

Chapter 5 Reconstruction of Homes and Cities

Section 13 Fishing ports and grounds

1. Overview of damage

Fisheries-related damage due to the earthquake and tsunami extended over a wide area on the Pacific coast from Hokkaido to Okinawa Prefecture, and moreover, damage to fishing boats due to the tsunami reaching the Sea of Japan coast (Niigata Prefecture), and damage to inland water aquaculture facilities due to the earthquake (Niigata Prefecture, Tochigi Prefecture and Ibaraki Prefecture) have also been reported.

In particular, the Sanriku region, which accounts for 50% of nationwide fishing and aquaculture production, was severely damaged along the coast from Hokkaido to Chiba Prefecture.

Furthermore, the total amount of damage to fisheries-related facilities was 1,263.7 billion yen (as of March 5, 2012). Apart from that, fisheries processing facilities and ice-making, freezing and refrigeration facilities owned by private companies also suffered damaged of about 160 billion yen.

Looking at the breakdown of damage by facility, fishing port facilities suffered the most damage at 823.0 billion yen (65.1% of the total), followed by fishing boats at 182.2 billion yen (14.4%), aquaculture facilities and products at 133.5 billion yen (10.6%), and common use facilities at 124.9 billion yen (9.9%).

Looking at the amounts of damage by prefecture, Miyagi Prefecture suffered the most damage at 668.0 billion yen, followed by Iwate Prefecture at 397.3 billion yen and Fukushima Prefecture at 82.4 billion yen, with these three prefectures together accounting for 91% of total damage.

Figure 5-13-1 Fisheries-related damage caused by the Great East Japan Earthquake and tsunami (as of March 5, 2012)

被害額合計： 1兆2,637億円（うち7道県：1兆2,544億円）				
主な被害	全 国		うち7道県	
	被害数	被害額（億円）	被害数	被害額（億円）
漁 港 施 設	319漁港	8,230	319漁港	8,230
漁 船	28,612隻	1,822	28,479隻	1,812
養 殖 関 係		1,335		1,254
（うち養殖施設）		(738)		(719)
（うち養殖物）		(597)		(534)
共同利用施設	1,725施設	1,249	1,714施設	1,247
合 計		12,637		12,544

注：1) 都道府県からの報告を平成24（2012）年3月5日現在で取りまとめたもの。
 2) 「7道県」とは、北海道、青森県、岩手県、宮城県、福島県、茨城県及び千葉県をいう。
 3) 本表に掲げた被害のほか、民間企業が所有する水産加工施設や製氷冷凍冷蔵施設等に約1,600億円の被害がある（水産加工団体等からの聞き取り）。

Source) Fisheries Agency, “FY2011 White Paper on Fisheries” (p.6)

https://www.jfa.maff.go.jp/j/kikaku/wpaper/h23/pdf/03_dai1shou.pdf (browsed July 31, 2023)

(1) State of damage to fishing port facilities

Damage to fishing port facilities has been reported to include: ① breakwaters collapsed or tilted by the direct force of the tsunami, or tilted or collapsed after their foundations were washed away by the flow of the tsunami; ② quays, etc., tilted to the sea side due to the unexpected external force of the earthquake, subsided unevenly due to liquefaction, or collapsed due to the push and pull waves of the tsunami; ③ piers and landing areas cracked due to the shaking of the earthquake; and ④ quays and roads in fishing port areas were submerged due to land subsidence associated with changes in the earth’s crust over a wide area, or became unusable due to flooding at high tide, etc.

Damage to fishing port facilities occurred in seven prefectures from Hokkaido to Chiba Prefecture at a total cost

of 823.0 billion yen. Looking at the amounts of damage by prefecture, Miyagi Prefecture (424.3 billion yen) and Iwate Prefecture (286.0 billion yen) stand out. In addition, the amounts of damage were also enormous in Fukushima Prefecture and Ibaraki Prefecture at 61.6 billion yen and 43.1 billion yen, respectively.

A total of 319 fishing ports were damaged, of which those in two prefectures, Miyagi Prefecture (142 ports) and Iwate Prefecture (108 ports), accounted for 78% of the total.

