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NATIONAL FISHERY REPORT
KIRIBATI – PART I

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1. Annual Fisheries Information

1.1 Flag-state reporting

Domestic flag vessels

Table 1 depicts the number of active fishing vessels flagged in Kiribati. Kiribati has only one purse seine that came into existence since 1994 after a joint venture company KAO[1] was formed between Kiribati government and Otoshiro fishing company based in Japan. The vessel currently operates in the region under the FSM Fishing Arrangement. However, by September 2006 the vessel will no longer eligible to continue fishing under the FSM Arrangement after failing to reach a minimum point requirement under the Arrangement.

Kiribati also operates one small longline fishing vessel but the vessel fishing operations is restricted to research activities. In early 2004 the vessel shifted her research operations from Tarawa to Christmas Island (Line Group) to assess the abundance of tuna resources in the area and to conduct experimental fishing using milkfish as the alternative longline bait. In late 2004, the vessel ceased her operations due to lack of funds.

Table 1. Number of Kiribati purse seine and longline vessels active in the WCPFC Area, 2001-2005

Year	Purse Seines	Longline
2001	1	
2002	1	
2003	1	1
2004	1	1
2005	1	

Operational catch data coverage

The data coverage for the purse seine vessel is quite high since the vessel is required to submit operational catch effort data to the flag state (Kiribati) and to FFA. As for the longline vessel data coverage is low due to the nature of its fishing operations.

Table 2. Estimated annual coverage of catch, effort and size data for Kiribati fishing fleets in the WCPFC Convention Area, 2003–2005.

Gear	Fleet	Year	Catch/Effort data coverage	Size data coverage
PURSE SEINE	KIRIBATI	2003-2004	HIGH	HIGH
		2005	HIGH	HIGH

Catch

Summary of catch and effort data for Kao No. 1 is provided in Table 3. For the past 5 years the average number of fishing days per year is around 170 days with an average catch of over 5,300 mt, therefore on a daily basis its daily average catch is around 31mt per day.

Fishing sets made in 2001 and 2002 were mainly “unassociated sets” however from 2003 till 2005 there was a shift in the vessel’s fishing operations to “associated sets”. This could be related to the type of fishery found at the time of fishing, oceanographic circumstances, weather conditions (El Nino) and perhaps the geographical location of the fishing ground.

Tables 3. Annual catch and effort estimates for the Kiribati purse-seine fleet, by species in the WCPFC Convention Area, 2001-2005. (**Source** : Raised logsheet data; Data for 2005 are unraised and provisional, but coverage is “HIGH”)

	Effort	Catch (metric tones)

[1] Kiribati and Otoshiro Fishing Company

Year	Days Fishing & Searching	UnAss. Sets	Assoc. sets	SKJ	YFT	BET	OTH	TOTAL
2001	156	97	74	3,286	1,204	199	0	4,689
2002	172	116	66	4,224	921	153	0	5,297
2003	163	68	71	3,625	1,126	84	0	4,835
2004	189	44	98	3,817	651	132	0	4,600
2005	175	65	107	4,990	1,720	395	0	7,105

Fishing pattern and distribution of fishing efforts

Figure 1 shows that Kiribati fishing vessel KAO No. 1 predominantly fished west around Papua New Guinea, Federated States of Micronesia and at high seas pockets found between the two countries. The pattern of fishing clearly shows its does not fish in parallel to the equator but rather a Northwest direction or Southeast direction fishing pattern.

