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ANNUAL REPORT TO THE COMMISSION
PART 1: INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS

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VIETNAM

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PART 1: INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

I. INTRODUCTION

Due to its long coastline, the sea is playing an important role in the lives of many Vietnamese, in terms of food security, job creation, income generation, poverty elimination and national economic growth. In the overall development of the country, the fisheries sector has thus become an important industry. The Exclusive Economic Zone (EEZ) is around one million km2 in extent, of which approximately two thirds (around 700,000 km2) is continental shelf, including numerous islands and reefs.

The potential of the offshore fishery for tuna has long been recognized in the general development trend of fisheries sector as noted in the previous section. Interest in realizing this potential was initially generated by a resource survey utilizing longlines and gillnets in the early 1990s. The Government of Vietnam response to the previously slow growth in the offshore fishery was the development of a new modernization drive in 1997, the National Target Program on Offshore Fishing Development. It was designed to provide preferential loans for fishermen to upgrade their fleets, with the goal of creating a fleet of around 800 deep-sea fishing vessels which would exploit in the Vietnam's EEZ. This was also intended to relieve pressure on over-exploited inshore areas.

Tuna fisheries are one of the main intentions in this program due to huge values that these fisheries created in term of economic and likelihood values. There are three fisheries targeting tuna species which are being managed by WCPFC. These are longline, purse seine and gillnet fishery catching mainly bigeye, yellowfin and skipjack tuna. The longline fishery appears only in the three central provinces of Vietnam. In contrast, the gillnet and purse seine fisheries present in almost all central coastal provinces and their catches are mainly skipjack tuna and by catch species such as, rays, mackerel, etc. Until now, tuna fisheries is still supposed one of the most significant fishery in Vietnam and according to national statistical data, annual total catch roundly estimated was 30-40 thousand tons (only for skipjack, bigeye and yollowfin tuna). However, the national catch statistical system is unreliable and thus from 2010 under the framework of West Pacific East Asia Oceanic Fisheries Management granted by GEF throughout WCPFC, Vietnam has been gradually improving its tuna fisheries data collection system for standard with WCPFC's requirements.

II. ANNUAL FISHERIES INFORMATION

A. FLEET STRUCTURE

Since the late 1990s with development innovation of offshore fisheries by Vietnamese Government, total number of offshore fishing fleets has been increasing. However, these increases are stable after the 2000s because of fishing capacity management measures applied and increasing on high fishing cost of offshore fishing fleets. For instance, the longline fishery has been rapidly developed in the 1990s but was stable with around 800 units from 2009 to 2011. Similarly, numbers of vessels of gillnet and purse seine fisheries have not varied much during this period. On the other hand, it was noted that gillnet and purse seine fisheries which are mentioned in this report are not only targeting tuna species but also catching other small pelagic species. Vietnam's vessel statistical system does not yet consider the separation of gear by target species (tuna or small pelagic). There was also a mixed category between normal gillnet catching small pelagic species and tuna gillnet catching skipjack tuna.

Table 1. Number of Tuna Fishing Vessels in Vietnam by Fisheries and Capacity

Gear	**TUNA LONGLINE**				
	Year				
Size class (HP)	**2007**	**2008**	**2009**	**2010**	**2011**
50 - 90	581	609	271	280	161
91 - 150	239	325	214	99	97
151 - 250	106	317	326	382	326
251 - 400	40	81	22	209	227
> 400	27	31	31	7	54
Total	**993**	**1363**	**864**	**977**	**714**

Gear	**TUNA GILLNET**				
	Year				
Size class (HP)	**2007**	**2008**	**2009**	**2010**	**2011**
50 - 90	331	693	819	709	627
91 - 150	43	145	210	245	261
151 - 250	46	77	152	160	184
251 - 400	28	255	249	222	216
> 400	1	14	23	33	24
Total	**449**	**1184**	**1453**	**1369**	**1312**

Gear	**TUNA PURSE SEINE (daily purse seine)**				
	Year				
Size class (HP)	**2007**	**2008**	**2009**	**2010**	**2011**
50 - 90	581	205	80	139	134
91 - 150	239	199	106	115	184
151 - 250	106	79	130	117	44
251 - 400	40	101	108	131	133
> 400	27	3	0	5	20
Total	**993**	**587**	**424**	**507**	**495**

B. ANNUAL TUNA CATCHES IN THE VIETNAM'S EEZ

All catches in this document are derived from those fished in the Vietnam's EEZ. There is insufficient information to estimate total catches of tuna fisheries for some recent years. The tuna fisheries data integrated and available from different fishery agencies was synchronized and gathered in this report. However, it is recognized that these data are incomplete and often under/over-estimate historical actual catches, particularly for small-scale fisheries of Vietnam. Lack of data on estimated catch applies especially to the non-commercial fisheries and is generally justified by real or perceived difficulties and cost associated with quantification of these very spatially dispersed tuna fisheries. An approach to retroactively estimate catches in cases where reliable time series data are lacking applies a "re-estimation" approach to approximate historic catch time series. Such an approach typically requires subjective inferences and interpolations. This approach is justified, despite data uncertainties, given the less acceptable alternative outcome, namely that subsequent users of the available data will interpret non-reported or missing data as zero catches.

