Assessment Report on the Implementation of Japan's National Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries

(March 2012)
(Fisheries Agency, the Government of Japan)

Introduction

At the 23rd meeting of the Committee on Fisheries of the United Nations Food and Agriculture Organization (FAO COFI) in February 1999, the International Plan of Action to Reduce Incidental Catch of Seabirds in Longline Fisheries (IPOA-Seabirds, hereinafter referred to as "IPOA") was adopted. In response to the IPOA, Japan developed its National Plan of Action (NPOA), after deliberation and examination at a committee in Japan and discussion in the government, and reported it to the 24th FAO COFI in March 2001. Further, responding to the introduction of conservation and management measures of seabirds at regional fisheries management organizations (RFMOs) for tuna species, Japan revised NPOA in part to comply with those conservation and management measures in 2005 and 2009.

Under this NPOA, Japan set a goal of action aiming “to achieve full implementation of mitigation measures to reduce incidental catch of seabirds by 2015." In addition, whenever new mitigation measures were introduced by RFMOs for reducing incidental catch of seabirds, it promptly introduced those mitigation measures through the revisions of the ministry ordinance. As a result, all the mitigation measures agreed by respective RFMOs have been introduced in Japan.

This document reports on the progress of the implementation of Japan's NPOA, based on paragraph 21 of IPOA at the time of the 29th FAO COFI to be held in January 2011.

1. The present state and management of fisheries subjected to NPOA

(1) Distant-water tuna longline fishery

This is longline fishery using fishing vessels of 120 tons or over, and is managed by the national government on a vessel-to-vessel basis. Major operation areas are the Pacific, the Indian Ocean and the Atlantic. The number of fishing vessels has decreased largely compared with previous years. The number of fishing vessels in 2010 stood at 296, which was a decrease of 195 from 2005.

(2) Offshore tuna longline fishery

This is longline fishery using fishing vessels of 10 tons or over and less than 120 tons (excluding coastal tuna longline fishery described in (3)), and is managed by the national government on a vessel-to-vessel basis. The operation area is offshore area of Japan and the western and central Pacific. The number of fishing vessels has been decreasing year by year, with the number in 2010 standing at 332, which was 57 less than 2005.

(3) Coastal tuna longline fishery

This is longline fishery using fishing vessels of 10 tons or over and less than 20 tons and is carried out in the exclusive economic zone of Japan. It is managed by the national government on a vessel-to-vessel basis. The number of operating vessels has been slightly decreasing in recent years. The number operating vessels in 2010 was 361, which was a decrease of 47 from 2005.

(4) Other longline fishery (operating in the fishing ground in Japan's coastal and offshore areas)

These are small-scale longline fisheries and are mainly managed by prefectural (regional) governments. The operation takes place in the coastal and offshore areas of Japan on one-day trip or seasonally limited basis. The number of fishing vessels in 2008 was 1,008, which was a decrease of 140 over the past decade.

When the actual state of fisheries is considered, the type of fisheries for which incidental catch measures are necessary in Japan, among the above fisheries, are (1) distant-water tuna longline fishery, (2) offshore tuna longline fishery, and (3) coastal tuna longline fisheries. These fisheries are managed by the national government. License for operation should be obtained from the Minister of Agriculture, Forestry and Fisheries pursuant to national law (distant-water tuna longline fisheries, offshore tuna longline fisheries), or confirmation of application of fishing is required (coastal tuna longline fisheries). In the license-based fisheries, the Minister of Agriculture, Forestry and Fisheries decides on the total number of vessels, fishing conditions, taking into consideration the condition of the targeted resources and other matters, all of which are reviewed every five years. In recent years, the number of licensed vessels has not been increased at all but rather curtailed through large-scale vessel reduction following the FAO’s Plan of Action on Capacity as well as reduction of catch quotas decided at the RFMOs. In the application-based fishery, submission of annual operation plan is required when presenting application to the Minister of Agriculture, Forestry and Fisheries.

2. The situation of implementation of mitigation measures against incidental catch

In tuna longline fisheries managed by the national government, implementation of the seabird mitigation measures adopted at each RFMO is ensured by obligating fishing vessels to use these measures by national low.