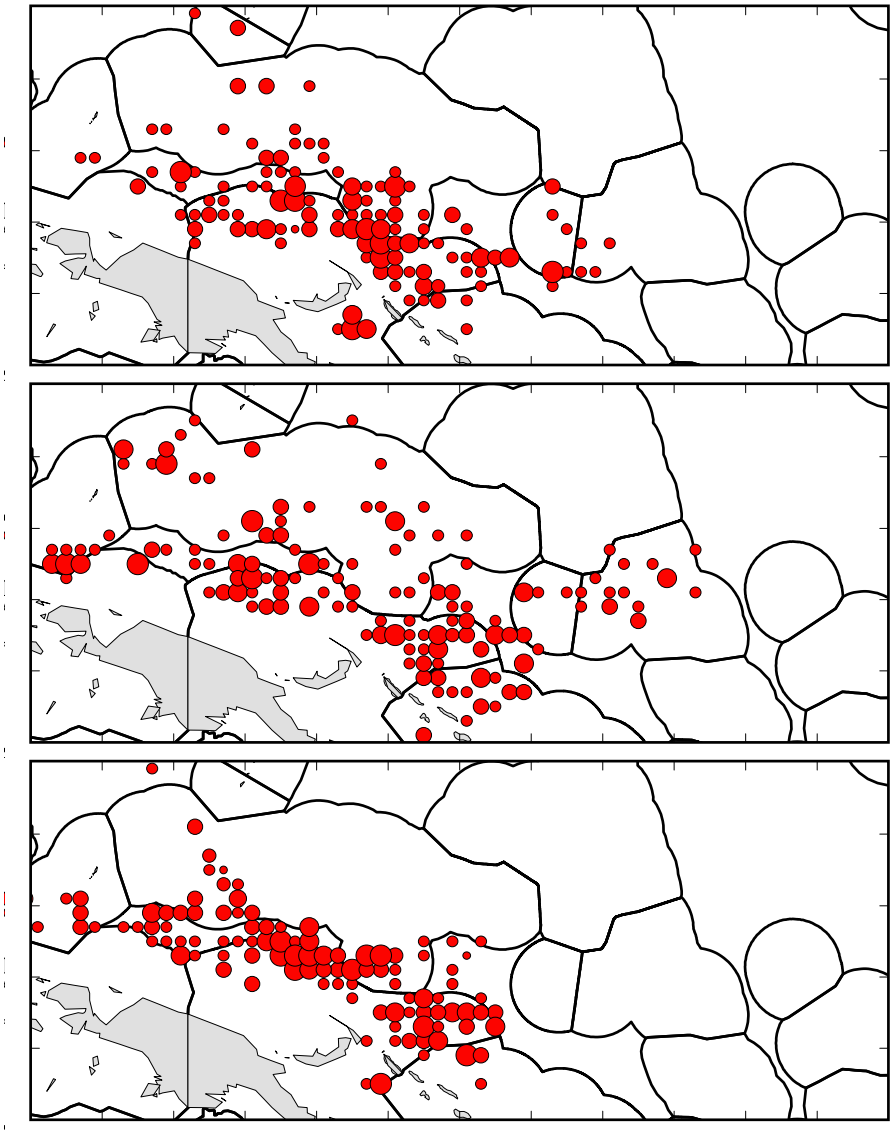

Figure 1 (a) Annual distribution of effort (days fishing and searching) for the Kiribati purse seine fleet throughout the WCPFC Convention Area for 2003 (top), 2004 (middle) and 2005 (bottom)

Artisanal fleets

Artisanal catch volume is quite substantial and it is becoming more important in terms of managing our in zone fisheries. On South Tarawa more than 100 small outboard fishing boats targeting tuna fished almost on a daily basis and the number continues to grow as more people finding it worth and easier to investing in because it requires low capital input. The establishment of fish centers on some of the Islands and the availability of fishing boats under this fisheries development program could have a significant impact in terms of catching more tuna as more fishermen are being able to go out even further offshore. Because of this fisheries development project we are optimistic that tuna catch on the outer Islands has significantly increased over the past two or three years. The problem of fishing interaction between the artisanal fishermen and foreign purse seines fishing vessels continue to be experienced every now.

Kiribati sees an urgent need to develop an efficient artisanal data collection protocol in order to support any future studies of "fishing interaction" to verify how serious the problem is and to be able to provide solutions to the problem and perhaps a solution in minimizing the data gap.

1.2 Foreign fishing fleets

Bilateral license issued to foreign fishing vessels fluctuates considerably from year to year. Some of the reasons could be associated to the economic situation of the vessel, the productiveness of the fishing ground and the competition between fishing gears, example purse seine against pole and line fighting for the same fishery. Table 4 provides a summary of license issued to foreign vessels in Kiribati from 2001 till 2005.

Table 4. Number of foreign fleet vessels licensed to fish in the Kiribati EEZ by year, flag and gear type in 2001-2005

Country	Gear	2001	2002	2003	2004	2005	Total
Japan	LL	49	37	18	15	6	125
	PS	34	34	34	34	34	170
	PL	2	7	19	21	3	52
S. Korea	LL	165	163	168	137	121	754
	PS	28	29	24	24	27	132
	BU	2	5	3	3	3	16
Taiwan	LL	11	30	29	54	30	154
	PS	36	36	29	34	26	161
	BU		1	1	1	1	4
Vanuatu	LL		1	1	3	2	7
	PS	2	4	5	5	6	22
China	LL	2		1	2	1	6
	PS	4	8	6	5	6	29
FSM	PS					1	1
N.Zealand	PS	4	4	4	4	3	19
PNG	PS					2	2
Panama	BU					1	1
Philippines	PS		4	1			5
Singapore	BU	4	6	7	2	4	23
Spain/EU[2]	LL				8	3	11
	PS	11	3	2	4	2	22
Total	LL	227	231	217	219	163	1057
	PS	119	122	105	110	107	563
	PL	2	7	19	21	3	52
	BU	6	12	11	6	9	44
Overall total		354	372	352	356	282	1716

Note: The Table does not include vessels that fished under the US and FSM Arrangements

[2] Spanish vessels licensed on a bilateral fishing agreement ends in 2003 when EU take over and signed with Kiribati a EU/Kiribati fishing agreement that allows EU member fishing vessels to fish in Kiribati.