Below are some figures of total catch of tuna and related species re-estimated using data collected directly or interpolated. Data sources and methodologies can be referred from a workshop report on 2-6 April 2012 at Da Nang, Vietnam (VTFACE-1). However, it was noted that below catches data was only provisional data and thus there is a need to be verified and validated using better information which is currently available in the national fisheries agencies.

Table 2: Total catches by species in Vietnam's EEZ for tuna LONGLINE fishery (Referred from results of VTFACE-1 Workshop, Vietnam 2012).

VIETNAM TUNA LONGLINE																			
Year	Active vessels	Estimated Tuna Catch (metric tonnes)									Estimated Billfish Catch (metric tonnes)								TOTAL Tuna and Billfish
		Skipjack	%	Yellowfin	%	Bigeye	%	Albacore	%	Total tuna	Blue Marlin	%	Black Marlin	%	Striped Marlin	%	Swordfish	%	
2000		0	0%	6,776	68%	2,479	25%	10	0.1%	9,266	323	3%	152	2%	0	0.0%	253	3%	9,993
2001		0	0%	8,292	79%	1,450	14%	11	0.1%	9,753	340	3%	160	2%	0	0.0%	266	3%	10,518
2002		0	0%	9,756	87%	614	5%	11	0.1%	10,382	362	3%	170	2%	0	0.0%	283	3%	11,197
2003		0	0%	8,179	73%	2,129	19%	11	0.1%	10,320	360	3%	169	2%	0	0.0%	281	3%	11,130
2004		0	0%	11,122	74%	2,781	19%	15	0.1%	13,918	486	3%	228	2%	0	0.0%	379	3%	15,010
2005		0	0%	10,895	70%	3,527	23%	16	0.1%	14,438	504	3%	236	2%	0	0.0%	394	3%	15,572
2006		0	0%	10,930	70%	3,538	23%	16	0.1%	14,483	505	3%	237	2%	0	0.0%	395	3%	15,621
2007		0	0%	11,270	70%	3,648	23%	16	0.1%	14,935	521	3%	244	2%	0	0.0%	407	3%	16,107
2008		0	0%	10,375	70%	3,358	23%	15	0.1%	13,748	480	3%	225	2%	0	0.0%	375	3%	14,827
2009		0	0%	9,244	70%	2,992	23%	13	0.1%	12,249	427	3%	200	2%	0	0.0%	334	3%	13,211
2010		0	0%	9,513	74%	2,441	19%	4	0.0%	11,958	418	3%	196	2%	0	0.0%	326	3%	12,898
2011		0	0%	10,576	70%	3,424	23%	15	0.1%	14,015	489	3%	229	2%	0	0.0%	382	3%	15,116

Notes on sources of data and methodology

1	*The GSO estimate for 2008 was approximately 19,000 t. and the estimate derived from DECAFIREP and ALMRV/DECAFIREP data (Table 7 – see VTFACE-1 Document # 13 – Appendix 3) for 2008 was ~27,000 t., although the estimates from this latter source were closer to the GSO estimate for previous and subsequent years, so the GSO estimate (~19,000 t.) was deemed to be the more reliable estimate for 2008 by the workshop.*
2	*The GSO and DECAFIREP/ALMRV estimates were for ALL SPECIES and the target oceanic tuna estimates (yellowfin and bigeye tuna) were determined by applying recent observer-derived species composition estimates (that is, 71% of total catch represents YFT+BET catch). This produced an estimate of 13,700 t. for YFT and BET from the GSO data which is in line with the estimates determined from the WPEA data collection in recent years (YFT+BET : 12,000 t. for 2010 and 14,000 t. for 2011). Given that the GSO estimate could be reconciled with estimates derived from the WPEA data collection, the workshop agreed to apply the same methodology of estimating the YFT+BET from the GSO data for years 2000-2008.*
3	*Species composition data were available from the ALMRV for the period 2000-2004, so these were applied to the YFT+BET catch estimates to produce year-specific catch estimates for Yellowfin and bigeye tuna catch estimates. The ALMRV species composition data for the billfish species for 2000-2004 were deemed to be unusually high so were not considered. A review of the comprehensive ALMRV logbook data after the workshop was suggested in an attempt to obtain more reliable species composition data for years prior to 2009.*
4	*The workshop decided to use the WPEA species composition data for 2010 and 2011 to determine species catch estimates for 2005-2011, in the absence of any reliable year-specific data. In the interim, the WPEA species composition data (2010-2011) for billfish were used to produce estimates of billfish catches for the period 2000-2011.*

Table 3: Total catches by species in Vietnam's EEZ for tuna PURSE SEINE fishery (Referred from results of VTFACE-1 Workshop, Vietnam 2012).