(a) Western and Central Pacific area (WCPFC)

In case operation takes place in areas north of 23 degrees North and south of 30 degrees South, at least two of the following measures shall be used, including at least one from (i)-(iv). (If using side setting with a bird curtain and weighted branch lines this is counted as two mitigation measures.)

(i) Side setting with a bird curtain and weighted branch lines
(ii) Night setting with minimum deck lighting
(iii) Bird-scaring lines (Tori lines)
(iv) Weighted branch lines
(v) Blue-dyed bait
(vi) Deep setting line shooter
(vii) Underwater setting chute

(viii) Management of offal discharge

(b) Indian Ocean area (IOTC)

In case operating in the area south of 25 degrees South, at least two of the following measures shall be used, including at least one from (i)-(iii) .

(i) Night setting with minimum deck lighting
(ii) Tori lines
(iii) Weighted branch lines
(iv) Blue-dyed squid bait
(v) Management of offal discharge
(vi) Line shooting device (Deep setting line shooter and Underwater setting chute)

(c) Atlantic area (ICCAT)

In case of operating in the area south of 20 degrees South, Tori lines shall be used.

(After June 2012)
In case of operating in the area south of 25 degrees South, at least two of the following measures shall be used.
(i) Night setting with minimum deck lighting
(ii) Tori lines
(iii) Weighted branch lines

(d) Southern Bluefin Tuna fishing ground area (CCSBT)

Fishing vessels targeting southern bluefin tuna shall use Tori lines.

In longline fisheries targeting southern bluefin tuna, scientific observers onboard fishing vessels collect data on ecologically-related species including seabirds through the Real-time Monitoring Program since 1992. Collection of more detailed information on seabirds started from 1995. Based on preliminary analysis of data for 1992-1994, the number of incidental catch of seabirds in 1992 was estimated at 35,000 which corresponded with approximately 40,000 birds reported by Brothers (1991). However, Tori line began to be used voluntarily by the Japanese fishing vessels in the early 1990s, and the use became mandatory by the CCSBT in 1997.As a result, the number of seabirds incidental catch decreased to below 10,000, and the stable level of incidental catch of seabirds in Japanese SBT fishery seems to reflect the effect of Tori line (Fig.1).

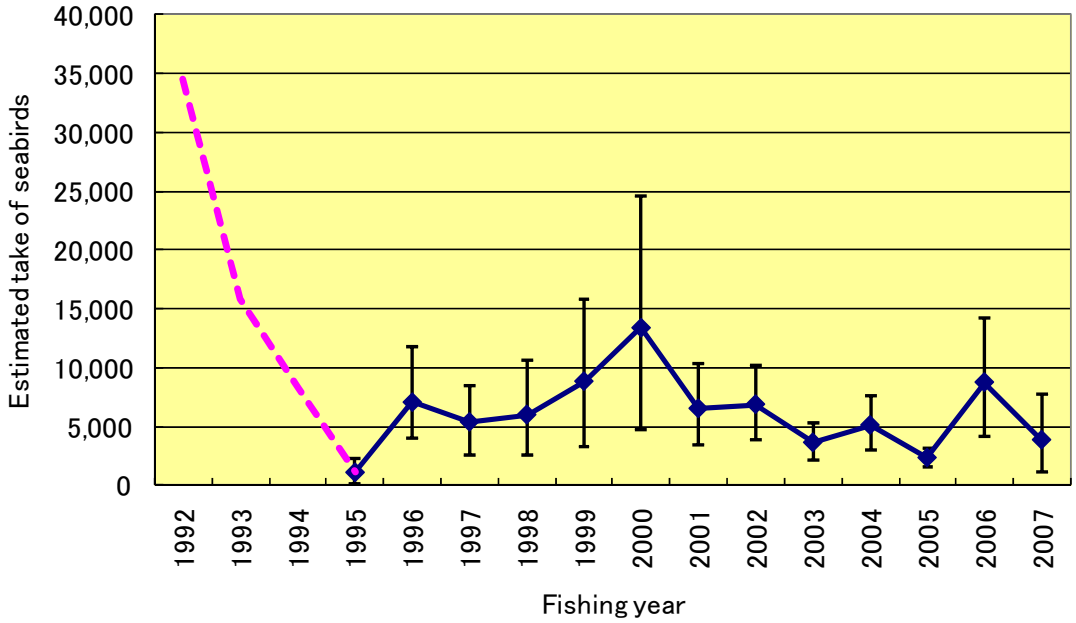

Fig. 1. Annual trends in estimated incidental catch of seabirds in Japanese longline fisheries targeting southern bluefin tuna on the high seas. (The solid line shows the average value and 95% confidence intervals; the dotted line shows estimates by preliminary analysis) (revised from Minami et al. 2009)