Operational catch data coverage

Catch and effort data coverage in respect of foreign fishing vessels in Kiribati is presented in Table 5. The year 2005 data coverage for longline fishing vessels was low because longline vessels usually took longer time to submit catch data because in most cases the trip could last for 1.5 to 2 years.

In the case of purse seine vessels the coverage is high as the trip is shorter, 3 months and a shortest trip we have in our record is only 10 days fishing trip. Since most of the vessels transshipped in the WCPFC region the access to such data is easily available.

Table 5. Estimated coverage of catch, effort and size data for bilateral-arrangement, foreign fleets fishing in Kiribati's EEZ.

Gear	Fleet	Year	Catch/Effort data coverage
LONGLINE	CHINA	2003-2004	HIGH
		2005	LOW
	Chinese Taipei	2003-2004	HIGH
		2005	LOW
	JAPAN	2003-2004	HIGH
		2005	LOW
	KOREA	2003-2004	HIGH
		2005	LOW
	VANUATU	2003-2004	HIGH
		2005	LOW
POLE-AND-LINE	JAPAN	2003-2004	HIGH
		2005	HIGH
PURSE SEINE	Chinese Taipei	2003-2004	HIGH
		2005	HIGH
	JAPAN	2003-2004	HIGH
		2005	HIGH
	KOREA	2003-2004	HIGH
		2005	HIGH
	New Zealand	2003-2004	HIGH
		2005	HIGH
	SPAIN	2003-2004	HIGH
		2005	HIGH
	VANUATU	2003-2004	HIGH
		2005	HIGH

Catch by foreign longline fishing vessels

Summary of catch by foreign fishing vessels in Kiribati waters is provided in Table 6 (a). Currently, Kiribati do not have bilateral fishing agreements with China and Vanuatu, however, catch allocated under these countries are those catch taken by fishing vessels that were licensed under the bilateral fishing agreement signed between Kiribati and a Taiwanese fishing company.

Tables 6 (a). Annual catches by foreign longline fleets in the Kiribati EEZ, by flag and species, 2001-2005 (**Source** : Unraised logsheet data collected by Kiribati MFMRD)

		Catch (metric tonnes)			
Fleet	**YEAR**	**BET**	**YFT**	**OTH**	**TOTAL**
China	2001	2	1	82	85
	2002				
	2003	26	15	57	98
	2004	171	93	94	359
	2005	1	1	2	3
Chinese Taipei	2001	8	14	90	112
	2002	181	48	144	373
	2003	115	61	181	357
	2004	756	546	410	1,713
	2005	243	133	152	528
Japan	2001	2,150	1,195	217	3,562
	2002	2,064	1,050	176	3,290
	2003	348	182	85	615
	2004	754	279	94	1,127
	2005	35	24	21	79
Korea	2001	5,305	3,586	1,707	10,598
	2002	5,170	2,650	1,605	9,425
	2003	2,642	2,016	1,179	5,837
	2004	3,795	3,500	1,104	8,398
	2005	1,132	691	370	2,193
Vanuatu	2001				
	2002				
	2003	14	25	126	165
	2004	235	154	105	494
	2005	152	61	82	295
TOTAL EEZ	2001	7,465	4,796	2,096	14,358
	2002	7,415	3,748	1,925	13,088
	2003	3,146	2,300	1,627	7,073
	2004	5,711	4,572	1,808	12,090
	2005	1,562	910	626	3,098

Catch by foreign pole and line vessels

Japan is the only country that uses pole and line gear. Since 2000, pole and line fishing activities in Kiribati dropped significantly because of the heavy presence of purse seines targeting the same fishery which the pole and line vessels find it very hard to compete against. In most cases these vessels usually return only during strong Na Lina periods (2003 and 2004) but now in very small numbers. The summary of catch by pole and line fishing vessels in Kiribati is presented in Table 6 (b).