Figure 5-13-2 State of damage to fishing port facilities (as of March 5, 2012)

	被災漁港数	被害額 (百万円)	(参考) 全漁港数
北海道	12	1,259	282
青森県	18	4,617	92
岩手県	108	285,963	111
宮城県	142	424,286	142
福島県	10	61,593	10
茨城県	16	43,118	24
千葉県	13	2,204	69
計	319	823,040	730

注：1) 都道府県からの報告を平成24（2012）年3月5日現在で取りまとめたもの。
2) 被害額は、漁港施設、海岸保全施設、漁業集落環境施設及び漁業用施設の各被害額の合計。

Source) Fisheries Agency, “FY2011 White Paper on Fisheries” (p.9)

https://www.jfa.maff.go.jp/j/kikaku/wpaper/h23/pdf/03_dai1shou.pdf (browsed July 31, 2023)

Figure 5-13-3 Collapsed breakwater (Yamada Town, Iwate Prefecture)



Figure 5-13-4 A quay that collapsed due to the earthquake and tsunami (Ishinomaki City, Miyagi Prefecture)



Source) Fisheries Agency, “FY2011 White Paper on Fisheries” (p.9)

https://www.jfa.maff.go.jp/j/kikaku/wpaper/h23/pdf/03_dai1shou.pdf (browsed July 31, 2023)

2. Emergency recovery

(1) Removing debris

The debris that flowed into the sea by the tsunami caused various problems in the fishing and aquaculture industries. Furniture, wood and other debris floating on the surface of the sea buried anchorages in fishing ports, making it difficult for fishing boats to anchor and navigate in ports. In addition, in the resumption of the fishing and aquaculture industries, it was necessary to remove a lot of debris from fishing grounds and aquaculture farms.

Debris such as cars, small fishing boats and home appliances that sank in the sea also became a major obstacle to the resumption of the fishing and aquaculture industries. In bottom trawling operations in particular, sunken debris on the seabed caused serious damages such as getting caught and tearing nets and hurting the fish in the nets.

There is a lot of debris moving in the sea due to tidal currents, the ebb and flow of the tide, etc., and even in areas where debris has been removed, it would accumulate again with the passage of time. As a result, long-term measures were required to remove debris from fishing grounds.

By March 31, 2012, 710,000 tons of debris had been collected in three prefectures, Iwate Prefecture, Miyagi Prefecture and Fukushima Prefecture, as a result of collection and disposal work carried out by fishermen and specialist contractors.

Subsequently, the necessary support has been provided continuously, and the removal of debris from almost all fixed and aquaculture fishing grounds where fishing activities were hindered by debris has been completed.

Figure 5-13-5 Debris collected from fishing grounds (Kesenuma City, Miyagi Prefecture)



Source) Fisheries Agency, "FY2011 White Paper on Fisheries" (p.18)

https://www.jfa.maff.go.jp/j/kikaku/wpaper/h23/pdf/03_dai1shou.pdf (browsed July 31, 2023)

(2) Budget

With regard to the budget, the first supplementary budget in FY2011 (established on May 2) allocated 215.3 billion yen to support: ① the restoration of fishing ports (30.8 billion yen); ② support for fishing ground restoration activities, such as coast and seabed cleaning (removal of debris from fishing grounds by fishermen groups or specialized contractors; 12.3 billion yen).