VIETNAM TUNA PURSE SEINE									
Year	Active vessels	Estimated Tuna Catch (metric tonnes)							See NOTES
		Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna	
2000		11,525	75%	3,534	23%	307	2%	15,367	
2001		12,130	75%	3,720	23%	323	2%	16,174	
2002		12,913	75%	3,960	23%	344	2%	17,218	
2003		12,836	75%	3,936	23%	342	2%	17,115	
2004		17,312	75%	5,309	23%	462	2%	23,082	
2005		17,959	75%	5,507	23%	479	2%	23,945	
2006		18,015	75%	5,525	23%	480	2%	24,020	
2007		18,576	75%	5,697	23%	495	2%	24,768	
2008		17,100	75%	5,244	23%	456	2%	22,800	
2009		12,926	75%	3,964	23%	345	2%	17,234	
2010		12,190	75%	3,738	23%	325	2%	16,253	
2011		18,350	80%	3,899	17%	688	3%	22,938	

Notes on sources of data and methodology

1	*The oceanic tuna catch estimate for recent years according to the best information available for recent years (provincial profiles; VTFACE-1 Document #16 - Lewis, 2012) was in the order of 20,000-24,000 t. The GSO estimate for 2008 was approximately 57,000 t. and the estimate derived from DECAFIREP and ALMRV was about 27,000 t., which are significantly different. The estimate for the GSO can be explained since it contains ALL species catches which includes a large component of small pelagic species which are targeted by purse seine vessels using lights at night. An arbitrary estimate of about 40% of the total GSO catch was thought to represent the oceanic tuna catches and was applied to produce an estimate of SKJ+YFT+BET of about 22,800 t. which is in the range for the estimate provided recent provincial profiles (VTFACE-1 Document #16 - Lewis, 2012), and in the ballpark of the estimate derived by the ALMRV/DECAFIREP. The ALMRV/DECAFIREP estimate was thought to include ALL species which, after corrected to remove the non-oceanic species catches would make it an underestimate compared to the other sources of data; at this stage, it has been assumed that the ALMRV/DECAFIREP estimates for the purse seine fishery, as is, represents the oceanic tuna species catches only.*
2	*Not enough data have been collected and processed under the WPEA project as yet to provide any estimate from the purse seine fishery for recent years. The workshop agreed that the GSO estimate, corrected to include the oceanic tuna catches only, was the best available estimate given that it could be reconciled with the estimate from recent provincial profiles (VTFACE-1 Document #16 - Lewis, 2012). The workshop therefore agreed to apply the same methodology of estimating the oceanic tunas SKJ+YFT+BET from the GSO data for years 2000-2008 and accept the ALMRV/DECAFIREP estimates as provisional estimates for 2009-2011.*
3	*There are very few species composition data for the oceanic tuna species in the purse seine fishery available at this stage. An average species composition for SKJ/YFT/BET from the ALMRV data was applied to the total tuna catches for years in the range 2000-2009 and preliminary port sampling/landings data collected under WPEA project data were used to determine species composition for years 2010-2011. Further investigation of the ALMRV data may be required to obtain better species composition estimates for years prior to 2009.*

Table 4: Total catches by species in Vietnam's EEZ for tuna GILLNET fishery (Referred from results of VTFACE-1 Workshop, Vietnam 2012).

VIETNAM TUNA GILLNET									
Year	Active vessels	Estimated Tuna Catch (metric tonnes)							See NOTES
		Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna	
2000		8,164	91%	522	6%	315	4%	9,001	
2001		8,593	91%	549	6%	332	4%	9,474	
2002		9,147	91%	585	6%	353	4%	10,085	
2003		9,093	91%	581	6%	351	4%	10,025	
2004		12,263	91%	784	6%	473	4%	13,520	
2005		12,371	88%	982	7%	673	5%	14,026	
2006		12,409	88%	985	7%	675	5%	14,070	
2007		12,796	88%	1,016	7%	696	5%	14,508	
2008		11,779	88%	935	7%	641	5%	13,355	
2009		13,016	88%	1,033	7%	708	5%	14,757	
2010		11,866	88%	942	7%	646	5%	13,454	
2011		11,142	88%	884	7%	606	5%	12,633	

Notes on sources of data and methodology

1	*The oceanic tuna catch estimates for recent years according to the best information available for recent years (VTFACE-1 Document #16 - Lewis, 2012) was in the order of 10,000-15,000 t. The GSO estimate for 2008 was approximately 30,000 t. and the estimate derived from DECAFIREP and ALMRV was about 67,000 t., which, as with the purse seine fishery, are significantly different. The larger estimates for both the GSO and the ALMRV/DECAFIREP data can be explained as they contain ALL species catches and include a significant component of neritic species (e.g. Longtail tuna-Thunnus tonggol and Spanish mackerel-Scomberomorus commerson) which are taken by gillnet vessels that operate close to the coast in the central provinces, or in the most northern and most southern areas of Vietnam where the continental shelf (i.e. shallow waters) extends well off the coast. The large difference in the ALL species estimates between GSO and ALMRV/DECAFIREP could be due to the GSO not accounting for catches in some areas where significant amount of neritic species are taken.*
2	*As with the purse seine gear, an arbitrary estimate of about 40% of the total GSO catch for GILLNET was thought to represent the oceanic tunas and was applied to produce an estimate of SKJ+YFT+BET of about 12,000 t. in 2008 which is in the range for the estimate provided in the provincial profiles (VTFACE-1 Document #16 - Lewis, 2012). It was more difficult to explain the ALMRV/DECAFIREP estimate for 2008 which, after applying the 40% for oceanic tunas, was about double the level from both the GSO-derived catch estimates and the estimates in the provincial profiles.*
3	*Not enough data have been collected and processed under the WPEA project as yet to provide any estimate from the gillnet fishery for recent years. The workshop agreed that the GSO estimate, corrected to represent the oceanic tuna catches only, was the best available estimate given that it could be reconciled with the estimates from the recent provincial profiles (VTFACE-1 Document #16 - Lewis, 2012). The workshop therefore agreed to apply the same methodology of estimating the oceanic tunas SKJ+YFT+BET from the GSO data for years 2000-2008 and accept the ALMRV/DECAFIREP estimates (after adjustment to the GSO estimate of 2008) as provisional estimates for 2009-2011.*
4	*Species composition data for the oceanic tuna species in the gillnet fishery are available from the ALMRV for years 2000-2004 and the average species composition for these years (2000-2004) was used to determined the individual species catch estimates for this period. The species composition data obtained from provisional WPEA port sampling (2011) were used to estimate species catch for years 2005-2011; the oceanic tuna species composition data from WPEA 2011 gillnet landings data for SKJ:YFT:BET was 85.2%: 5.8%; 3.5% and from WPEA 2011 port sampling data was 88.2%: 7.0%; 4.8%.*