3. Implementation of guidance, outreach and educational activities

(1) Development of materials for education and outreach

Organizations related to longline fisheries are engaged in educational activities, under the assistance and cooperation from the national government and researchers, by distributing materials for education and outreach to fishers, with a view to grasp the importance of accurate reporting of incidental catch of seabirds, how to avoiding incidental catch, and appropriate handling of individuals captured alive.

The materials so far developed and distributed are:

-Identification sheets for "Albatrosses and Southern Giant Petrels observed in the Southern Ocean" and "Large seabirds observed in North Pacific,"Board sheet;
-"Guide book for idenfifyin pelagic species caught in tuna longline fisheries." Guidebook;
-"Longline fisheries aimed at coexistence with seabirds" which showed the method to avoid incidental catch and appropriate handling of seabirds capture alive. Pamphlet;
-"Manual for fisheries friendly to the marine environment and its practice (seabirds/sharks)" which summarized Japan's NPOA regarding seabirds and sharks: Guidebook;
-"For the future of tuna fisheries and seabirds" which outlined an easy-to-understand way the whole issue with cartoons; and
-"The easy- to- understand method to avoid incidental catch -- in this way you can

avoid IUU fishing--" which illustrated, in an easily understood manner, the conservation and management measures for seabirds in each RFMO.

Part of these materials are used as manual for research by the research vessels and scientific observers and are serving to collection of accurate scientific data.

Photo 1. Various types of pamphlets.

(2) Educational activities for fishers

Regional fisheries organizations in Japan have been holding seminars for fishers, in collaboration with the Fisheries Agency, the National Research Institute of Far Seas Fisheries and other organizations. They are introducing Japan's NPOA, educating fishers, providing opportunities for exchange of views for fishers regarding introduction and improvement of the method to release seabirds and avoid incidental catch of seabirds, by distributing educational materials as presented in above (1).

(3) Lecture sessions for fisheries high schools

Expert organizations such as the National Research Institute of Far Seas Fisheries have been carrying out lecture sessions for students at fisheries high schools who are engaging in educational programs of tuna longline fisheries. In these lectures, explanations are given regarding the importance of coexistence of fisheries with seabirds, methods of species identification, proper methods of mitigation techniques, and importance of the collection of accurate data from fishing operations.

4. Research and development of the mitigation measures to avoid incidental catch of seabirds

Efforts have been made to ensure further reduction of incidental catch and recovery of the stock in Japan. The following research and development are promoted, based on NPOA, so that Japan can fulfill a leading role in these efforts in the international community and can establish at each RFMO the highly effective management measures that fully take account of actual status of fisheries and ecosystem in each

area of the oceans.

(1) Tori line

In general, there are three types of Tori line. First is the standard type Tori line having long streamer devices, which is used by large-type distant-water tuna fishing vessels around the world. Second is the light streamer type Tori line having numbers of short streamer devices used by small-type near-shore fishing vessels. Third is the hybrid type Tori line adopting the two types of devices above. Avoidance effects may change depending on the species of seabirds and the number of individuals at the time of line setting and the type of Tori line used. However it is possible to reduce the incidental catch rate of seabirds by approximately one third on the average. By comparing the incidental catch rate of Albatrosses in standard type and light streamer type Tori lines in the North Pacific, it became clear that there was no difference in incidental catch rate between the two types of Tori lines and both have similar avoidance effects.

(2) Weighted branch line

Japan participated in the experiment on weighted branch lines carried out in areas off South Africa by Dr. Melvin of Washington University who is an expert on seabird bycatch avoidance. The weighted branch line was effective in reducing incidental catch of diving-type seabirds. But, it is possible that the results in the exclusive economic zone of South Africa might not necessarily be applied to the North Pacific and other areas where diving-type seabirds are scarce.

