

Using the Checklist "Targets for Subsidy Reform" to Examine Subsidies  
Related to the Use of CITES Listed Species

Kirie Suzuki, JWCS (NPO)

Yuichi Takahashi, Kokugakuin University

## 1. Introduction

In October 2010 the Convention on Biodiversity (CBD) COP10 meeting in Nagoya set strategic goals<sup>1</sup>, to be met by 2020, known as the Aichi Target. Acknowledging that the 2010 Biodiversity Target agreed in 2002 had not been achieved, the Aichi Target stresses the need to address the underlying causes of biodiversity loss.

Among the twenty goals of the Aichi Target, Target 3 aims to eliminate, phase out or reform incentives, including subsidies, which are harmful to biodiversity, and to apply positive incentives for the conservation and sustainable use of biodiversity.

The human activities that directly affect biodiversity are diverse and include agriculture, forestry and fisheries as well as other factors such as changes in land use.

In this study we try, to address one of the direct influences; the subsidies related to the direct use of endangered (CITES listed) species and, for illustration, examine those which may be eligible for subsidy reform.

## 2. The checklist of targets for subsidy reform

The decision-making behind the setting of subsidies (discussion, practice, biodiversity monitoring : "Plan-Do-Check") is not always transparent. This makes it very difficult for NGOs to take part in discussions on subsidies, while the analytical tools provided in "TEEB for Policymakers" fail for lack of data.

To decide which subsidies needed to be addressed, we used the checklist of criteria for subsidy reform found in Box 6.14 of "TEEB for Policymakers". This list is not restricted specifically to biodiversity, but can be applied to other topics where the responsibility for the use of public funds needs to be explained to the public, and hence is easily accepted in a variety of fields.

## 3. The current situation of the species investigated

### 3.1 Hawksbill turtle, *Eretmochelys imbricate*

The raw material for "bekko" (tortoiseshell) comes from the tropical and

---

<sup>1</sup> New Strategic Plan of the Convention on Biological Diversity

sub-tropical hawksbill turtle. It is listed as critical (CR) in the IUCN List IA, and is declining in the wild. Since it takes between 20 and 40 years to reach sexual maturity, its populations have been decimated by over-hunting for the tortoiseshell trade. The taking of its eggs, hunting for meat, bycatch and loss or degradation of its habitat have also taken their toll.

After Japan ratified the CITES treaty in 1980, it maintained a reservation on the Appendix I Hawksbill turtle, but self-imposed an import restriction of 30 tons per year. Since a reservation is a temporary measure, its continued application was increasingly criticized internationally as abuse. US-Japan negotiations in 1991 led to Japan's promising to revoke the reservation, and in 1993 imports were unilaterally prohibited. In 1994 Japan finally revoked the reservation on hawksbill turtles.

The (Japanese government's) supplementary budget for 1991 included an item (954 million yen) named the "Bekko Industry Relief Plan Fund<sup>2</sup>" which, in January 1992, was paid to the Japan Bekko Association, a public service corporation under the permit of the Minister for International Trade and Industry (MITI).