C. OTHER INFORMATION

1. West Pacific East Asian Oceanic Fisheries Management project (WPEA OFM)

In the second year of the WPEA OFM project, activities to be carried out under the project are still focusing on towards objectives to strengthen national capacities and international cooperation on priority transboundary concerns relating to the conservation and management of highly migratory fish stocks. Particularly, activities of the project are to strengthen national capacities in fishery monitoring and assessment throughout tuna fisheries data collection systems and to strengthen national laws, policies and institutions, to implement applicable global and regional instruments.

In 2011, tuna data collection activities have been implemented for longline, purse seine and gillnet fisheries with data types of logsheet, port sampling to be collected. A review workshop has been conducted for review of Vietnam's tuna fisheries data collection system (protocols, data collection forms and other related matters) and recommends further improvements data collection tasks of Vietnam in the future. Collected data of the project partly addressed data gaps and importantly contributed for catch estimates of Vietnam's domestic tuna fishing fleets in 2011. Size composition data were indicated in the Appendix 1 (Figure 5 and 6). On the other hand, legal, policy and institutional arrangement aspects were also considered with activities under the WPEA OFM project. A National Tuna Management Plan (NTMP) has been drafted and a review to consult experts' comments was also convened. In the schedule of development of NTMP the final version will be ready to submit to Vietnamese Government in the end of 2012. In addition, a consultancy task was also assigned to review and revise national legal, policy and institutional arrangements. Under this task, a review report has been produced and a long list of recommendations has been proposed to necessarily amend national legislation in the light of WCPFC's requirements.

2. National research programs

In 2011, there is a strongly consideration for data collection of tuna fisheries in Vietnam. Ministry of Agriculture and Rural Development (MARD) has allocated a research project to assess and investigate marine resources in Vietnamese waters with total budget for this program of nearly 10 million USD (a 5 year-project). The main aims of the program are to: (1) assess status of marine resources in Vietnamese waters, (2) provide management advices for fisheries managers and (3) provide scientific information for marine protected areas planning. The project is started from 2011 with high priority of the first year is to assess large pelagic species especially tuna and tuna-like species. Tuna fisheries data and information will be collected using both fisheries independent and dependent data. Under this project, large pelagic fish resources including oceanic tuna were investigated in 2011 at Central and South-eastern regions of Vietnamese waters. There were total 60 research stations set to collect the fishery, phytoplankton and oceanographic data.

Mean catch per unit effort (CPUE) for large pelagic fishes were indicated in **Figure 1** and **Figure 2** for Gillnet fishery and in **Figure 3** for longline fishery.

In 2012, MARD has also assigned for Center for Fisheries Statistics and Informatics (under Directorate of Fisheries, MARD) to develop a Tuna Fisheries National Statistical Program. The main aims of the program are to develop a routine tuna fisheries data collection system from cen-

tral to local levels. This program will focus only the tuna fisheries in Vietnam to address current data gaps for Vietnam's fisheries management.

