shown in Figure 5. The following figures and tables show revenue as a proportion of catch value and revenue per tonne of catch.



**Figure 7: Revenues as Proportion of Value and Per Tonne (Excl. Development Funds), Kiribati, 2005-14**



Source: MFED, MFMRD and Forum Fisheries Association data

**Table 6: Revenues as a Proportion of Value and Per Tonne, Kiribati, 2005-14**

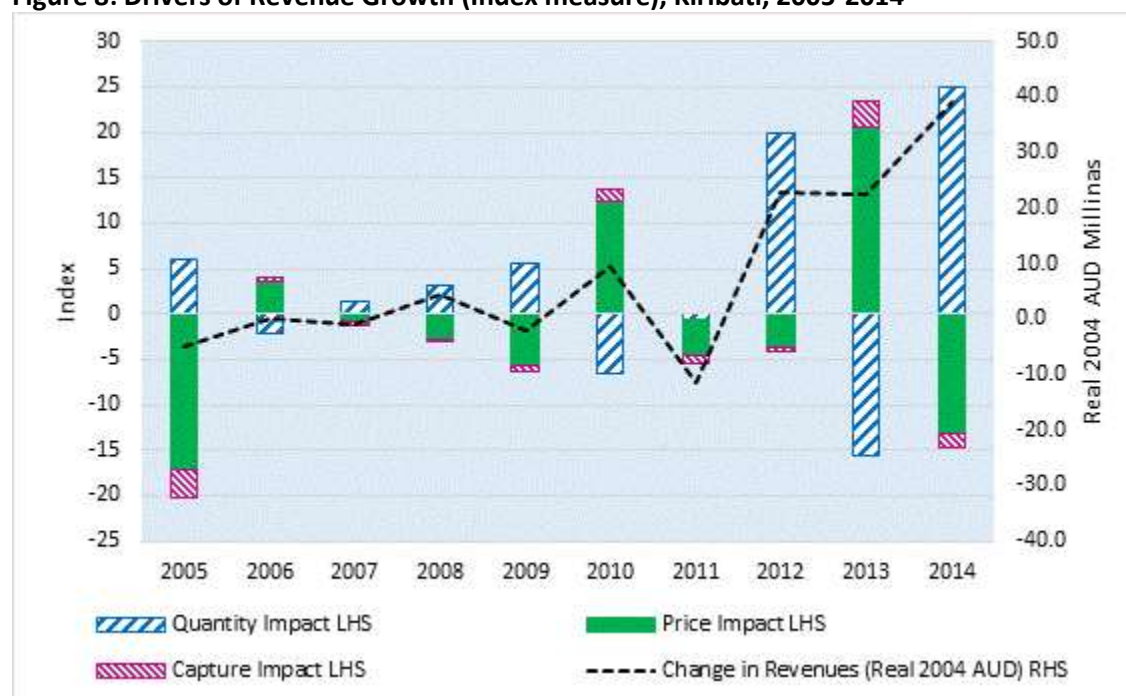
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Revenue as a Proportion of Value	9.4%	11.3%	7.9%	5.6%	4.2%	9.8%	6.1%	4.4%	12.3%	10.2%
Revenue per Tonne Real 2004 AUD	114.9	138.8	116.9	109.4	73.7	150.3	106.7	82.6	232.7	149.1

Source: MFED, Forum Fisheries Agency

The proportion of fishing license revenue to the value of catch rose markedly in 2013 and has remained relatively high in 2014. Forum Fisheries Agency (FFA) data shows that in 2012, the figure was 4.4% but this had risen to 12.3% in 2013 but dropped to 10.2% in 2014. In the past 15 years, only 2003 and 2004 were higher at 20.4% and 15.3% respectively. These years experienced much lower volumes of catch than what occurs now. Revenues from fishing licenses have also risen markedly when looking at revenues per tonne of catch. In 2013, US\$287.22 of revenue was earned per tonne in nominal terms, compared with US\$107.44 in 2012 in nominal terms. In 2014, the revenue per tonne of catch had declined to US\$175.34. Still, after 2013, this was the second highest figure recorded in the past decade.

Figure 8 shows a breakdown of changes in revenue from: (i) the impacts of changes in the volume of catch; (ii) changes in the weighted average price for tuna from Kiribati waters; and (iii) other factors, which reflect the ability of GoK to capture catch values. Kiribati significantly increased its income from fishing licenses in 2014, in a period of falling prices but higher volumes. This is in contrast to 2013, where the price per tonne rose, catch volumes fell and overall revenue rose. In 2012, the relatively high fishing license revenues were driven predominantly by the volume of catch. A falling Australian dollar in 2014 also had a significant impact on the amount of revenue.