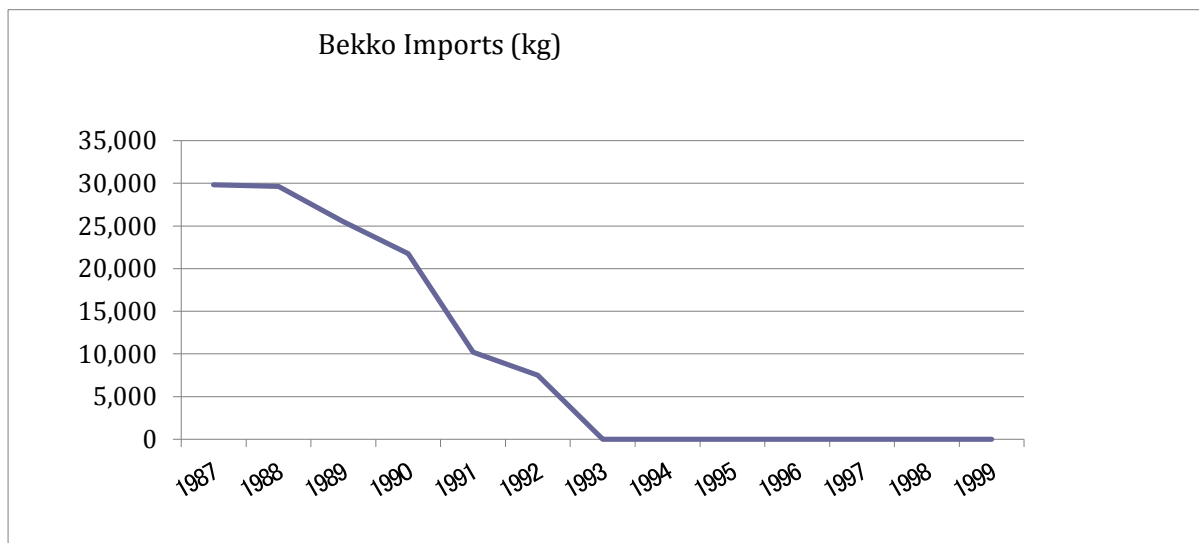


Fig. 1 Bekko Imports, from monthly trade figures (JWCS 2000)

### 3.2 Elephants

According to *elephant database.org*, the African population of the elephant *Loxodonta africana* in 2007 was over 472,000. The populations in southern Africa are increasing, but others, particularly in central Africa, are declining. Hence the IUCN Red List rates the species as Vulnerable (VU), while in southern Africa it is of Least Concern (LC) and in central Africa it

<sup>2</sup> <http://www.jwcs.org/data/000401-1e.pdf>

is Endangered (EN).

The CITES treaty of 1989 made international trade in ivory illegal. The largest (known) ivory smuggling case in Japan occurred in 2006, when 2.8 tons of worked pieces and blanks for making “inkan” (seals) were smuggled into Osaka port by a crime syndicate. On May 11<sup>th</sup> 2011, a former chairman of the Japan Ivory Association and the largest domestic ivory broker were arrested on domestic charges. Nevertheless, the smuggling of unworked ivory continues, and brokers are still believed to be operating illegally. The general demand for such items as ivory seals and craftwork is declining, but there is still deep-rooted demand for items such as traditional musical instruments (Nishihara 2012).

### 3.3 Whales

CITES places all cetaceans in Appendix II, except the major hunted species, which are in Appendix I. This puts the Sperm, Baird's Beaked, Minke, Antarctic Minke, Sei, Bryde's and Fin Whales, and the Irrawaddy dolphin<sup>3</sup> in Appendix I, but Japan maintains a reservation on this.

The reason given for the reservation was that “based on objective data that stocks are sufficient for sustainable use, we conclude that there is no scientific justification for placing these species in Appendix I and hence have no intention of withdrawing the reservation unless the situation changes.” (MOFA website<sup>4</sup>)

The IUCN Red List rates the whale species as follows; Sperm (EN), Baird's Beaked (DD), Minke (LC), Antarctic minke (DD), Sei (EN), Bryde's (DD) and Fin (EN), and the Irrawaddy dolphin as (VU).

---

<sup>3</sup> viz. *Physeter macrocephalus*, *Berardius bairdii*, *Balaenoptera bonaerensis*, *B. borealis*, *B. brydei*, *B. physalus*, and *Orcaella brevirostris*.

<sup>4</sup> No official English version found.

Chart 1 **Should the subsidy be the target of reform?**

Subsidy target source: 2011 budget:  a checklist for policymakers	Bekko Industry Relief Plan Fund  MITI JPY 73,230,000	Special Permit Research Whaling Supplement ary Subsidy  MAFF JPY 715,200,000	Special Permit Research Whaling Stabilisation and Promotion Program  MAFF JPY 2,284,000,000
Does the subsidy fulfill its objectives (social / economic / environmental)?	After 20 years a reassessment is overdue.	There are problems	There are problems
Does the subsidy contain an in-built review process and has it been in place for a long time?	Reviewed annually, but nevertheless it continues.	Reviewed annually, but nevertheless it continues.	A “one-off” subsidy from the 3rd Supplementary Budget of FY2011
Are there public calls for reform or removal, or calls to use the funds for other purposes?	The existence of the fund is not well known	NGOs and others are demanding change.	There is criticism
Does the subsidy distribute social welfare equitably?	There are problems	There are problems	There are problems
Do any of the subsidy impacts lead to social or other economic losses?	The demerits of re-opening imports are considerable.	Diplomatic loss	Loss of public faith in the reconstruction program
Is the existence of the subsidy hindering the development of superior technology?	No.	No.	No.
Where the rationale for the subsidy is valid, could environmental impact be reduced at lower cost?	Unlikely	Non-lethal research offers possibilities.	The rationale is weak.