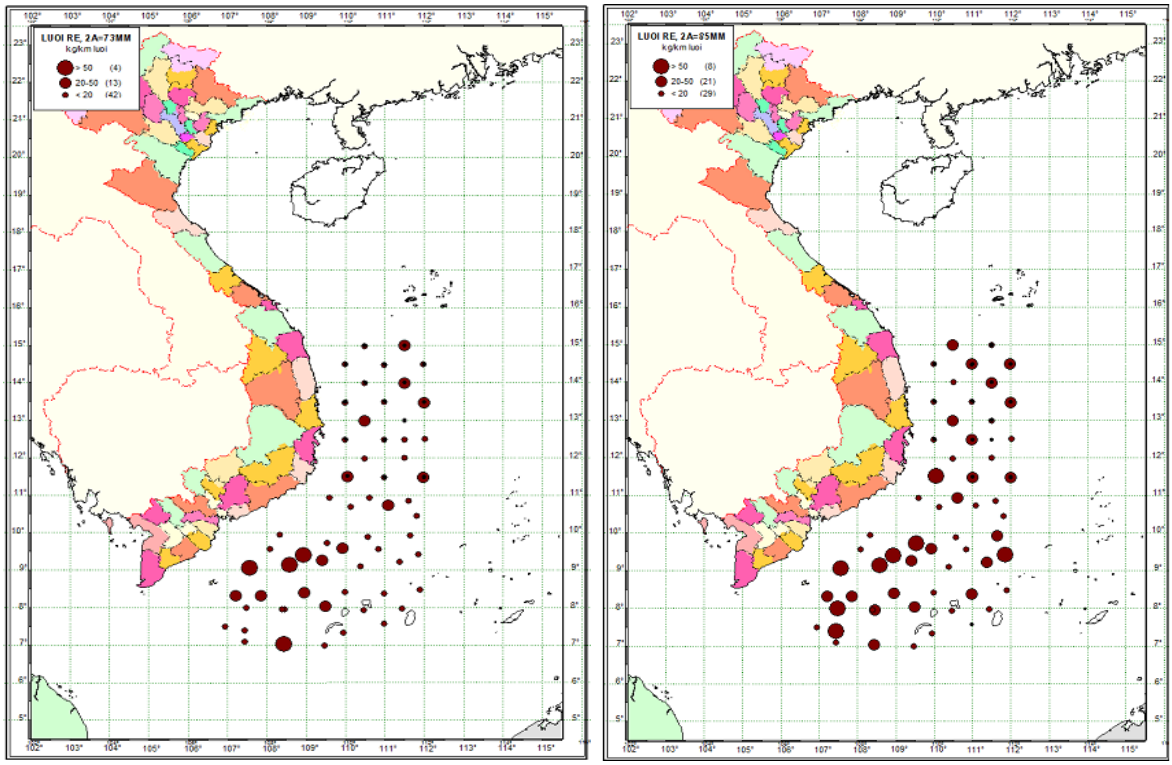

Figure 1. CPUE of large pelagic fishes in the Gillnet fishery with mesh sizes 2a = 73 mm in the left and 2a = 85mm in the right (source: RIMF, 2011).

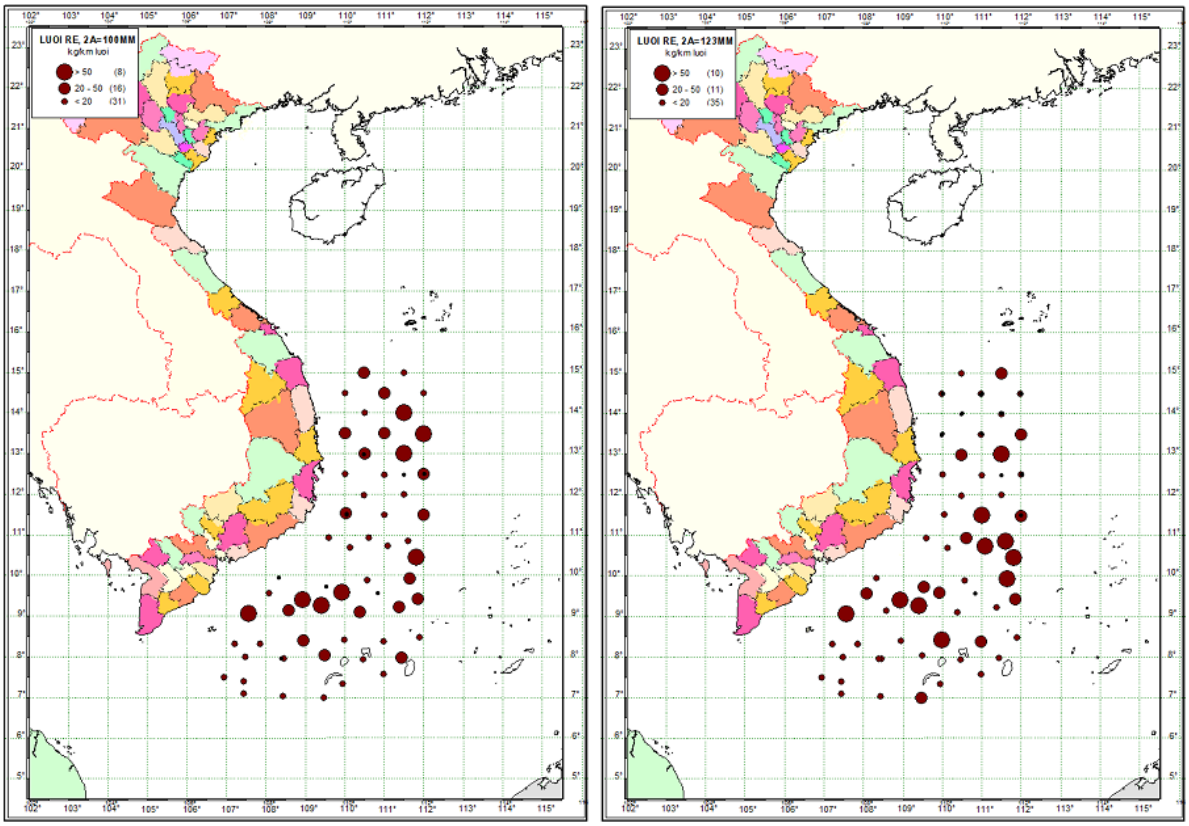

Figure 2. CPUE of large pelagic fishes in the Gillnet fishery with mesh sizes 2a = 100mm in the left and 2a = 123mm in the right (source: RIMF, 2011).