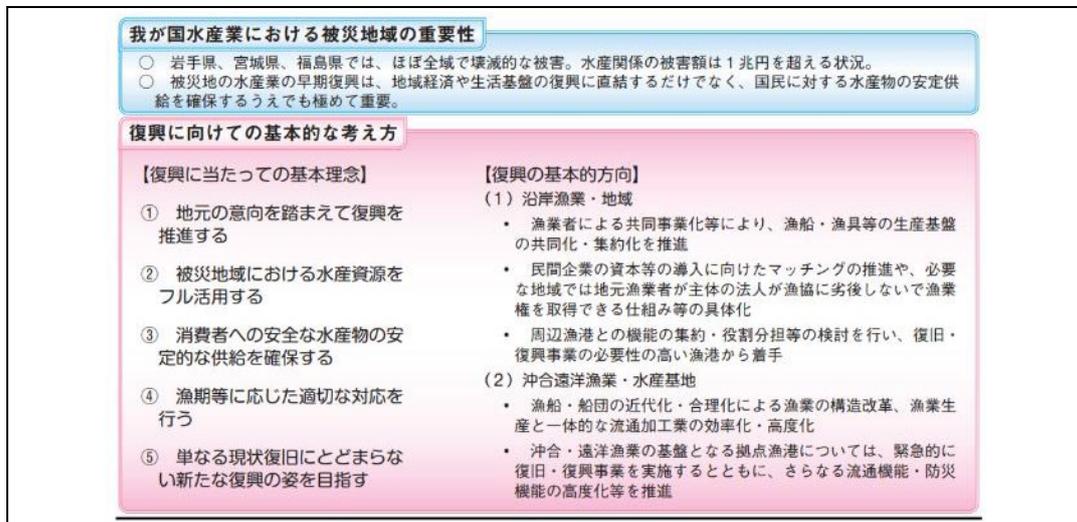
3. Recovering and reconstructing

(1) Development policy based on the Great East Japan Earthquake

1) Formulating the Master Plan for Fisheries Reconstruction

On June 28, 2011, based on the recommendations of the Reconstruction Design Council, the Fisheries Agency formulated the “Master Plan for Fisheries Reconstruction,” which presented the overall direction of reconstruction of the fisheries industry to act as guidelines for the specific measures to be taken by the national government and the regions. In addition to presenting the basic principles for fisheries reconstruction, the Master Plan also laid out the basic policies for reconstruction, including the promotion of the comprehensive and integrated reconstruction of each area constituting the fisheries industry such as fishing ports, fishing grounds, fishing boats, aquaculture, and fisheries processing and distribution.

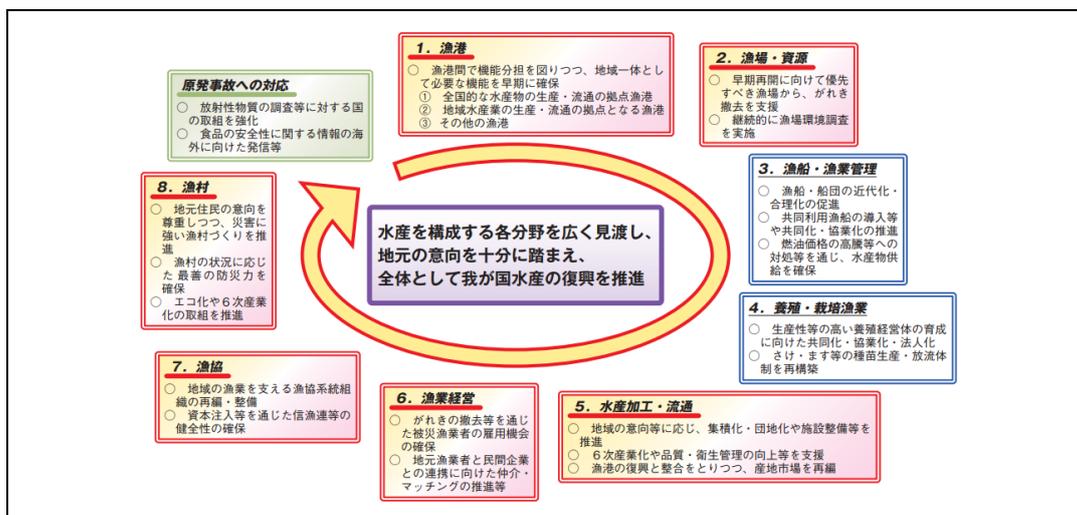
Figure 5-13-6 Overview of the Master Plan for Fisheries Reconstruction



Source) Fisheries Agency, “FY2011 White Paper on Fisheries” (p.26)

https://www.jfa.maff.go.jp/j/kikaku/wpaper/h23/pdf/03_dai1shou.pdf (browsed July 31, 2023)

Figure 5-13-7 Reconstructing each area constituting the fisheries industry by comprehensive and integrated efforts



Source) Fisheries Agency, “FY2011 White Paper on Fisheries” (p.27)

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2) Formulating the Basic Guidelines for Reconstruction

On July 29, 2011, the Reconstruction Headquarters in response to the Great East Japan Earthquake compiled the “Basic Guidelines for Reconstruction in Response to the Great East Japan Earthquake” (hereinafter referred to as “Basic Guidelines for Reconstruction”) based on the provisions of the Basic Act on Reconstruction. The Basic Guidelines for Reconstruction defined the period of reconstruction as ten years, positioning the first five years of that period as the “concentrated reconstruction period,” during which reconstruction demand would rise, and stated that the national government would support the reconstruction efforts undertaken by disaster-affected local governments using all possible measures.