4. Analysis

#### 4.1 Bekko Industry Relief Plan Fund

In “2011 Comprehensive Guide to Subsidies”<sup>5</sup> the Bekko Industry Relief Plan Fund is described as budgetary support to assist the Bekko Industry by domestic conservation and proliferation projects for hawksbill turtles, and to assist financially with meeting the requirements of the IUCN treaty. The subsidy is paid to the Japan Bekko Association.

In the ivory industry, after the international trade of ivory was prohibited in 1989, JPY 31,200,000 was paid to the “Ivory Substitute Development Plan Fund” but this dropped to zero the following year. The Bekko Industry Relief Plan Fund has since then continued to pay overseas travel expenses for staff of the Japan Ivory Association.

##### **Does the subsidy fulfill its objectives?**

After 20 years of subsidies, if it is really for the relief of a single industry, then a reassessment is due.

According to the JBA website’s history section, in 1997, the Japan General Merchandise Importers' Association<sup>6</sup> left the JBA, the Osaka Bekko Industry Co-operative Association also left on its dissolution. The Western Japan branch of the JBA was discontinued in 1999, and in 2009, the Nagasaki Bekko Commerce and Manufacture Co-operative Association also left on its dissolution. We note that the industry has declined over the period of subsidies under the Industry Relief Plan.

##### **Is there an in-built review process?**

The subsidy is an annual one, so there is opportunity to review the amount, but nevertheless that program has continued. The amount has declined to less than half since 2003.

According to the financial data on the JBA website, part of the subsidy remains unused every year and is refunded. Since 2009, both the amount of the subsidy and the amount refunded have declined. Review of the need for the subsidy appears necessary.

##### **Calls for change?**

Since the international trade in bekko and ivory was prohibited more than 20 years ago, the lack of calls for change may be attributed to the fact that very few people are even aware of this subsidy aimed at re-opening the trade.

##### **Equitable social welfare?**

---

<sup>5</sup> 『補助金総覧 平成 23 年度』

<sup>6</sup> 日本軽工業品輸入組合

The extinction of a species is a loss for the people of the whole world, and for future generations, and inevitably leads to the extinction of culture that utilises that species. As there are other subsidies for traditional crafts, it is hardly fair that the bekkō and ivory industries should receive special attention.

### **Other losses?**

Since the producing countries do not have the necessary apparatus for controlling poaching and smuggling, the threat of extinction of the target species will inevitably increase.

### **Hindering the development of superior technology?**

The major part of the costs covered by the subsidy is for breeding efforts and overseas travel. It is unlikely that this could have any effect on the development of superior technology. Moreover, bekkō and ivory are luxury materials for which plastic substitutes are easily available. The subsidy cannot be said to have any effect on the development of alternative materials.

### **Can environmental impact be reduced at lower cost?**

It is possible that both the relief of the bekkō industry and preventing the extinction of the hawksbill turtle could be achieved by conservation of the hawksbill's natural habitat and the use of turtles which die naturally, as long as the trade were strictly controlled. However the difficulties of determining the cause of death of a turtle, and of detecting the use of illegally taken material, make the task impractical. To do so at lower cost on an international scale would be impossible.

Since the prohibition of the ivory trade in 1998, poaching and smuggling of ivory have increased, despite the introduction of the ETIS<sup>7</sup> and MIKE<sup>8</sup> systems to monitor trade and poaching of ivory, respectively, under CITES. It has been proposed that the legal supply of ivory would lower prices and consequently reduce illegal sales, but since the CITES-managed "one-off" sale in 2009, poaching and smuggling have only increased.

The international trade in wild animals is influenced by a wide range of factors, and the current situation suggests that sustainable use is almost impossible.