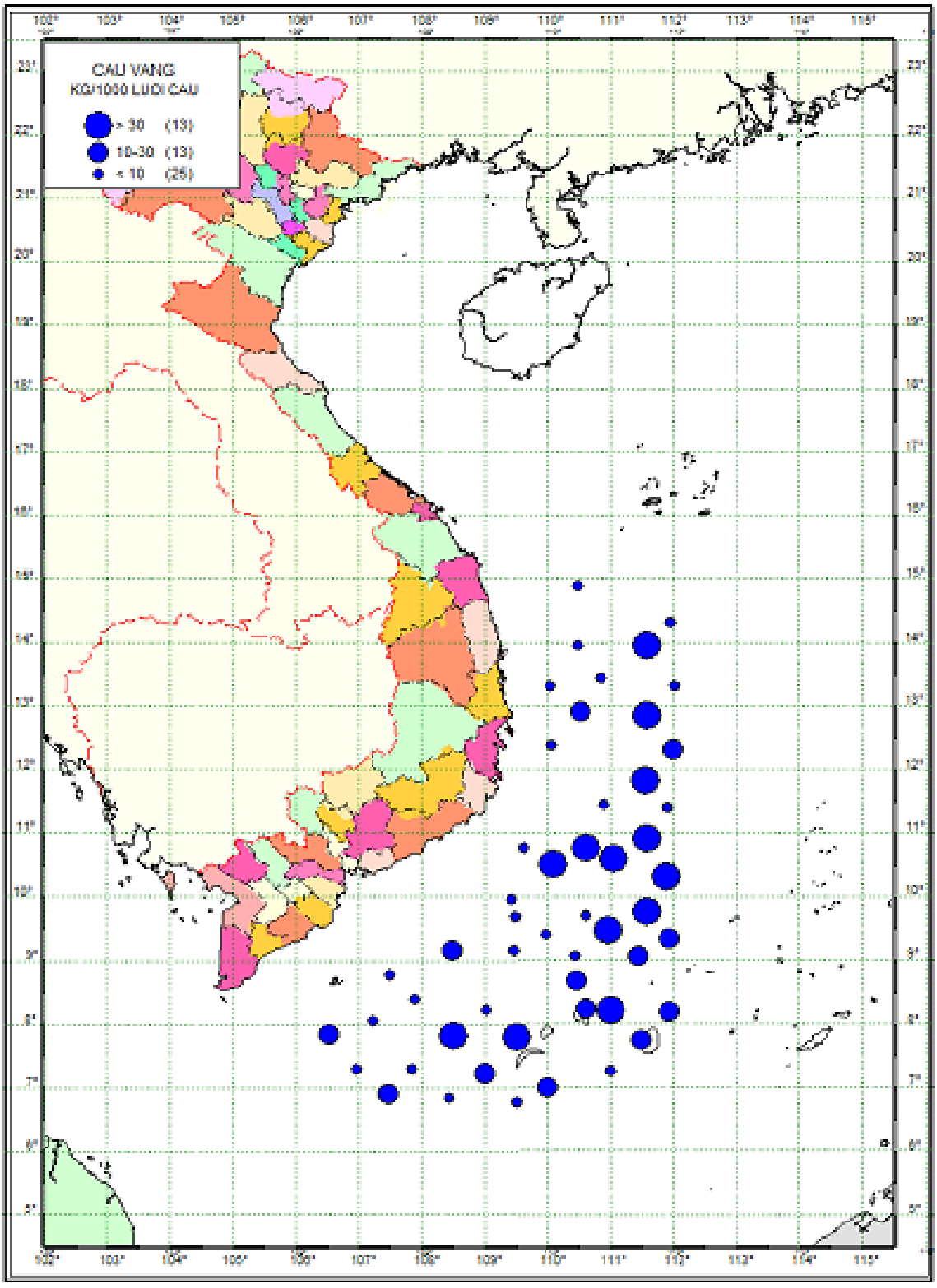

Figure 3. CPUE of large pelagic fishes in the longline fishery (source: RIMF, 2011).

3. WWF's observer program

In 2011, under NOAA funding, WWF has continued to collaborate with DECAFIREP to conduct an observer program for tuna longline. The main aims of the program are to:

- Raise awareness and improve knowledge on the impact of the fisheries to sea turtles and other bycatch species, considering the issue "*bycatch as an obstacle for sustainable development*".
- Implement the observer program on the long line boats; collect data at sea and the impact of long line fisheries to the sea turtles and other bycatch species.
- Apply measurements to reduce sea turtle bycatch using circle hook.
- Improve the value of Vietnam tuna product in the export market through the image of sustainable and environmental friendly fishing.
- Support Vietnam Govt. in the process of joining WCPFC.