The Basic Guidelines for Reconstruction presented reconstruction measures in each field, of which, the following measures were raised with regard to fisheries.

Figure 5-13-8 Basic Guidelines for Reconstruction in Response to the Great East Japan Earthquake (reconstruction measures related to fisheries (excerpt))

「東日本大震災からの復興の基本方針」(水産業に関する復興施策(抜粋))

- ① 漁船、漁具、養殖施設の復旧、冷凍冷蔵施設等共同利用施設の整備、被災漁業者等によるがれき撤去の取組に対する支援などにより、漁業経営再開、地域水産業の復旧のための支援を実施。
- ② さけ・ます等の種苗生産体制の再構築や藻場・干潟の整備、科学的知見も活かした漁場環境の把握、適切な資源管理により漁場・資源を回復。
養殖業は生産開始から収入を得られるまでに一定期間が必要である等、個々の漁業の特性にきめ細かく対応しながら、安定した漁業経営の実現に向け、漁船・船団の近代化・合理化の促進、経営の共同化や生産活動の協業化を進め、漁業を体質強化。
- ③ 水産加工・流通業は、6次産業化の取組も視野に、漁業生産と一体的な復興を推進。さらに、造船業などの関連産業の復興を支援。
- ④ 漁港については、拠点漁港の流通機能等の高度化、漁港間での機能集約と役割分担の取組を図りつつ、地域一体として必要な機能を早期に確保。
全国的な水産物の生産・流通の拠点となる漁港については、流通・加工機能の強化等を推進。地域水産業の生産・流通の拠点となる漁港については、周辺漁港の機能の一部を補完することに留意しつつ、市場施設や増養殖関係施設等の集約・強化等を推進。
その他の漁港については、漁船の係留場所の確保など必要性の高い機能から事業を実施。
- ⑤ 地域の理解を基礎としつつ、漁業者が主体的に技術・ノウハウや資本を有する企業と連携できるよう仲介・マッチングに努めるとともに、必要な地域では、地元漁業者が主体の法人が漁協に劣後しないで漁業権を取得できる特区制度を創設。

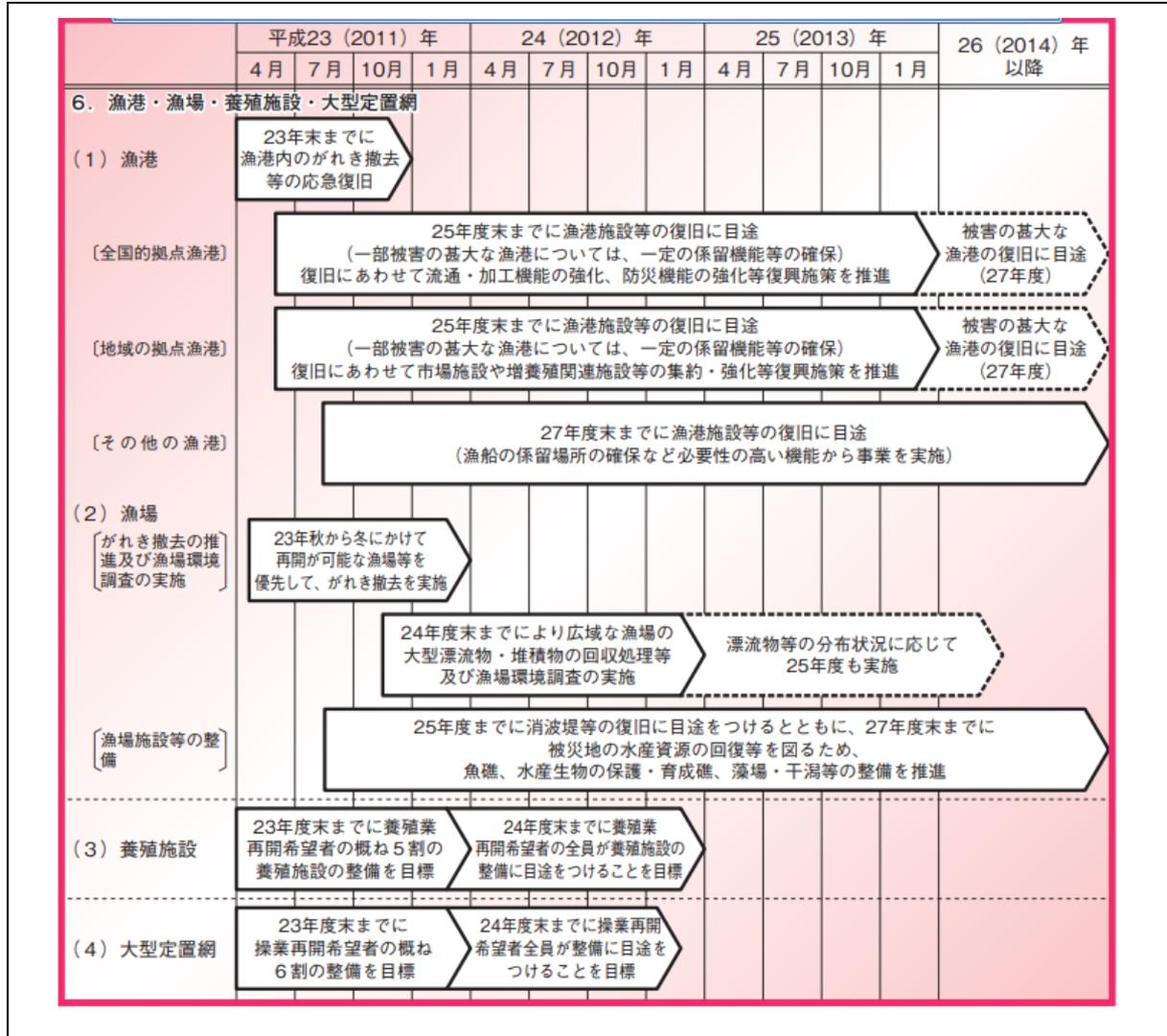
Source) Fisheries Agency, “FY2011 White Paper on Fisheries” (p.27)