---

<sup>7</sup> ETIS: The Elephant Trade Information System

<sup>8</sup> MIKE: Monitoring the Illegal Killing of Elephants

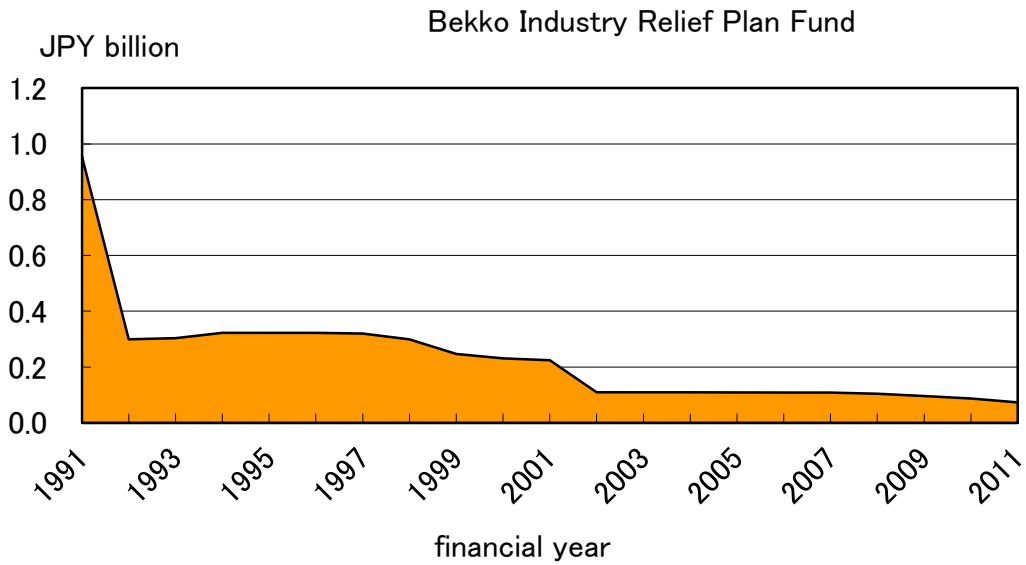


Figure 2. Bekko Industry Relief Plan subsidies

Based on data from “Comprehensive Guide to Subsidies.”

Except for 2011, the figure includes supplementary budget subsidies.

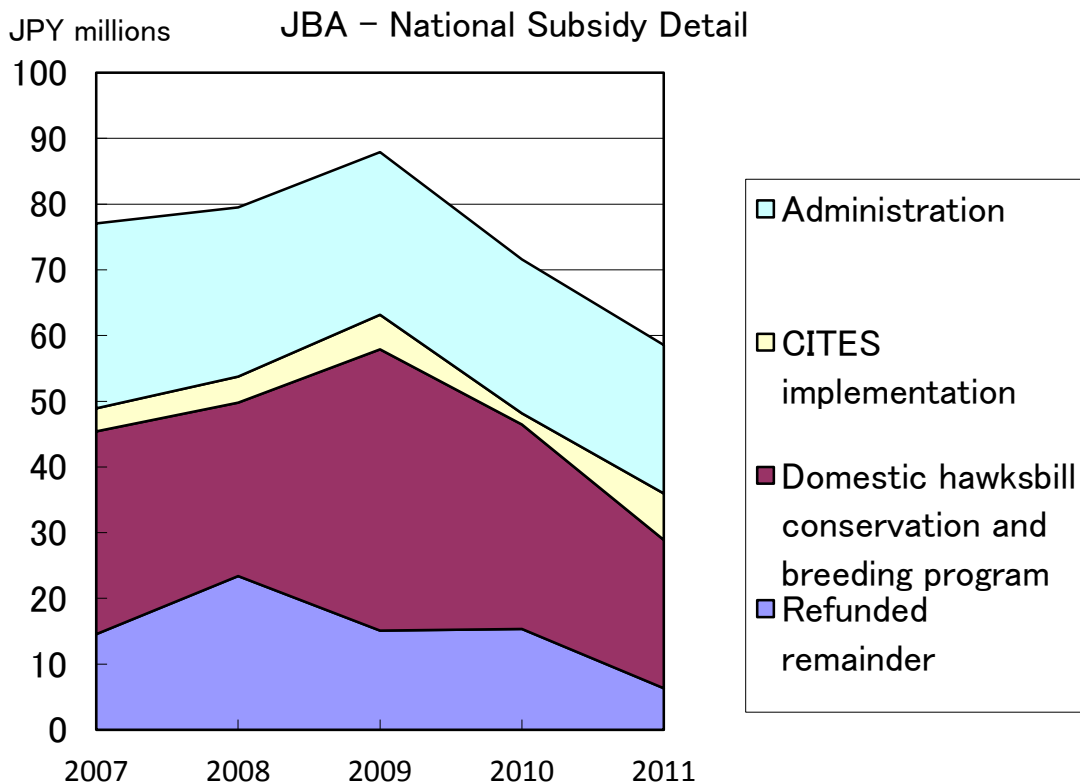


Figure 3. Bekko Industry Relief Plan Fund - National Subsidy Detail

Based on data from JBA Statements of Operations

#### 4.2 Special Permit Research Whaling Supplementary Subsidy<sup>9</sup>

The purpose of the subsidy is explained in “2011 Comprehensive Guide to Subsidies” as follows.