**Figure 8: Drivers of Revenue Growth (Index measure), Kiribati, 2005-2014**



Source: MFED, and Forum Fisheries Agency

### 3. International, Regional and Bilateral Agreements

Kiribati is a member of several regional fisheries organization such as Forum Fisheries Agency (FFA), Secretariat of the Pacific Community (SPC), Parties to the Nauru Agreement (PNA), Western Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Commission (IATTC). FFA promotes regional co-operation through designing policy to build national capacity and regional solidarity for the sustainable management of tuna in the Pacific. SPC acts as the regional center for tuna fisheries research, fishery monitoring, stock assessment and data management.

PNA has a membership of eight countries including the Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Solomon Islands and Tuvalu. PNA is concerned mainly with the management of tuna purse-seine fishing in the tropical western Pacific region and controls roughly 25-30% of the world's tuna industry.

WCPFC seeks to address problems between countries in the management of high seas fisheries. It includes Pacific nations as well as key distant water fishing countries in the Western Central Pacific region. IATTC is responsible for the conservation and management of tuna and other marine resources in the Eastern Pacific Ocean.

#### 2.2 Vessel Day Scheme

PNA is responsible for the implementation of the Vessel Day Scheme (VDS). VDS is a management system to conserve resources and secure economic benefits to the participating countries through sustainable development. The scheme sets overall limits on the number of days purse seine fishing vessels can be

licensed to fish in PNA waters (Total Allowable Effort). Days are allocated to each country (Party Allowable Effort) but can be transferred to other participating countries in the scheme. The eight PNA member countries have seen revenue increase five times since 2010, going from \$64 million to an estimated \$350 million in 2015. Access fees have risen strongly since the introduction of the VDS in mid-2012, with significant increases in the fees now being charged by Kiribati.

PNA total allowable effort was set at 44,625 days for 2015; and 44,890 days for 2016 and provisionally for 2017. PNA has set US\$8,000 as the minimum fee for VDS days for 2015 and 2016. The year 2012 was a transitional year where some of Kiribati's long-term agreements (3 to 5 years) not under the VDS were being reviewed and adjusted for a full implementation of the VDS.

During 2013 and 2014, Kiribati had limited vessel day effort within the cap established under the VDS. During these years, Kiribati has realized record fishing license revenues. Total catch volumes increased in 2014 and world prices have declined. In a period when total value of catch per tonne has declined, revenue has remained high.

**Table 7: VDS Allowable Effort and Days Used**

		2012	2013	2014
Kiribati Implementation	VDS	Partially implemented: Vessel days exceeded allowable effort	Fully implemented: Vessel days within allowable effort	Fully implemented: Vessel days remained within allowable effort

Source: MFMRD and PNA data

## 2.3 Other Agreements

Kiribati also has bilateral and multilateral agreements with the European Union (EU) and the United States regarding access to Kiribati fisheries. The following tables show total revenue and revenue per tonne arising under these agreements, relative to other licensing arrangements, including the VDS scheme. It is important to note that licenses are denominated in terms of vessel days under the VDS, but in terms of tonnes of catch under the EU agreement.

**Table 8: Fishing Agreements 2014**

2014	Catch MT	License revenue/dividends AUD	Development funds AUD	Total Revenue Received Revenue Per tonne AUD	Revenue Per Tonne AUD
EU	15,815	5,764,026	492,952	6,253,978	395
US	151,236	9,299,410		9,299,410	61
Others	364,023	124,097,923		124,097,923	341
Total	531,074	139,161,359	492,952	139,654,311	263

Source: MFMRD data

**Table 9: Fishing Agreements 2013**

2013	Catch MT	License revenue/dividends	Development funds	Total Revenue Received Revenue Per tonne AUD	Revenue Per Tonne AUD
EU	21,067	4,752,159	560,000	5,312,159	252
US	67,985	18,427,775		18,427,775	271
Others	150,179	65,866,068		65,866,068	439
Total	239,232	89,046,003	560,000	89,606,003	375

Source: MFMRD data

This data shows the impact of high and increasing fishing license prices under the VDS over recent years, with VDS licensing representing high revenues per tonne of catch relative to bilateral agreements in 2013.