Tables 6 (b). Annual catches by foreign pole-and-line fleets in the Kiribati EEZ, by flag and species, 2001-2005 (**Source** : Unraised logsheet data collected by Kiribati MFMRD)

		Catch (metric tonnes)			
Fleet	**YEAR**	**SKJ**	**YFT**	**OTH**	**TOTAL**
Japan	2001				
	2002				
	2003	232	5	2	239
	2004	549	13	14	576
	2005				

Catch by foreign purse seines vessels

Purse seine vessels represent over 90% of the total catch for the past 5 years. Table 6 (c) clearly shows that the overall total catch in Kiribati in 2001, 2002 and 2005 are substantially high if compared to 2003 and 2004. High fluctuation in catch volume usually associated with the effect of El Nino phenomenon which

usually associated with productive fishing ground found further east where Kiribati is located. La Nina usually associated with poor fishing resulting in low catch of purse seine vessels. Bigeye dominated the longline catch representing around 40% while skipjack for purse seine and pole and line fishing vessels.

Tables 6 (c). Annual catches by foreign purse seine fleets in the Kiribati EEZ, by flag and species, 2001 – 2005 (**Source** : Unraised logsheet data collected by Kiribati MFMRD)

		Catch (metric tonnes)				
Fleet	**YEAR**	**SKJ**	**YFT**	**BET**	**OTH**	**TOTAL**
Spain	2001					
	2002	111	22	29	0	162
	2003					
	2004	518	88	0	18	624
	2005					
FSM Arrangement	2001	29,008	6,565	260	0	35,834
	2002	42,718	5,098	60	0	47,876
	2003	19,609	2,519	57	0	22,185
	2004	33,774	2,133	1,597	1	37,505
	2005	38,969	5,641	1,255	9	45,873
Japan	2001	23,644	7,637	42	719	32,042
	2002	42,506	2,722	97	676	46,001
	2003	8,765	2,911	65	599	12,340
	2004	5,291	759	87	162	6,299
	2005	3,886	672	66	109	4,733
Korea	2001	42,908	16,719	17	0	59,644
	2002	79,240	7,796	14	0	87,050
	2003	2,820	370	40	0	3,230
	2004	390	20	0	0	410
	2005	41,175	5,530	1	114	46,820
New Zealand	2001	2,006	627	0	0	2,634
	2002	7,427	1,965	0	0	9,392
	2003	4,821	1,018	0	0	5,838
	2004	3,529	1,256	0	0	4,785
	2005	4,758	1,262	94	0	6,115
Chinese Taipei	2001	42,392	15,129	119	0	57,640
	2002	79,492	6,913	374	0	86,779
	2003	10,655	1,700	350	0	12,705
	2004	11,616	576	20	5	12,217
	2005	17,946	3,204	42	2	21,193
US Treaty	2001	36,757	11,424	207	0	48,387
	2002	33,056	13,948	132	170	47,306
	2003	14,185	2,454	231	0	16,871
	2004	14,347	4,698	156	0	19,200
	2005	19,627	8,785	349	1	28,762
Vanuatu	2001	3,160	1,325	0	0	4,485
	2002	7,760	1,640	0	0	9,400
	2003	7,245	1,420	0	0	8,665
	2004	12,420	330	50	2	12,802
	2005	29,763	6,126	30	6	35,925
TOTAL EEZ	2001	179,876	59,426	645	719	240,666
	2002	292,310	40,104	706	846	333,966
	2003	68,100	12,392	743	599	81,834
	2004	81,884	9,860	1,910	187	93,841
	2005	156,124	31,220	1,836	240	189,421

Distribution of longline fishing efforts in Kiribati 3 fishing zones

Figure 2 (a) shows the distribution of longline fishing effort by major fishing countries that fished in Kiribati in 2004 and 2005. In the case of the Japanese fishing vessels they seem to prefer to concentrate their fishing efforts around Gilbert group rather than to go further east. This could be related to the way they operated since they normally return back to Japan to discharge their catches.

In the case of Korea and Taiwan it is different as they seem to concentrate their fishing efforts around the Line and the Phoenix Groups.