“Research Whaling is carried out in the Antarctic and NW Pacific in order to obtain scientific data needed for a resumption of commercial whaling. Environmental conservation groups have tried, more violently with each successive year, to obstruct the execution of the survey. This subsidy is intended to cover the extra costs of countering this obstruction in order to ensure a safe and reliable survey.”

The recipient is the Institute of Cetacean Research (ICR).

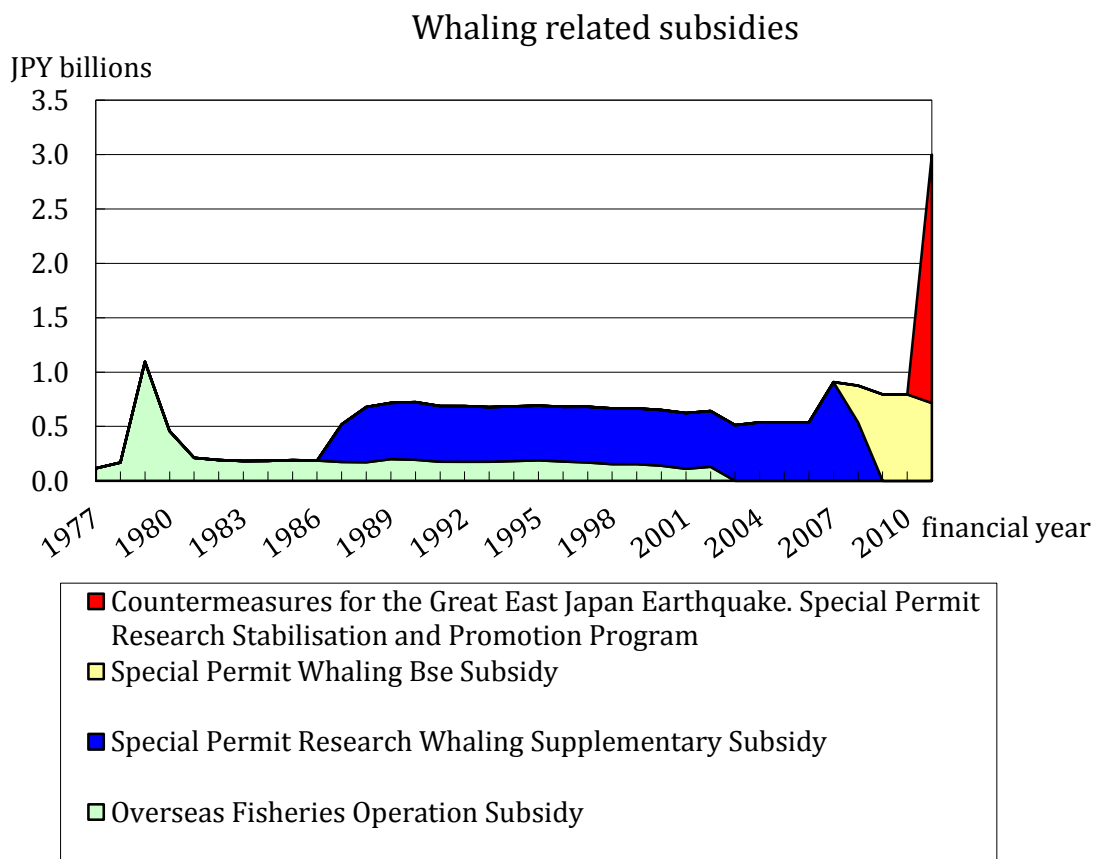


Figure 4. Whaling related subsidies

#### Does the subsidy fulfill its objectives?

The objective of the 2011 subsidy was to prevent obstruction of the survey. This “obstruction” presumably refers to actions by the US-based environmental group, Sea Shepherd, such as “throwing bottles of butyric acid, deploying ropes intended to entangle the screws of the research vessels, the use of lasers with the power to blind and attacks with signal

<sup>9</sup> An official English version of the name of this subsidy has not been found.



flares.”<sup>10</sup> To evaluate cost effectiveness, a comparison with the costs incurred by the prefectural police of Fukuoka, which had the most organized-crime-related shootings in 2011 was made. The 2012 budget for “promoting the eradication of organized crime” ran to 386 million yen, which, considering that the total prefectural police budget for the year was 124 billion yen, suggests that the cost effectiveness of the subsidy above is questionable.

There is also the important question of whether it is necessary to spend over 700 million yen on “countermeasures” simply in order to continue Antarctic research whaling. Opinions on this were given at the Whaling Committee meetings of 2011. Below we present the conclusions from applying the checklist criteria to research whaling itself.