The most-recent EU-Kiribati Fisheries Partnership Agreement, signed in 2012 is valid for three years and expired in 2015. The EU fisheries agreement pays a lump sum and various fees to Kiribati for catches up to 15,000 tonnes. EU vessels can continue fishing beyond 15,000 mt but must pay 250-300 euros for every additional tonne. The fee for tonnage is equivalent to approximately \$6,600 per day in 2014, slightly higher than the minimum price under the VDS scheme (US\$6,000 per day in 2014). Under the terms of the EU Agreement, this can only be earned if four purse seiners fish in Kiribati waters each year. The terms of the EU fishing agreement explicitly allow for the renegotiation of the agreement and associated fees if some fishing opportunities are reduced. Such renegotiation is to be to the mutual benefit of all parties.

The EU boats have not fished in Kiribati waters since September 2015 as the review for the 2015/2016 licensing arrangement will decide on the applicable fee level and amended terms of the agreement are yet to be concluded.

In October 2014, Kiribati significantly reduced the number of fishing days for US purse seiners to 300 in its EEZ during negotiations for the Annual Treaty with the United States. Faced with difficulties in meeting increasing demands from long-term bi-lateral partners and domestic vessels for fishing days plus limited Party Allowable Effort, Kiribati was no longer able to contribute to the number of days it had in the past to the Treaty. For the 2016 US Treaty, the eight PNA members will receive US\$12,600 per fishing day, which was a 34 percent increase over the US\$10,000 paid by the U.S. purse seine fleet in 2015.

## 4. Revenue Projections

Revenue projections remain uncertain. In the short-run, effects from the current El Nino are forecast to last well into 2016. PNA CEO has also warned member nations that they need to prepare for future downturns in revenue to avoid shocks to Government finances and services dependent on this new source of funds<sup>1</sup>.

<sup>1</sup> <http://www.pnatuna.com>. "PNA CEO urges members to plan for tuna revenue declines"

## **2.4 El Niño**

The El Niño Southern Oscillation (ENSO) event that commenced in May 2015 is expected to peak in November or December 2015. Some models expect it to decline markedly during the first quarter of 2016 while others suggest a plateau will be reached during the southern hemisphere spring and early summer<sup>2</sup>. El Niño is an irregular natural occurring event that is associated with warmer waters in the central Pacific. In the Western and Central Pacific Ocean (WCPO), tuna stocks move eastwards and are more abundant. For Kiribati it means higher rainfall but it also means higher fish stocks which are attracted to the warmer seas.

Overall, the contribution of the ENSO event will be positive for Kiribati. Contributions from tuna to Government revenue increased in 2015 with higher stocks but the uncertain length of the decline in the ENSO event in 2016 makes future forecasting difficult.

## **4.2 Phoenix Islands Protected Area.**

From 1 January 2015, the Phoenix Island Protected Area (PIPA) was closed to commercial fishing. The total area of PIPA is 11.3% of the Exclusive Economic Zone of Kiribati. In 2010, PIPA was declared the largest marine area on the World Heritage List. Its aim is to conserve fisheries stocks and maintain biodiversity.

The effects of the closure of PIPA were originally uncertain, but revenue does not seem to have been unduly effected to any great extent due to additional efforts from the Ministry of Fisheries and Marine Resources increasing fishing revenue through other means such as increasing transshipment taxes. In June 2015, a Marshall Islands-flagged Taiwanese purse seine fishing vessel was seized for illegal fishing activities in the PIPA region. The owners paid \$US 2 million in fines and development assistance.

## **4.3 Conservation of tuna stocks**

There has been no change in the assessment of the vulnerability of Bigeye tuna in 2015 by SPC. The 2014 assessment concluded that the stock of Bigeye tuna is about 16% of its original stock size. 20% is the limit that the WCPFC has decided represents an unacceptable risk to the stock. The Bigeye tuna catch is relatively small with 5% of the total volume of catch in Kiribati in 2014. Nevertheless, volumes remain high with the catch in 2014 at 39,223 tonnes. This figure is a record high in Kiribati. A major problem with the conservation of Bigeye tuna is that it is mainly a by-product of the purse seine catch and therefore difficult to regulate through conservation measures.