https://www.jfa.maff.go.jp/j/kikaku/wpaper/h23/pdf/03_dai1shou.pdf (browsed July 31, 2023)

3) Reconstruction measures-related schedule

The Reconstruction Headquarters in response to the Great East Japan Earthquake compiled project plans and a schedule for the reconstruction measures of each ministry based on the Basic Guidelines for Reconstruction and announced them on August 26, 2011. In addition, these project plans and schedule were reviewed and published again on November 29 the same year. Among them, the overview of matters related to fisheries is as follows.

Figure 5-13-9 Schedule for reconstruction measures (excerpt of parts related to fisheries)



Source) Fisheries Agency, "FY2011 White Paper on Fisheries" (p.28)

https://www.jfa.maff.go.jp/j/kikaku/wpaper/h23/pdf/03_dai1shou.pdf (browsed July 31, 2023)

4) Fisheries reconstruction measures based on the Basic Guidelines for Reconstruction and the Master Plan for Fisheries Reconstruction

The third supplementary budget for FY2011, the budget for full-scale reconstruction from the Great East Japan Earthquake, was approved on November 21, 2011. With regard to fisheries, a total budget of 498.9 billion yen was allocated for full-scale reconstruction measures in line with the Basic Guidelines for Reconstruction and the Master Plan for Fisheries Reconstruction, and measures such as the following were taken: ① support for the restoration of fishing boats and fixed fishing nets, and the resumption of boat fishing operations; ② support for the reconstruction of aquaculture facilities and the resumption and stabilization of aquaculture operations; ③ support for the recovery of fisheries resources through artificial stocking and the development of seed production facilities; ④ support for the reconstruction and functional enhancement of fisheries processing and distribution business, etc.;