There were 7 observer trips conducted from November 2010 to May 2011 using tuna longline boats in Binh Dinh and Phu Yen provinces. In these fishing trips, circle hooks were alternatively set together with normal hooks ("J" hooks) with a proportion of 50/50 to evaluate impacts different fishing methodologies in the longline fishery (WWF and RIMF, 2011). Bycatch species composition caught by these two hook types were recorded separately and indicated in the Appendix 2.

4. Socio-economic Factors

According to information of Vietnam Association of Seafood Exporters and Producers (VASEP), in 2011, total tuna exports making up 6.2 percent of total export value of Vietnam seafood reached US$379.4 million, increasing up 29.4 percent comparing to 2010 (**Figure 4**) .

On the other hand, compared to the same period of 2010, tuna export price surged sharply in which export price to Japan posted the highest of over 100 percent and export price to Canada, Israel, the U.S., and Switzerland was up 50-80 percent. However, in import markets such as Iran, Taiwan, Germany, the export price rose slowly. The export price in EU reported the worst level among all tuna importers of Vietnam. Based on information of some Vietnam's largest tuna exporters, in 2011, tuna export value has been rising because of increasing of imported raw tuna material and fishing costs.

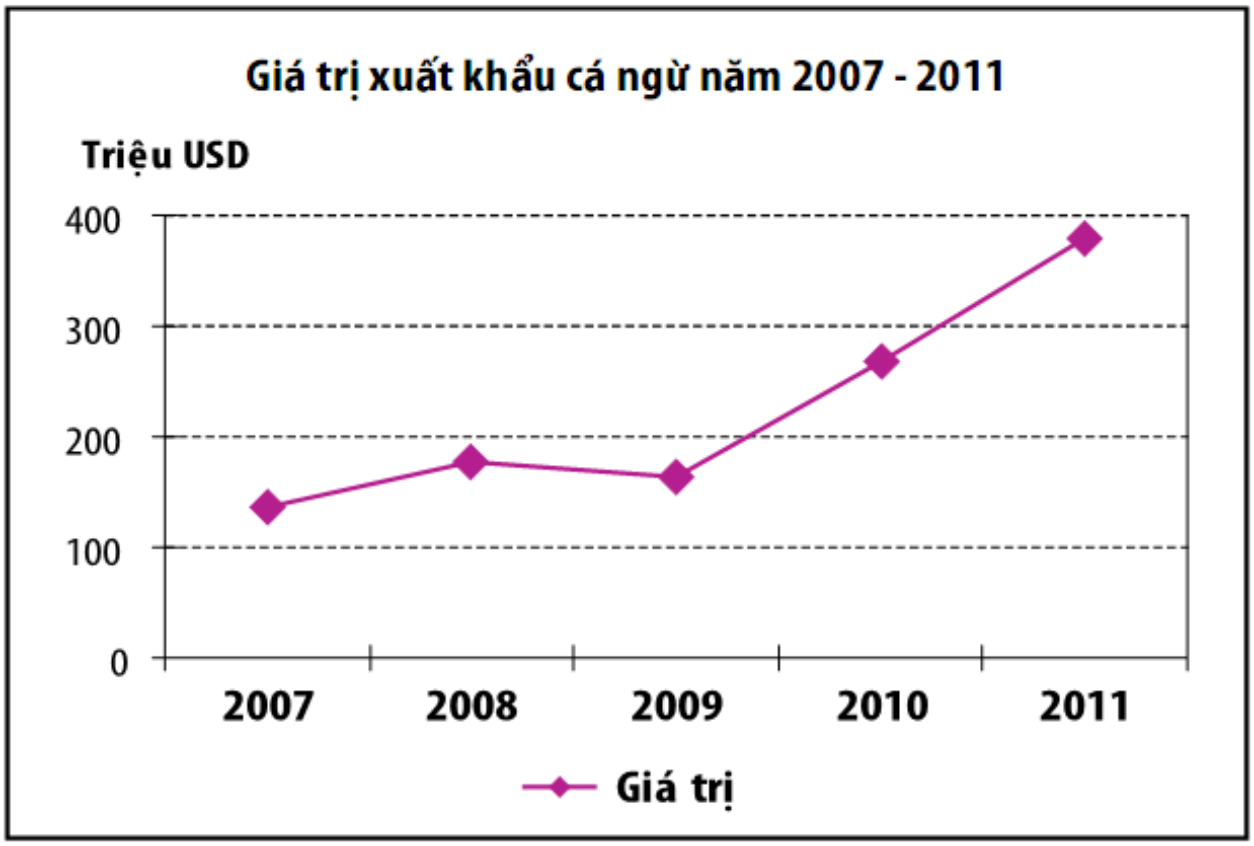

Figure 4: Total export value of tuna products from 2007 to 2011 (y-axis of value of exported products in USD with correspondence years, source: VASEP, 2012).

5. Disposal of catch

In 2011, Vietnam tuna was shipped to 92 markets, up from 91 markets of 2010. Tuna exports to traditional markets remained a stable growth.

Table 5. Destinations for Vietnam's export tuna products in 2011 (source: VASEP, 2012).