### **Is there an in-built review process?**

The subsidy is issued annually but the subsidy continues, which suggests that the review process is ineffective. Though it does not constitute a process controlling the subsidy, the nearest thing to a review was held between April and July 2011 in the form of The Committee on Special Permit Research Whaling 2011.

### **Calls for change?**

A number of NGOs are calling for an end to research whaling. There also exist such webpages as the “Open letter to anti-whaling organisations, and the responses” and “Thoughts on unreasonable criticism by anti-whaling organisations” on the Japan Whaling Association’s website. The very need for these pages defending whaling indicates a strong desire for change among the people of Japan.

### **Equitable social welfare?**

The objective of the Special Permit Research Whaling Base Subsidy is clearly stated as supporting research for the purpose of resuming commercial whaling in distant waters. However, there is little demand for the by-products of the research (whale meat) and stocks are increasing. The end-of-year totals of stored (frozen) whale meat in 2009 were double those in 2000<sup>11</sup>. Considering that demand for whale meat is falling, and that all commercial whaling companies have left the industry, this subsidy aimed at resumption of commercial whaling on its former scale cannot be said to serve any useful social welfare purpose. If there is small-scale demand for whale meat in certain circles, then a new whaling policy should be devised to satisfy those needs.

---

<sup>10</sup> Interim Report of the Committee on Special Permit Research Whaling, 2011

<sup>11</sup> Second Whaling Committee, Doc 4.

Further, the Scientific Committee of the IWC held a workshop in Tokyo to analyse the results from the first Antarctic research whaling trip, JARPA I, and concurred that not only had the program failed to fulfill its objectives but that the results obtained were not required for the use in the Revised Management Procedure (RMP). The IWC resolution also stated that the Commission was “convinced that the aims of JARPA II do not address critically important research needs.” It also recommended “that scientific research involving the killing of cetaceans should only be permitted where critically important research needs are addressed.” The continuation of research whaling cannot be said to benefit either research or social welfare. The subsidy fails this test.

### **Other losses?**

In the Interim Report of the Committee on Research Whaling mentioned above appears the following sentence. “Giving in so easily to these attacks (by retreating from the Antarctic) will only encourage the anti-whaling NGOs to further activity; after the Antarctic, it will be the N. W. Pacific; after whales will come tuna. We have to make a stand somewhere.”

It seems that research whaling is being used as a touchstone for Japan’s international position on maintaining fishing resources. In an age when marine resources are starting to dry up and sustainable use is the only course to take, it will be a great loss for society and the economy if Japan, merely for the sake of research whaling, cannot change its policy on fisheries and food, and make progress on nature conservation policy. As we face numerous diplomatic problems, it is hard to believe that the huge effort spent to maintain supplies of whale meat, a food with little domestic consumption, is in accordance with the national interest.

### **Hindering the development of superior technology?**

The subsidy does not hinder the development of whaling techniques, but it can be said that it hinders the development of non-lethal use of cetaceans.

### **Can environmental impact be reduced at lower cost?**

If a switch were made to non-lethal research methods, Sea Shepherd’s reason for obstruction would disappear, and impacts on the environment could be reduced.

## **4.3 Special Permit Research Whaling Stabilisation and Promotion Program**

The purpose of the subsidy is explained thus: Harassment from anti-whaling activists has increased in ferocity year by year, such that last year the Antarctic survey had to be ended prematurely. As a measure to stabilise the execution of the research whaling program, the subsidy will stimulate the restoration and revival of the locally important whaling-

related industry of the region devastated by the recent disaster.

### **Does the subsidy fulfill its objectives?**

According to The Great East Japan Earthquake Recovery Project Checksheet (MAFF), Project 72, the objective was “to ensure the stable execution of the research whaling survey and thus contribute to the restoration and revival of the region around Ishinomaki. Sample size: 900 whales.” The target of the subsidy, JARPA II, was conducted according to plan from December 6<sup>th</sup> 2011 to March 31<sup>st</sup> 2012, catching 266 minke and one fin whale. (Fisheries Agency press release.)

Since the mother ship, Nisshin Maru, returned to the Oi Suisan wharf in Tokyo, the connection to recovery in Ishinomaki, (north of Sendai) is tenuous. Incidentally, the NW Pacific research whaling survey (JARPN II) which is also a target of the subsidy, is carried out not by the recipient of the subsidy (ICR), but by the Association for Community-Based Whaling (Ascobaw), a general incorporated association.