The problem with the weighted branch line was that, when the hook goes off from the catch during the line hauling, there is a danger of the weight flying toward the crew and injuring them. In Dr. Melvin's experiment, the issue of safety is being resolved by attaching the weight on both ends of the wire part of branch line extending about 1m. It was intended that the weight did not fly toward the crew in a linear way even in case hooks went off from the catch. Further, the result was obtained that there is no difference between the weighted and non-weighted branch lines with respect to fishing efficiency. However, there is a need to improve the method in the future because the weight can get entangled with branch lines when taking up the branch lines.

(3) Night line setting

As most Albatrosses feed during daytime depending on their vision, night line setting can restrain occurrence of incidental catch. It is effective to restrain the deck light to a minimum level so that light may not be shed on the sea surface. However, there are some problems such as heavy work schedule, danger in line setting, and reduced effects to avoid incidental catch at the time of full moon. Furthermore, there can arise the issue of quality deterioration of the catch because the fish are exposed to the deck under high temperatures, as the line hauling takes place during the day time because line setting is done at night.

(4) Blue-dyed bait

Blue-dyed bait will become difficult for seabirds to detect visually from the air. It was confirmed that the feeding activities of seabirds are prevented when blue-dyed baits

are used. As a results, the incidental catch rate is reduced to 1/10 or lower. It has also been shown that blue-dyed bait does not affect catch rates of target species. Reduction of dyeing costs or efficiency in dyeing work is necessary to achieve wider use of this method.

(5) Side setting

In general, longline vessels throw main lines and branch lines from the sternSetting longline form the side of a vessel has seabirds avoidance performance, deterring seabirds from taking baited hooks by vessel's hull effect. In addition, side setting has potentials to save labor in fishing operation and to improve sinking rate of baited hooks. This method is used by longline fishing vessels based in Hawaii. However, if the ordinary longline vessels are required to conduct this method, they are required to change arrangement of fishing equipments on board and working patterns. Therefore, it is necessary to confirm the safety of operation and work effectiveness, including the possibility of using it in high latitudinal areas where sea conditions are not favorable.

(6) Under-water line setting

This is a method to set baited hooks directly underwater not by throwing them in the air. It is commercially used in bottom longline fisheries, but practical use in pelagic tuna longline is difficult because of complex structure of the fishing gear . Underwater setting is developing.

(7) Other avoidance measures

Besides the above measures, various mitigation measures have been examined and tested. However, it was confirmed that the water-jet device, although effective, is not strong against winds, and seabirds get habituated to the stimuli such as the sound of explosives, magnets, light and electricity after repeated use. They therefore proved not so effective.

5. Implementation of the improvement of the environment at breeding areas and promotion of reproduction

Large number of Short-tailed albatrosses were once breeding in more than 10 islands, including Torishima Island, Ogasawara Islands, Daito Islands, Senkaku Islands and islands near Taiwan. Since the middle of the Meiji Period (1868-1912), this species was overexploited for feathers trading, and was once believed to have gone extinct in 1949. However, survival of about 10 birds was confirmed in 1951 in Torishima Island.

Since Short-tailed albatross was re-discovered, the Torishima Island was designated as the national bird and animal protected area in 1954, and protection was extended to nesting areas. In 1958, Short-tailed albatross was designated as a Protected Species under the Cultural Properties Protection Act, and in 1962, was uplisted to the Special Protected Species (Hasegawa 1999). Along with this designation, the Torishima Island Observatory of the Meteorological Agency was entrusted by the Cultural Properties Protection Committee with the task to protect and monitor Short-tailed albatross, and improvement of the breeding environment started. Furthermore, in 1965, the Torishima Island was designated as national protected area for breeding colonies of

Short-tailed albatross. In 1972, the Environment Agency designated the this species as "special bird" based on the Law regarding Protection of Special Birds. At present, it is designated as a rare wildlife species in Japan under the Law concerning Conservation of Endangered Species of Wild Fauna and Flora (in short, "Species Conservation Law."). Improvement of the breeding colonies and promotion of reproduction is ensured through the protection program.