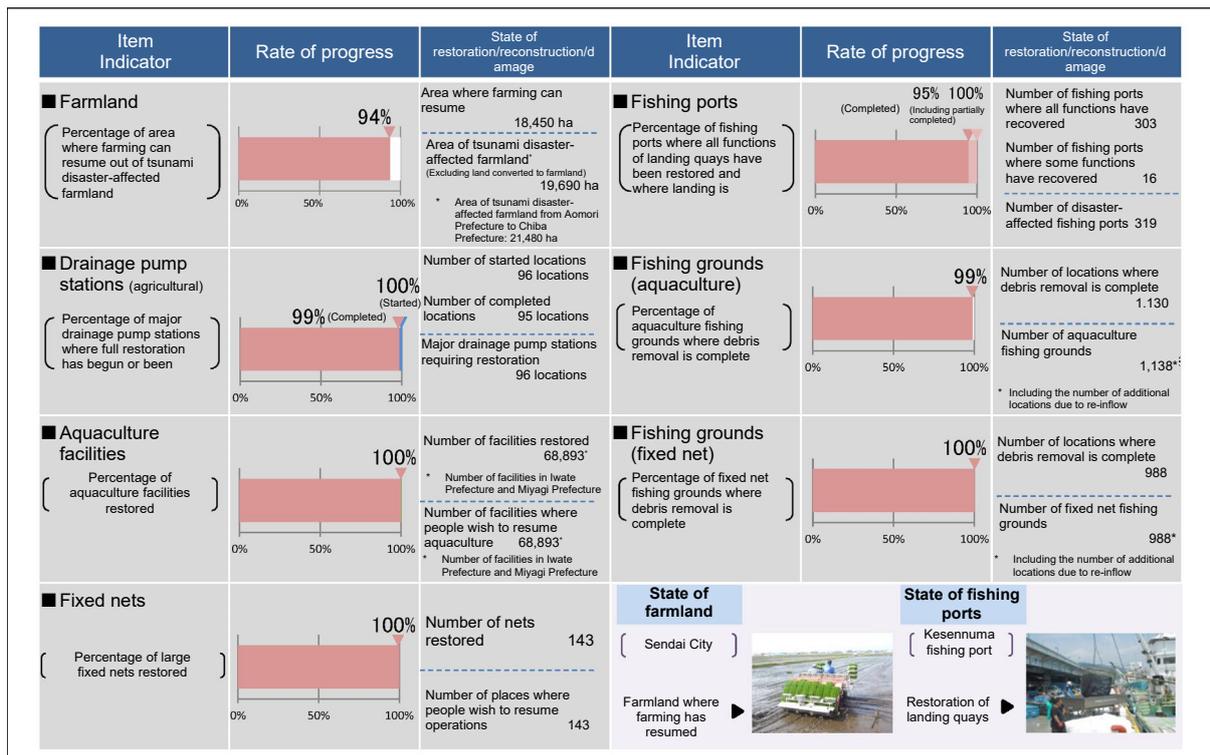
⑤ restoration and reconstruction of fishing ports and villages; ⑥ support for fishing ground restoration activities through the removal of debris; ⑦ measures to counter the surge in the price of fuel and formulated feed and to secure workers; and ⑧ the promotion of interest-free, unsecured, and unguaranteed loans to fishermen and processors.

The national government supported the early recovery of the core fishing ports (Ishinomaki Fishing Port, Kesenuma Fishing Port, etc.) by carrying out disaster recovery projects on behalf of Miyagi Prefecture, their actual administrator.

In 2020, after 10 years have passed, the national government continues to provide the necessary support.

By the end of March 2022, landing quay functions had been restored at all of the 319 fishing ports that suffered damage.

Figure 5-13-10 The state of progress of full-scale recovery and reconstruction of public infrastructure - agriculture, forestry and fisheries-related - (as of the end of September 2020)



Source) Reconstruction Agency “Current State of Reconstruction” (November 30, 2020) (p.11)

https://www.reconstruction.go.jp/topics/main-cat1/sub-cat1-1/material/20201130_genjou.pdf (browsed July 31, 2023)

(2) Fishing port and ground development projects by prefectures

1) Formulating reconstruction plans in disaster-affected prefectures

Each disaster-affected prefecture formulated recovery and reconstruction plans, guidelines, etc., and clarified policies for dealing with the fisheries-related damage that occurred in each prefecture. Looking at the situation in Iwate Prefecture, Miyagi Prefecture, and Fukushima Prefecture, Iwate Prefecture formulated the “Iwate Prefecture Great East Japan Earthquake and Tsunami Reconstruction Plan” on August 11, 2011, and Miyagi Prefecture formulated the “Miyagi Prefecture Earthquake Disaster Recovery Plan” on October 18, 2011. In addition, after formulating the “Vision for Revitalization in Fukushima Prefecture,” which established the basic principles and major measures for future reconstruction, on August 11, 2011, Fukushima Prefecture formulated the “Plan for Revitalization in Fukushima Prefecture (First Version),” which presented the specific efforts and major projects for the next 10 years, on December 28, 2011, based on the vision.