As for cost-efficiency, 96 more Antarctic Minke Whale and one more fin whale were caught than in the previous year when the project was terminated early due to the interference given as the reason for the subsidy. This increase may be considered the effect of the subsidy. Nevertheless, the take was far less than the quota of 900.

### **Is there an in-built review process?**

The Checksheet mentioned above includes a column marked “Inspection by supervising authority.” Under the item “Was cost-effectiveness verified?” was a long comment (which nevertheless failed to address the question) concluding “it will be possible for research whaling to be executed smoothly.” Exactly the same comment was found under the item “Is it an effective operation?” This opaque response renders the Checksheet inoperative. The subsidy fails this test.

### **Calls for change?**

The column marked “Inspection by supervising authority” also includes the item “Is the project a priority and appropriate to the needs of the disaster area?”

The response was “In the disaster area, whaling-related industries are a major industry. In order for the area to recover, the research whaling program is essential and therefore a priority for the needs of the area.” However, the regional newspaper, Kahoku Shimpo (June 20<sup>th</sup>, 2012), under the headline “Question mark over disaster relief payments” brought up the topic of this subsidy. One photo was captioned “In Ayukawa port, the deep scars of the tsunami still remain. Disaster funds are being used for whaling in places that have nothing to do with the people of Ayukawa.” It would seem that the project is neither a priority nor appropriate to the needs of the disaster area.

In addition, on December 6th 2012, the day that the whaling fleet left port, IKAN<sup>12</sup> and 16 other NGOs sent a joint statement to the Prime Minister and the Minister for Agriculture, Fisheries and Food calling for a drastic review of Antarctic research whaling.

### **Equitable social welfare?**

As in the item above, though the purported objective is recovery from the disaster, the actual usage shows no relevance to recovery and consequently the subsidy fails this test.

### **Other losses?**

In Dec 2011 there were misleading reports in the foreign media stating that donations for disaster relief were used to support Antarctic research whaling, and the Japanese embassies in the UK and Australia were inundated with enquiries. In fact, none of the donations was so used, but at a time when the world was contributing to help the disaster victims, the use of government funds to support research whaling must have damaged trust. The very fact that funds for recovery were used to support such an unrelated project is a loss not only to the disaster area but to the country as a whole.

### **Hindering the development of superior technology?**

The subsidy does not hinder the development of whaling techniques, but it can be said that it hinders the development of non-lethal use of cetaceans. For example, the subsidy may, by restricting its remit to the field of whaling, be hindering the development of non-lethal uses such as whale and dolphin watching in the disaster area as a tourism resource.

### **Can environmental impact be reduced at lower cost?**

The justification for the subsidy does not hold water.

## **5. Conclusions**

The CITES-listed species covered in this document are all animals that have been listed for international protection because of overuse. Hawksbill turtles, elephants and whales share the trait of needing a long time to reproduce. The subsidies considered here are all paid to industries that make use of rare species which are now protected from commercial use. Therefore it is reasonable to consider them “targets for subsidy reform.”

While keeping an eye on the unending loss of the global biodiversity that

---

<sup>12</sup> IKAN: Iruka & Kujira (Dolphin & Whale) Action Network

is the basis of our very existence, much more discussion is needed on these subsidies which not only affect biodiversity but which benefit only a small part of industry while causing a loss for the whole. However, access to information essential to the discussion of the appropriate introduction and reform of these subsidies, is often insufficient. Further, there are projects, such as that for the Great East Japan Earthquake recovery, which have check sheets that do not serve their purpose.

The “TEEB for Policymakers” checklist of targets for subsidy reform can be used by citizens as a first step in investigating the black-box of decision-making for subsidies. Now we need to develop a list of check items for conservation of biodiversity with regard to local factors, and to continue debate in order to realize article three of the Aichi Target.