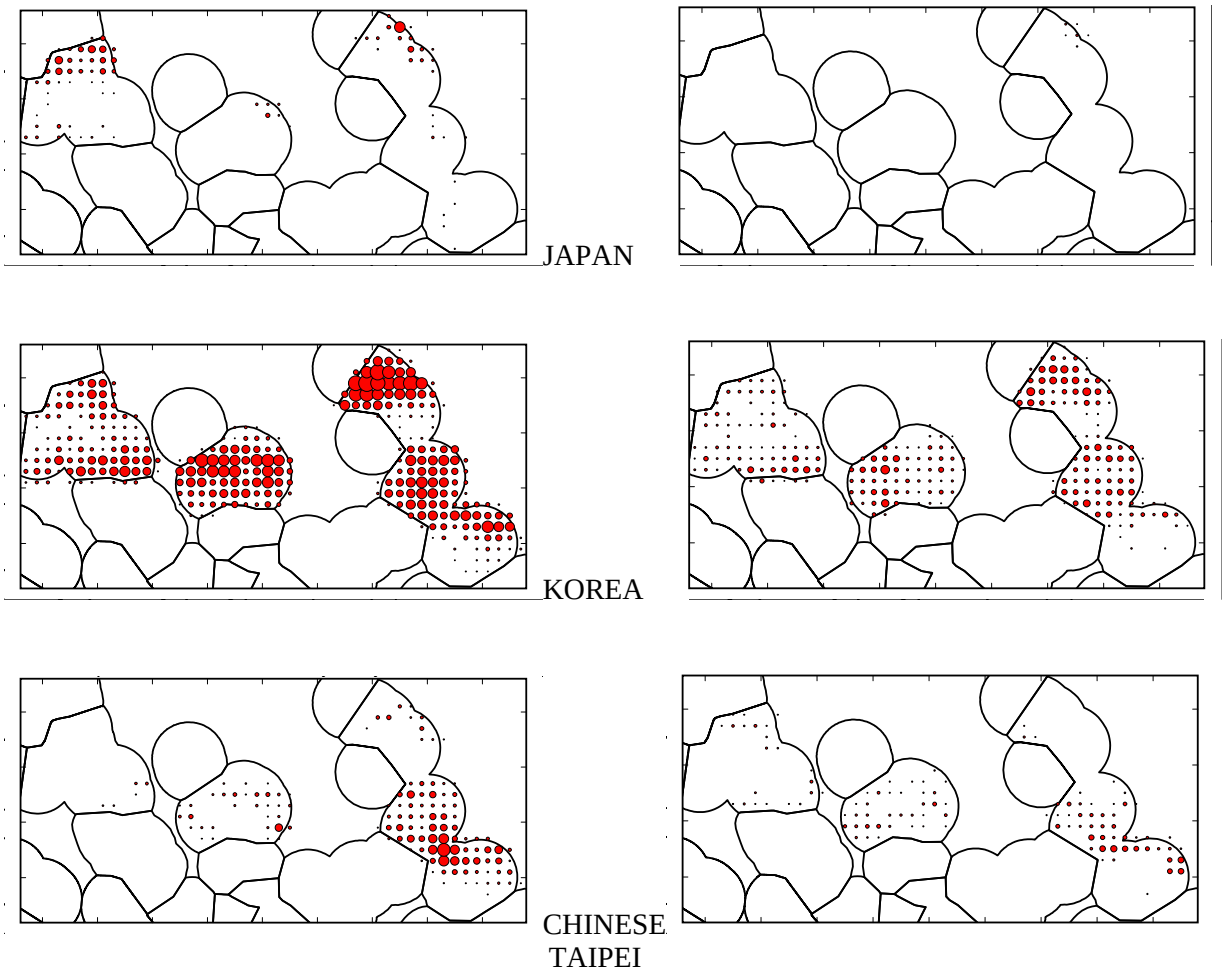

Figure 2 (a). Annual distribution of effort by the main foreign longline fleets active in the Kiribati EEZ for 2004 (left) and 2005 (right)

Distribution of purse seines fishing efforts in Kiribati 3 fishing zones

In Figure 2 (b) its clearly shows that purse seines vessels seems to prefer fishing in the Gilbert and to the lesser extend in the Phoenix Group. The only time they would choose to fish in the Line Group is only the El Nino season when fish is found to be abundant further east.