Up to the present, protection of Short-tailed albatross have been conducted by the Ministry of Environment, the Torishima Island Observatory of the Meteorological Agency, the Tokyo Metropolitan Government, Yamashina Institute for Ornithology and Prof. Hiroshi Hasegawa of Toho University. Concretely, extermination of feral cats and construction for conservation and management of breeding colonies through transplantation and making of wooden fences to stabilize the breeding ground. As a result, the effort has succeeded in bringing the breeding rate to as high as 70-73%. Further, as Tsubamezaki of Torishima Island is not optimal for breeding colonies because the sloping area is vulnerable to landslides and possible volcanic eruption, a project to induce breeding colonies to a new stable place by the use of decoys and sound play-back was started in 1992. This project has succeeded achieving breeding by 79 pairs in 2010. The monitoring of the breeding situation has been continued by Prof. Hasegawa.

In Mukojima Island of Ogasawara Islands, the number of feral goats increased drastically, which eat plants and destroy vegetation. This caused soil erosion, landslides, also negatively affecting breeding activities of seabirds. In order to improve this situation, the Tokyo Metropolitan Government has been conducting the project to eliminate feral goats and recover vegetation since 1994.

Offshore and coastal tuna longline fishing vessels are operating in the area 20 nautical miles from Torishima Island, which is breeding colonies for Short-tailed albatross, but the number of the vessels is small. In addition to this, these vessels are required to use the mitigating measures adopted at WCPFC by national law.

6. Implementation of information collection and monitoring

(1) Monitoring of the incidental catch situation in fisheries

In tuna longline fisheries managed by the national government, monitoring of the incidental catch by the fisheries are implemented by table of survey on bycatch submitted from each fishing vessel.

For other longline fisheries managed under the license system mainly by prefectural governments, the national government requests provision of information regarding incidental catch of seabirds.

(2) Collection of ecological and resource information on seabirds

(i) Surveys on pelagic distribution of albatrosses

Sighting surveys on seabirds have been conducted using research vessels in order to clarify the distribution and temporal changes of albatrosses in the northwestern Pacific near Japan. Albatrosses are found in the waters near Japan from

late autumn to late spring (Minami et al. 2000). The result of sighting surveys show that many Laysan Albatrosses and Black-footed Albatrosses occur in the area where the Kuroshio and Oyashio currents mix off Tohoku region in the Pacific from winter to spring. Further, it was made clear that many Albatrosses occur from the area around Torishima Island of Izu Islands, the area around the edge of the continental shelf in the area where the Oyashio and Kuroshio currents mix (which is their breeding colonies) to continental slope (Kiyota, Minami 2008). The result of satellite tracing of Short-tailed albatross in Torishima Island show that this species migrate to the Bering Sea and the Gulf of Alaska via the area off Kurile Islands and Aleutian Islands along the Pacific coast of Japan after breeding, and that there main feeding locations are the areas surrounding the edge of the continent in the Alaskan waters (Piatt et al., 2006).

(ii) Research on feeding ecology

Albatrosses and other Petrels, which compete with tuna longline fisheries, have two different methods for feeding: scavenging and live capturing. Dependence on these two methods differs according to species (Croxall and Prince, 1994). Knowledge on the feeding habits of seabirds will help to estimate the vulnerability of seabird species to interactions with fisheries.

Therefore, the stmach content and stable isotope analysis of seabirds, fish and other marine species are conducted to collect information on the trophic levels in the food web and feeding characteristics. The results of stable isotope analysis show that there are three types of feeding ecology in the Southern Ocean ecosystem: (1) large and middle-size Albatrosses feeding on organisms in the high trophic level;(2) Petrels feeding also organisms in low trophic level; and (3) Albatrosses and Petrels having an extensive feeding range and food habit and also feeding organisms in the Antarctic ecosystem. Generally, seabirds in high trophic level have scavenge feed and is vulnerability to interactions with fisheries.

(iii) Research on identification of seabirds

Practical methods are developed to identify the albatross species using the color and external shape of bill (Kiyota, Minami 2000). “Identification Sheet for albatross species,” are distributed to scientific observers and officials onboard the government vessels (See above 3 (3)). Further, this Sheet is distributed to fishers as well, and has been used for enlightment and improvement of information reported from commercial vessels.