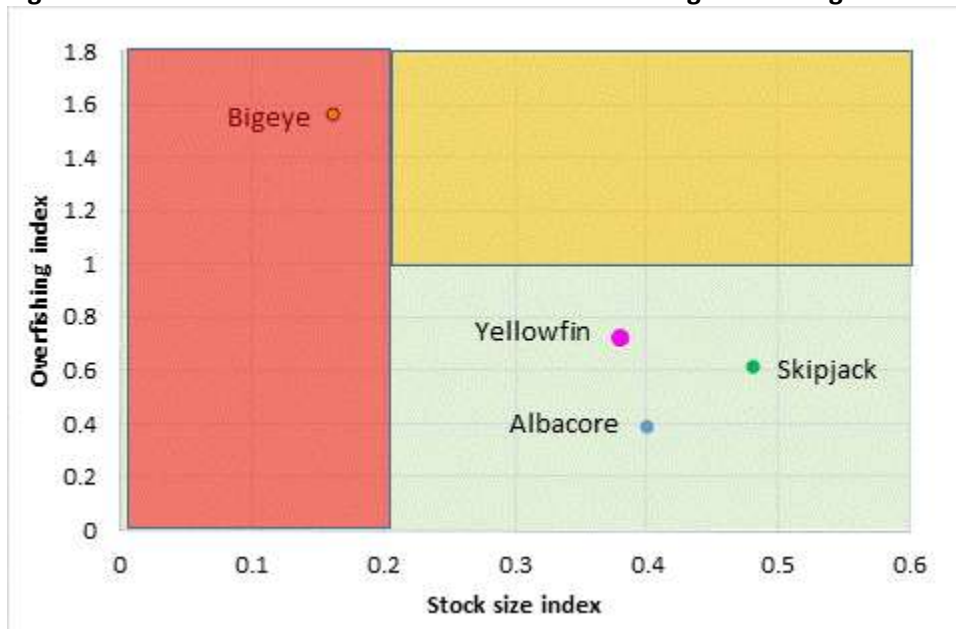
Both Skipjack and Yellowfin are in a much more reasonably healthy state. Skipjack accounts for 79% of the total tuna catch in 2014 in Kiribati. It is estimated by SPC to be at around 50% of unexploited levels. which is described by SPC as “a desirable situation for the stock”. Yellowfin accounts for 16% of the tuna catch in Kiribati in 2014. It has been reduced to about 38% of unexploited levels which is regarded as “a reasonably comfortable situation for the stock” by SPC. The diagram below shows the relative status of

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<sup>2</sup> Bureau of Meteorology, Australia

the four main tuna species with conservation measures aimed at avoiding the red area but staying in the green.

**Figure 9: Relative Status of the Four Main Tuna Stocks Against Biological Reference Points**



Source: FFA

Kiribati supports regional research activities such as tuna tagging. Through the assistance of SPC, a national tag recovery officer (TRO) is based in the country to collect tagging information received from observers and local fishermen.

#### **4.4 Vessel Day Scheme price.**

The minimum VDS price in 2016 remains at USD 8,000. With no agreed upward movement in this figure from 2015, there appears to be no major shift in revenue for 2016 from price influences.

#### **4.5 Overall Revenue**

Fisheries revenue in 2015 will be a record high with the influences of the El Nino effect, (higher volumes of fish), and the high base price for the VDS. With an associated downturn in fish stocks in 2016 due to the decline in the strength of the El Nino event, the Ministry of Finance and Economic Development and the Ministry of Fisheries and Marine Resources Development forecast revenue from fishing licenses in 2016 at approximately \$100 million.

## **5. The Way Forward**

The Government of Kiribati has been involved in extensive negotiations with a number of companies to expand tuna processing in South Tarawa. With the Government's policy encouraging onshore development, the Government sees that value-adding tuna resources in Kiribati will not only lead to income generation but also create much needed employment opportunities.

Monitoring and surveillance of fishing vessel movements will continue in 2016. The observer program continues to assist monitoring and surveillance efforts through the placement of observers on board vessels operating in our waters. Kiribati purse-seine flagged vessels including chartered vessels received 100% coverage by observers in 2014. As well, an observer coverage of 5% was attained for Kiribati longline vessels in 2014.

The Government wishes to expand other opportunities for employment in the fishing industry. Vessels operating in Kiribati waters are required to employ a minimum number of crew during the term of the license.

Long term sustainability of the tuna industry is the key to maintaining the high level of income through fishing license fees. The PNA Total Allowable Effort assists the measures to limit the numbers of vessels in the EEZ.