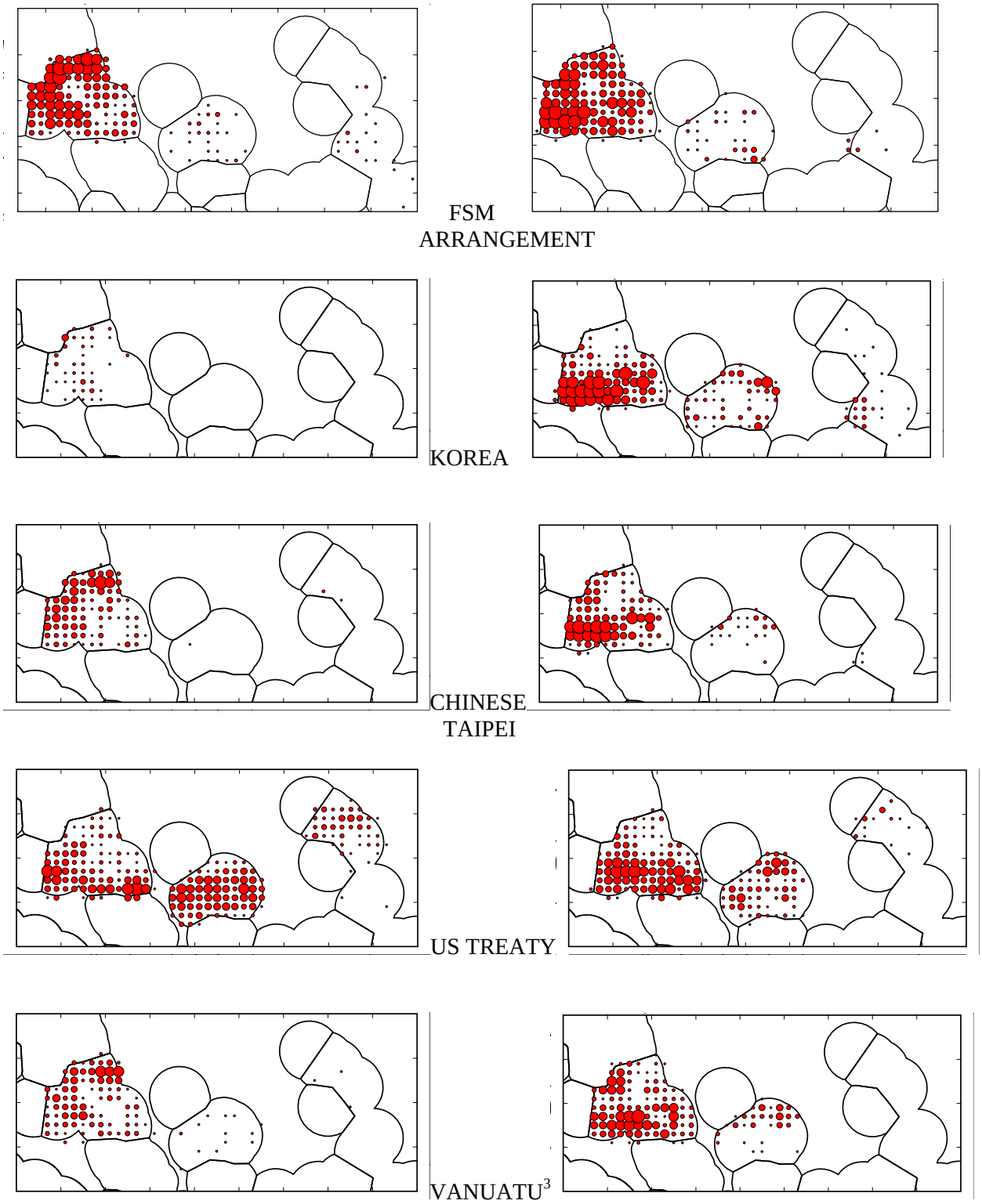

Figure 2 (b). Annual distribution of effort by the main foreign purse seine fleets active in the Kiribati EEZ for 2004 (left) and 2005 (right)

[3] Vessels flagged in Vanuatu but owned by Taiwan fishing companies

Trends in catch rates for major species by country

The trends in nominal catch rates for major catch species caught by longline and purse seine vessels are presented in Figure 3 (a) and (b). The figures shows that Japan longline vessels gets higher catch rates per 100 hooks than the other countries while Korean gets a better catch rate in purse seining.

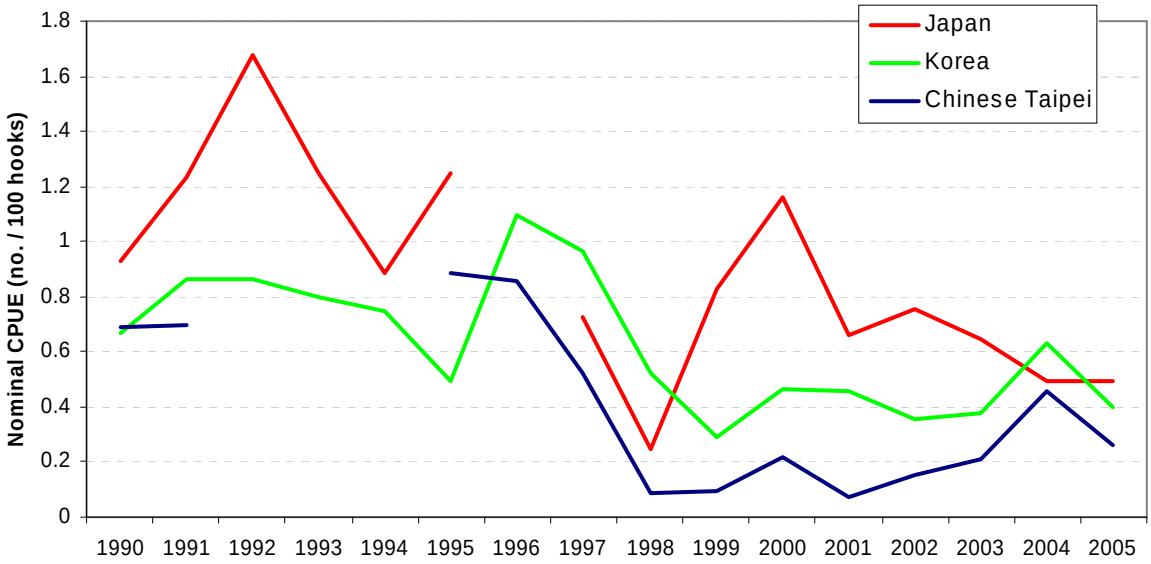

Figure 3 (a). Trends in nominal catch rates of YELLOWFIN TUNA taken by longline fleets operating in the Kiribati EEZ, 1990-2005