The direction of fisheries reconstruction indicated in the reconstruction plans of these three prefectures is based on the situation each prefecture finds itself in.

Figure 5-13-11 Direction of fisheries reconstruction in the reconstruction plans of the three prefectures

Prefecture	Plan name	Date of formulation	Direction of fisheries reconstruction
Iwate Prefecture	Iwate Prefecture Great East Japan Earthquake and Tsunami Reconstruction Plan	2011 August 11	<p>① With regard to both fishing and the distribution and processing industries, the prefecture will promote the construction of fishing and aquaculture centered on fishery cooperative and the construction of distribution and processing systems centered on local fish markets in an integrated manner to revitalize the fisheries rooted in the region.</p> <p>② The prefecture will promote the restoration and development of fishing ports, fishing grounds, fishing village living environment infrastructure, and coastal conservation facilities based on regional disaster prevention measures, regional development and the direction of fisheries revitalization.</p>
Miyagi Prefecture	Miyagi Prefecture Earthquake Disaster Recovery Plan	2011 October 18	<p>With fisheries-related production infrastructure and related industries having suffered catastrophic damage and in severe circumstances such as aging of fishermen, it would be extremely difficult to restore the fisheries industry to its original state. Consequently, the prefecture will review the legal system, management forms, how fishing ports should be, etc., and promote the creation of new fisheries and the reconstruction of fisheries cities.</p>
Fukushima Prefecture	Vision for Revitalization in Fukushima Prefecture	2011 August 11	<p>① The prefecture will make efforts for the early restoration of fishing ports, markets, etc., damaged by the earthquake and tsunami, to revitalize fishing areas, and will examine systems to promote safety and to ensure safety to eliminate harmful rumors about agricultural, forestry and fisheries products and products processed from them.</p> <p>② With regard to fishing, the prefecture will promote management collaboration through the introduction of shared fishing boats and highly profitable fishing operation based on low-cost production, and will reconstruct appropriate resource management and cultivation fishing.</p>
	Plan for Revitalization in Fukushima Prefecture (First Version)	2011 December 28	

Source) Prepared by the Reconstruction Agency based on the Fisheries Agency, “FY2011 White Paper on Fisheries” (p.33), and the websites of each prefecture

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2) Formulating reconstruction plans in disaster-affected municipalities

Each municipality in the disaster-stricken prefectures also formulated plans for the restoration and reconstruction of fisheries in their areas based on the reconstruction plan of the prefecture, etc. In the restoration and reconstruction of fisheries, it is important for fishing and aquaculture industries and the seafood processing and distribution industries work closely together to function like the wheels of a car, and many of the restoration plans formulated by municipalities also indicate policies for the restoration and reconstruction of fishing and aquaculture industries and the seafood processing and distribution industries with the fish market at each base fishing port at the core.

Figure 5-13-12 Details of the reconstruction plans of the main coastal municipalities (fisheries-related)