Live, fresh, frozen, dried tuna products (HS 03 code)				Processed tuna (HS 1604 code)			
No.	**Markets**	**Value (US$ million)**	**Market share (%)**	**No.**	**Markets**	**Value (US$ million)**	**Market share (%)**
1	The U.S.	103.210	44.40	1	The U.S.	68.160	46.40
2	Japan	37.654	16.20	2	Germany	16.918	11.52
3	Italy	16.447	7.07	3	Thailand	13.314	9.06
4	Iran	9.720	4.18	4	Japan	6.412	4.37
5	Belgium	9.414	4.05	5	Tunisia	4.166	2.84
6	Spain	6.548	2.82	6	Lebanon	3.432	2.34
7	Canada	6.491	2.79	7	Switzerland	3.342	2.28
8	Thailand	5.635	2.42	8	Taiwan	2.521	1.72
9	Israel	5.588	2.40	9	Croatia	2.209	1.50
10	The U.K	5.169	2.22	10	Bahamas	2.207	1.50
Total 10 markets:		205.876	88.56	Total 10 markets:		122.681	83.52
Others:		26.602	11.44	Others:		24.205	16.48
Total:		**232.479**	**100.00**	**Total:**		**146.886**	**100.00**

Among the greatest Vietnam tuna importers, top 3 largest tuna importers of Vietnam (the U.S., EU and Japan) remained its rank against 2010.

The U.S.: The U.S. is the largest and the most stable importer of Vietnam tuna with a fairly positive growth in export price of 40-60 percent from the same period of 2010 and firm consumption demand. In 2011, Vietnam tuna export value to the market witnessed a 31.2 percent increase against 2010, worth by US$157.6 million. Prepared skipjack tuna and frozen yellowfin tuna occupied nearly 70 percent of total Vietnam tuna export value to the U.S. However, in 2011, the export volume of these two species to the U.S. sank due to lower supply. While frozen oceanic tuna products, processed farmed skipjack tuna, frozen/chilled albacore tuna exports to the U.S. surged, reporting a three digit growth both in volume and value.

As of August 2011, Vietnam ranked the fifth among top largest tuna exporters to the U.S. Until October 2011, Vietnam surpassed Ecuador to become the fourth largest tuna exporter to the U.S. Vietnam tuna exporters are fiercely competing with tuna exporters of Thailand, the Philippines because tuna export price in these two countries is lower than average export price in the world. Besides, procedures of tuna imports and exports are easy and favourable here. The structure of exported tuna products in Thailand, the Philippines, Indonesia and Ecuador (the largest rivals of Vietnam tuna exporters) changed significantly to boost exports.

In the first 10 months of 2011, Thailand strengthened to export processed skipjack tuna, frozen yellowfin tuna, albacore tuna in oil to the U.S. while Indonesia boosted exporting frozen tuna, albacore tuna, skipjack tuna; Ecuador stepped up shipping frozen yellowfin tuna, vacuum-packed skipjack tuna, frozen/chilled bigeye tuna to the U.S.

EU: Tuna exports to EU in 2011 approached nearly US$71 million, up 23.2 percent in value on 2010. However, in 2010, the export price to the market saw the lowest and instable growth. The

growth was mainly observed at markets: Germany (78 percent), Italy (36 percent), export to Belgium reduced slightly 6.2 percent.

Table 6. Vietnam's tuna exports to EU in 2011 (source: VASEP, 2012)

	Volume 2010	Volume 2011	Value 2010	Value 2011	% Variation (Volume)	% Variation (Value)
Jan	999	1,902	3,415	5,805	90.4	70.0
Feb	762	1,079	3,122	4,295	41.5	37.6
Mar	1,687	2,245	5,682	8,433	33.1	48.4
Apr	1,695	1,546	5,642	5,569	-8.8	-1.3
May	1,393	1,386	4,804	5,276	-0.5	9.8
Jun	1,278	1,760	4,572	6,984	37.7	52.8
Jul	1,782	1,283	6,717	4,925	-28.0	-26.7
Aug	1,255		4,524	6,722		48.6
Sep	1,550		5,892	4,576		-22.3
Oct	1,796		7,118	9,265		30.2
Nov	1,538		5,529	8,770		+58.6
Dec	2,604		9,107	8,591		-5.7
Total	**18,583**		**66,694**	**79,528**		**19.2**
Source: VASEP; Unit: Volume (MT); Value (US$ in thousands)						

Japan: The market has firm and the strongest growth in tuna import value from Vietnam, double against that of 2010 but this is the most severe market to Vietnam tuna exporters. In the last 6 months of 2011, export value to the market surged continuously. As of December, export value to Japan reached over US$44 million, up 99.4 percent. In December alone, the growth was reported at more than 300 percent in value from that of the same period of 2010.

Vietnam tuna was also delivered to Iran, Canada and Israel. Export volume to Iran saw a surprising increase but the export price only rose by 10-15 percent, not much against that of other markets. The export price to Canada, Israel increased sharply by 60-80 percent on 2010. These three markets were main destinations of Vietnam tuna exporters since the early 2011. Until December 2011, export value to Iran rallied by 7.6 percent, Canada with 38.4 percent but export to Israel reduced by 9.6 percent on 2010.