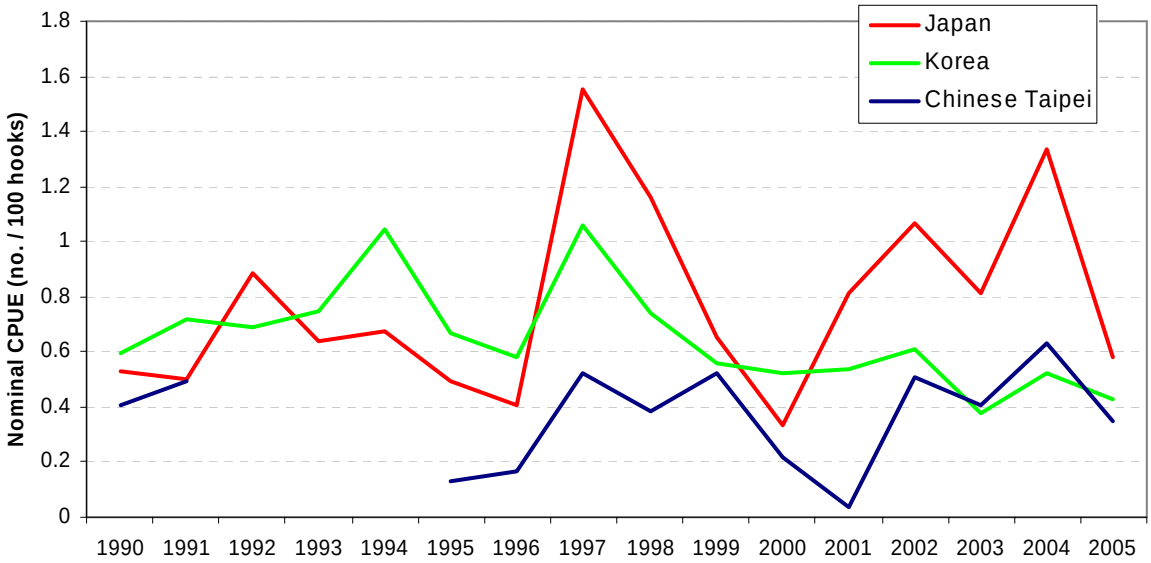

Figure 3 (b). Trends in nominal catch rates of BIGEYE TUNA taken by longline fleets operating in the Kiribati EEZ, 1990-2005