市町名 (県名)	復興計画 等の名称	策定時期	主な内容 (水産関係)
八戸市 (青森県)	八戸市復興計画	平成23 (2011)年 9月	① 水産業を支える基盤 (八戸漁港、魚市場、HACCP対応型荷さばき施設等)の早期復旧。 ② 漁業と水産加工業の再建。 ③ 水産食料基地としての拠点性の強化。
宮古市 (岩手県)	宮古市東 日本大震 災復興計 画	平成23 (2011)年 10月	① 漁港や漁業集落施設の被害は大規模なため短期間での全面復旧は困難。機能回復から本復旧へと計画的に取り組む。 ② 水産関係者の経営意欲が失われないよう継続的に支援。 ③ 生産力の低下を防ぐため担い手対策を充実。 ④ 生産部門と同時進行で流通加工部門の復旧を支援。
大船渡市 (岩手県)	大船渡市 復興計画	平成23 (2011)年 10月	① 漁船や養殖施設の共有・共用化、漁業の共同経営化への支援。 ② 新しい大船渡魚市場の整備。漁協の経営安定化。 ③ 地域特産水産物のPRや地産地消の推進。 ④ 水産関連施設の防災機能向上、集約化。
気仙沼市 (宮城県)	気仙沼市 震災復興 計画	平成23 (2011)年 10月	① 基盤施設の復旧、とりわけ中核となる冷凍冷蔵施設等水産加工基盤の早期復旧に取り組む、水産加工業の再開を図る。 ② 魚市場は、高度衛生管理施設として再整備するとともに、漁船の受入れ体制と販売体制を再構築。 ③ 気仙沼地域HACCPの再構築により水産加工の気仙沼ブランドを確立。 ④ 沿岸養殖漁業について、生産から加工・流通を含めた総合的な観点からの水産物の付加価値化を推進。
女川町 (宮城県)	女川町復興計画	平成23 (2011)年 9月	① 港町女川の基幹産業である水産業の復興を契機に、そのさらなる発展を目指す。 ② 利用可能な漁港の緊急的な復旧や市場の代替施設を確保することで、当面の漁業の操業を維持。 ③ 漁港の本格復旧に向けた整備とともに、漁協・漁業者の再建を支援。
石巻市 (宮城県)	石巻市震災復興基本計画	平成23 (2011)年 12月	① 漁港施設の復旧に当たっては、各漁港の機能の集約化等の考え方を整理した上で優先順位に基づいた整備。 ② 卸売市場については、仮設上屋で当面の業務。本復興に向け、国際水産都市を視野に入れた新市場を建設。 ③ 沿岸漁業、水産加工業の復旧・復興を支援。
いわき市 (福島県)	いわき市復興事業計画	平成23 (2011)年 12月	① 水産業の拠点施設としての小名浜魚市場を再編整備 (小名浜港周辺地域を復興のシンボルとして整備を加速)。 ② 風評被害を打開し、水産物の消費・販売を拡大。 ③ 市内の港への回遊性魚種 (カツオ、サンマ、サバ、イワシ等)の水揚げを奨励。
銚子市 (千葉県)	銚子市震災復旧・復興計画	平成23 (2011)年 5月	① 漁業者や水産加工業者の支援。 ② 風評被害対策の実施。 ③ 銚子漁港第一卸売市場の再生。 ④ 地元産品の販売促進による地元経済の活性化。

Source) Fisheries Agency, "FY2011 White Paper on Fisheries" (p.34, p.35)

https://www.jfa.maff.go.jp/j/kikaku/wpaper/h23/pdf/03_dai1shou.pdf (browsed July 31, 2023)

4. Issues that arose in project implementation and responses, etc.

The tsunami damage was enormous in areas where fishing is flourishing, so it was difficult to grasp actual conditions, and manpower was also greatly lacking.

Under such circumstances, more detailed support was implemented, such as staff dispatched directly by the national government and local governments interviewing disaster victims directly and assisting with the procedures to receive support, to grasp the situation of disaster-affected areas more accurately and enable disaster-affected fishermen to receive support quickly.

In addition, emergency restoration was implemented to establish a certain prospect of debris removal in fishing ports by the end of FY2011 for the resumption of fishing in disaster-affected areas. Moreover, the national government undertook restoration work on the major landing quays of designated Class 3 fishing ports, which have a significant impact on the national fisheries industry and the stable supply of fishery products, aimed at the early resumption of operations, on behalf of their administrating bodies.

With regard to damage to fishing boats, of the severely damaged Iwate Prefecture, Miyagi Prefecture and Fukushima Prefecture, in Iwate Prefecture and Miyagi Prefecture, the restoration of fishing boats of fishermen who wanted them restored was completed by the end of FY2015, and from FY2016 on, only the disaster-affected fishermen of Fukushima Prefecture, where reconstruction was delayed due to the nuclear power damage, are subject to restoration measures, and projects have been implemented appropriately based on relevant laws and regulations in response to the requests of disaster-affected fishermen and related parties through Fukushima Prefecture.

The national government continues to make efforts to grasp the requests of local fishermen in cooperation with local governments so that fishing boats can be distributed to disaster victims who wish to resume fishing¹.

¹ Reconstruction Agency, “FY2021 Administrative Business Review Sheet”
https://www.reconstruction.go.jp/topics/main-cat8/sub-cat8-3/review_r03/rs2021pdf/20010800_fukkocho.pdf (browsed July 31, 2023)