## References.

- CITES SC62 Doc. 46.1 (Rev. 1). 2012. Interpretation and implementation of the Convention Species trade and conservation Elephants.  
<http://www.cites.org/eng/com/SC/62/E62-46-01.pdf>  
(プレスリリース)  
[http://www.cites.org/eng/news/pr/2012/20120621\\_elephant\\_poaching\\_ivory\\_smuggling.php](http://www.cites.org/eng/news/pr/2012/20120621_elephant_poaching_ivory_smuggling.php)
- 福岡県の予算パンフレット 平成 24 年度. 2012.  
<http://www.pref.fukuoka.lg.jp/f02/fukuokakennoyosanh24.html>
- 外務省 HP「ワシントン条約」  
<http://www.mofa.go.jp/mofaj/gaiko/kankyo/jyoyaku/wasntn.html>
- 石井敦. 2011. 『解体新書捕鯨論争』新評論.
- IUCN レッドリスト. アフリカゾウ.  
[http://jr.iucnredlist.org/documents/attach/Mammals/12392\\_Loxodonta\\_africana.pdf](http://jr.iucnredlist.org/documents/attach/Mammals/12392_Loxodonta_africana.pdf)
- IWC 第 59 回決議. 2007. Resolution 2007-1 RESOLUTION ON JARPA.  
<http://iwcoffice.org/cache/downloads/2yfkuueb9essk0o8gkkw8kog/Resolution%202007.pdf>
- 時事ドットコム. 2011 年 5 月 11 日「象牙 6 8 本を不正売買か=業界大手の前会長ら逮捕 種の保存法違反容疑・警視庁」.
- JWCS. 2000. 『タイマイ取引復活? 日本における『ベッコウ』国内取引管理制度の分析』  
<http://www.jwcs.org/data/000401-1j.pdf> (日本語)  
<http://www.jwcs.org/data/000401-1e.pdf> (English)
- JWCS. 未加工象牙の密輸 (財務省・輸入差止実績より作図)  
<http://www.jwcs.org/conservation/illegal.html>
- 森川純. 2011. 「ポスト 3・11 の日本において調査捕鯨の堅持を選ぶことに政策的妥当性はあるのか—周到に用意された結論と「鯨類捕獲調査に関する検討委員会」の関係—」『JWCS 通信 No.64』.  
<http://www.jwcs.org/data/Morikawa1.pdf>
- 森川純. 2012. 「国益論から見た日本の捕鯨政策—中曽根内閣による政策仕分けの試みと挫折—」『JWCS 通信 No.65』.  
<http://www.jwcs.org/data/morikawa2.pdf>
- 西日本新聞. 2011 年 11 月 27 日「福岡県の発砲 全国最多 18 件」.
- 西原智昭. 2012. 『HIDDEN GIANTS 知られざる森のゾウ』. 現代図書.
- 日本鯨類研究所. 『2011/12 年第 2 期南極海鯨類捕獲調査(JARPAII)—妨害行動の概要—』.
- 日本鯨類研究所. 平成 21 年度事業報告書.

- <http://www.icrwhale.org/pdf/H21jigyo.pdf>  
日本は虫類皮革産業協同組合 HP <http://www.jra-zenpa.or.jp/qanda/index.html>  
日本べっ甲協会財務諸表 <http://www.bekko.or.jp/gaiyo/houkoku.html>  
日本捕鯨協会 HP 「反捕鯨団体への公開質問状と回答」  
<http://www.whaling.jp/hanho.html>  
「反捕鯨団体のいわれなき批判に対する考え方」 <http://www.whaling.jp/taiou.html>  
農林水産省所管. 平成 23 年度歳出概算要求書 p444-446.  
[http://www.maff.go.jp/j/budget/2010\\_3/pdf/saisyutu\\_1.pdf](http://www.maff.go.jp/j/budget/2010_3/pdf/saisyutu_1.pdf)  
農林水産省. 2011. 「東日本大震災復興関連事業チェックシート 事業番号 0072」.  
<http://www.maff.go.jp/j/budget/pdf/0072.pdf>  
Nowak,R.M. 1999. “Walker’s Mammals of the World.6<sup>th</sup> Ed. ” The Johns Hopkins Univ. Press、Baltimore.  
産経ニュース. 2011 年 12 月 16 日 「『震災復興の募金が調査捕鯨に』日本大使館に苦情相次ぐ 不正確報道に日本側抗議」.  
<http://sankei.jp.msn.com/world/news/111216/asi11121619510001-n1.htm>  
水産庁プレスリリース. 2012 年 3 月 31 日 「2011 年度南極海鯨類捕獲調査の調査航海の終了について」 <http://www.jfa.maff.go.jp/j/press/enyou/120331.html>  
地域捕鯨推進協会 <http://www.ascobaw.jp/html/keii.htm>  
TRAFFIC East Asia Japan. 2004.  
[http://www.trafficj.org/publication/ShelledOut\\_J\\_2004.pdf](http://www.trafficj.org/publication/ShelledOut_J_2004.pdf)  
TRAFFIC. 2011. 『ゾウ取引情報システム (ETIS) と象牙の違法取引 Cop15 Doc44. 11 日本語版』 [http://www.trafficj.org/publication/Cop15Doc44.1\\_ETISj.pdf](http://www.trafficj.org/publication/Cop15Doc44.1_ETISj.pdf)