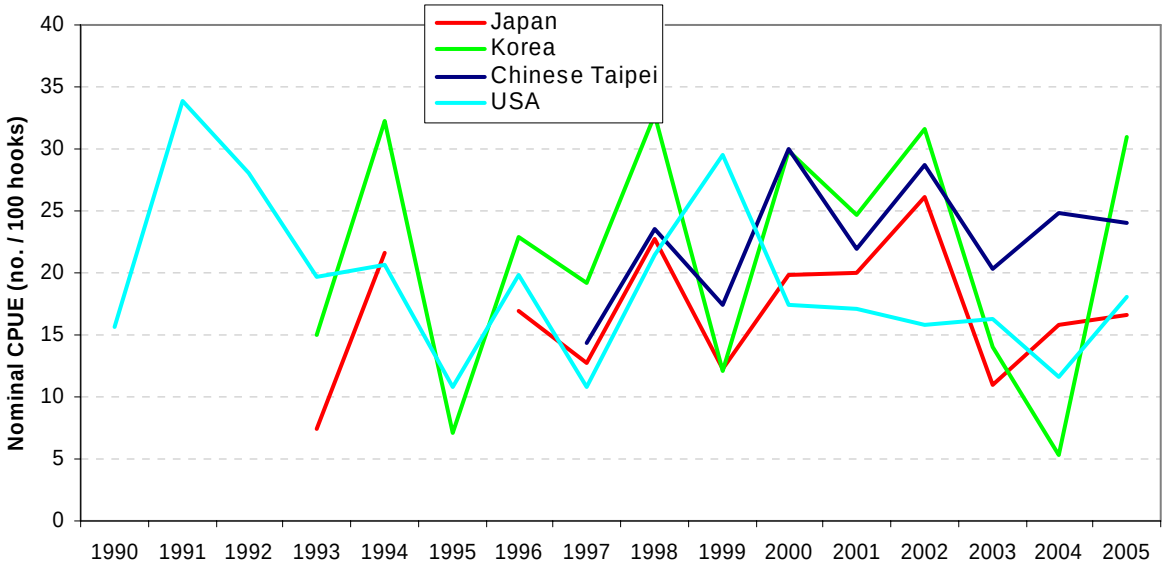

Figure 4 (a). Trends in nominal catch rates of SKIPJACK TUNA taken by purse-seine fleets operating in the Kiribati EEZ, 1990-2005

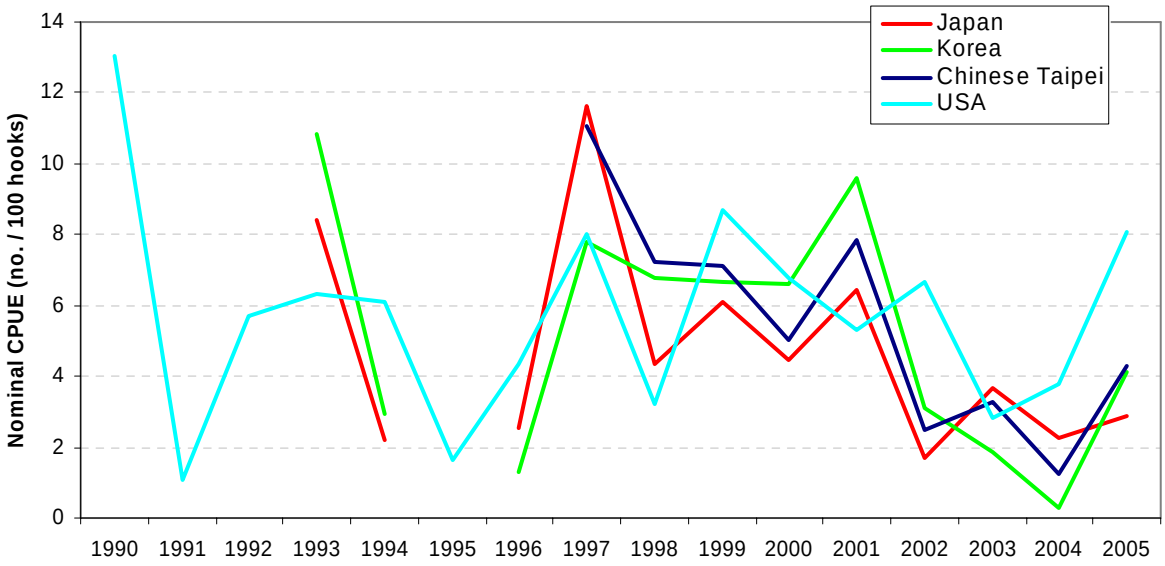

Figure 4 (b). Trends in nominal catch rates of YELLOWFIN TUNA taken by purse-seine fleets operating in the Kiribati EEZ, 1990-2005

2. Research and Statistics

2.1 Summary of unloading

Unloading in Kiribati was conducted in three designated ports namely; Betio port in Tarawa, Canton port in the Phoenix Group and Christmas port in the Line Group. The unloading catch data for Christmas for 2005 is still pending. All unloading data provided in the Tables 7 (a) and (b) are purse seine catches.

Table 7 (a). Annual unloadings (mt) by fleet in Kiribati ports, 2002-2005

Year	Korea	Taiwan	US	Vanuatu
2002	13,795			
2003	730			
2004	2,741			
2005	13,131	10,030	1,753	870

Table 7 (b). Annual fish unloadings (mt) by ports in Kiribati, 2002-2005

Year	Tarawa	Phoenix	Christmas
2002	13,795		
2003	730		
2004	2,741		
2005	19,479	6,305	Pending

Summary of sampling and observer trips

Port sampling in 2004 and 2005 was carried by fisheries observers with the assistance of the fisheries staff however the processing of port sampling data has not completed yet.

Less than 20 fisheries observers are currently active and available for placement, however despite the substantial reduction in number of observers, there has been steady increase in the number of observer placements conducted on licensed foreign fishing vessels. There is a plan to request for another observer training course later in 2006.

In 2005 a total of 15 observer placements were made. Three of our observers went on a regional observer program covering purse seine vessels and the remaining 12 went on the national observer program. From the 12 placements, 5 observers did observe on Korean longline fishing vessels and 7 on purse seines (1 Vanuatu, 2 Japanese and 4 Korean vessels). All observer and port sampling data in 2005 were sent to OFP for processing.