(iv) Trends of Albatross populations in Japan and adjacent waters

Three species of albatrosses breed on islands of Japan. The breedingof Short-tailed albatross have been Torishima Island of Izu Islands and Minami Kojima and Kita Kojima Islands of Senkaku Islands. But now, breeding pairs was confirmed in Ogasawara Islands and Midway Island as well. This species was once believed to be extinct in 1949, but later the number of individuals steadily recovered by conservation and management of breeding colonies. In 2010, 481 pairs bred, with the overall number of individuals recovering to about 2500. In Senkaku Islands, on the other hand, no regular research has been conducted, but in 2002, about 50-55 pairs bred and the breeding population has been increasing, with total estimates of about 250 individuals.

The major breeding for Black-footed Albatross is the northwestern part of Hawaiian Islands. In the Japan, 2,500-3,000 pairs bred on Torishima Island of Izu Islands, and 400-450 pairs on Mukojima Island of Ogasawara Islands in 2009., At least 42 pairs bred on Senkaku Island. These three breeding populations considered to be inceasing.

Laysan Albatross has the largest population among three species of Albatrosses breeding in the Northern Hemisphere. Its main breeding is northwestern Hawaiian Islands. In Japan, there exists a small breeding population consisting of 20-30 pairs on Torishima Island belonging to Mukojima Islands in Ogasawara Islands. The number of population has been stable in recent years.

7. The situation of implementation of promotion of international cooperation

(1) Japan's basic position

Japan is committed to continue to promote multilateral cooperation as well as cooperation among fishing nations concerned at international organizations such as FAO, and RFMOs including the Western and Central Pacific Fisheries Commission (WCPFC), the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), the International Commission for the Conservation of Atlantic Tunas (ICCAT) and other appropriate fora, with a view to advance the "reduction of incidental catch of seabirds by longline fisheries" which is the objective of FAO IPOA.

(2) Cooperation in FAO

In FAO, Japan has played a central role in the formulation of the IPOA. Further, when IPOA was adopted at the 23rd FAO COFI in 1999, Japan immediately set about formulating its NPOA, and reported it at the next 24th COFI.

For IPOA to be implemented effectively, it is crucial, first and foremost, that countries take concerted steps in developing and implement their own NPOA. To date, however, a majority of nations have not yet developed their NPOA. For this reason, Japan has been calling member nations to develop their NPOA at such occasions of FAO COFI and other fora. It is further cooperating positively in the implementation of IPOA, mainly for assisting formulation of NPOA by developing countries by establishing a trust fund at FAO and making contribution of human resources.

(3) Cooperation with RFMOs and fishing countries concerned

Japan, as a responsible fishing nation, is member to multilateral RFMOs and has been making positive contribution both in management and research and studies regarding the major target species such as tunas and tuna-like species. Furthermore, Japan is fulfilling a leading role, mainly in the research and studies, regarding diversity of ecological and stock research and incidental catch avoidance method with respect to non-target species, including seabirds.

Regarding seabirds, especially, Japan has been engaged in various types of cooperation in RFMOs, including the WCPFC Scientific Committee, Ecologically Related Species Working Group (ERSWG) of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), the Scientific Committee on Research and Statistics

(SCRS) of the International Commission for the Conservation of Atlantic Tunas (ICCAT), the Bycatch Working Group of the Inter-American Tropical Tuna Commission (IATTC), and the Scientific Committee of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). Japan is committed to continue cooperation with these bodies in the future.

(4) Others

Illegal, unreported and unregulated (IUU) fishing by flag-of-convenience fishing vessels and other fishery operators continue, evading various types of resource conservation and management measures. It is therefore assumed that conservation and management measures for tunas and tuna-like species, which are the main target species in the fisheries, are not being complied and no measures are taken to avoid incidental catch of seabirds. To cope with this situation, Japan will continue its effort to eliminate IUU fishing in coordination with other countries concerned at FAO and RFMOs.

Japan is participating positively in appropriate fora regarding seabirds, such as the World Albatross Conference, and has been reporting the research results Japan has so far been coping with the issue of incidental catch of seabirds, thus contributing to enhancing awareness of other fishing nations on the issue of seabird incidental catch.

Furthermore, coordination and cooperation are being promoted with countries concerned regarding collection of information on distribution, habitat and ecology of seabirds, and implementation of research monitoring and protection measures. In concrete terms, joint monitoring and various types of exchange of information are being promoted based on the Japan-U.S. Treaty on the Protection of Migratory Birds. These efforts will be continued in the years to come.

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