Section 5 Measures to Promote National Resilience

5-1 Formulation of the National Resilience Annual Plans

The government finalized the "National Resilience Annual Plans 2021" (hereafter referred to as the "Annual Plans 2021") on June 17th, 2021 (decided by the Headquarters of National Resilience Promotion). Based on the "Five-Year Acceleration Plan for Disaster Risk Reduction, and National Resilience" (hereafter referred to as the "Five-Year Acceleration Plan" in this section), which was formulated in December 2020, the Annual Plans 2021 included the following goals:

1) Water control measures in watershed areas, countermeasures for earthquakes and tsunamis, as well as ensuring the road network function and such for storms, flood disasters, and large-scale earthquakes.
2) Measures for earthquake resistance, tsunamis, and facility aging-management in infrastructures such as road facilities and schools.
3) Encouragement of digitalization such as sophisticating prediction, collection, amassment, and relay of disaster-related information.

Also, the cost of the Five-Year Acceleration Plan in FY 2021, which is its first fiscal year, was estimated. The Acceleration Plan would amount to approximately 4.2 trillion yen, of which the national expense would be around 2.0 trillion yen, while its whole cost would amount to approximately 15 trillion yen.

The "Three-Year Emergency Countermeasures for Disaster Prevention and Mitigation and National Resilience" (decided by the Cabinet Office on December 14th, 2018) was also followed up in the Annual plan. An evaluation was made that its goals were generally achieved as approximately 6.9 trillion yen was ensured for the expected plans of around 7 trillion yen, and 153 out of 160 emergency response measures met their goals or almost reached them with the budget through FY 2020.

In addition, to enhance each citizen’s understanding and interest in the necessity of reducing the disaster risk in advance and the effects that follow, specific cases which effectively worked using these measures in disasters were put together to raise public awareness.

Besides, in response to the recommendations for realizing a new era of disaster prevention, disaster mitigation, and national resilience as well as the latest lessons from the Heavy Rain Event of July 2020 and heavy snowfall between December 2020 and February 2021, a determination was made to promote required measures from the perspective of national resilience.

Furthermore, in FY 2021, the "Advisory Committee on National Resilience (Disaster Prevention and Mitigation)" (Chairperson: Satoshi Fujii, Professor of Kyoto University) (hereafter referred to as the "Advisory Committee" in this section) discussed the formulation of the Annual Plans 2021. (FIG. 5-1-1)
Summary of Annual Plan for National Resilience, 2021—2022

Based on the "Fundamental Plan for National Resilience," the annual plan outlines the main measures to be undertaken for each of the 45 programs during the fiscal year, manages progress using quantitative indicators and steadily promotes measures through the PDCA cycle.

1. Key Points of National Resilience Efforts in FY2021

(1) Promotion of Five-Year Acceleration Plan
- In recent years, weather-related disasters have become more severe and frequent, and the occurrence of large-scale earthquakes is imminent. In order to protect the lives and property of citizens and maintain the important functions of society, we have decided to further accelerate and deepen the efforts for national resilience based on the Fundamental Plan for National Resilience, and have set medium- and long-term targets and indicators to implement them intensively, bringing forward the target achievement year.
- Further accelerate and deepen efforts in 123 measures of the three areas. (Response to storm and flood disasters and large-scale earthquakes, etc.)
  - In addition to river management, river basin management that integrates structural and non-structural measures, such as prior flow from dams and disaster prevention town planning to reduce flood damage
  - Tsunami countermeasures in ports and harbors, countermeasures for densely inhabited areas that are extremely dangerous during earthquakes, etc.
  - Implement measures efficiently through collaboration with ministries and agencies.
- (Measures to address aging infrastructure)
  - Measures against earthquakes and tsunamis, and aging of road facilities, school facilities, other infrastructure facilities, etc.
  - (Promotion of digitization, etc.)
  - Enhancements of disaster-related information forecasting, collection, accumulation, and dissemination, such as by strengthening observation systems and improving forecast accuracy for intense heavy rain, utilizing robot and drone technology, providing evacuation information via smartphones, and accelerating social implementation of disaster prevention and emergency management tools that collect information on disaster damage, etc.
- Implement digitization measures efficiently through collaboration with ministries and agencies.
  - (Watershed flood disaster management, the establishment of a coordinated infrastructure data platform, etc.)

(2) Promotion of regional resilience
- Regional plans have made significant progress, with all prefectures and 1,398 municipalities (approximately 80%) having completed their formulation. (As of May 1, 2021)
- Content has been enhanced by incorporating medium- and long-term goals of the five-year accelerated plans into each regional plan and showing the future vision of the region. Focused promotion and support of initiatives based on regional plans.
- The budget will be focused on initiatives based on regional plans for this enhanced content.
- Promoted the establishment of a system for municipalities to quickly and accurately accept support staff, etc. according to the threat of disaster for the purpose of sharing information and making various adjustments, etc.

(3) Promotion of public awareness
- In order to increase the understanding and interest of each citizen in disaster prevention, including the necessity and effectiveness of disaster prevention in advance, related parties will work together to clarify the target audience and implement them. A strategy for public awareness for national resilience (tentative name) will be compiled by the end of this year.

(4) Strategic Policy Issues, WG recommendations on realizations for a new era of disaster prevention and mitigation, and national resilience, and efforts based on lessons learned from disasters in FY2020.
- National resilience that meets climate and natural conditions; Promote green infrastructure and land use that takes disaster risk into account.
- National resilience that meets climate and natural conditions; Promote green infrastructure and land use that takes disaster risk into account.
- National resilience that meets climate and natural conditions; Promote green infrastructure and land use that takes disaster risk into account.
- Promotion of digitization, etc. for efficient implementation of measures related to national resilience.
- The results obtained from the study, necessary measures will be promoted.

Summary of Annual Plan for National Resilience 2021—2022

2. Examples of Key Measures in the Annual Plan 2021

Promote measures for 45 programs in the Basic Plan, taking into account the five-year acceleration plan
- Formulate the "Watershed Flood Control Project" as the big picture of flood control measures to be implemented through the collaboration of all parties concerned for the 105 first-class water systems across the country. In addition to river management, watershed flood control is being promoted through the integration of structural and non-structural measures, such as prior flow from dams, community development to reduce flood damage and the elimination of flood risk information gaps.
- Promote measures against earthquakes and tsunamis, and aging of infrastructure facilities such as roads, bridges and school facilities.
- Promote measures against earthquakes and tsunamis, and aging of infrastructure facilities such as roads, bridges and school facilities.
- Promotion of digitization, etc. for efficient implementation of measures related to national resilience.
- Promotion of snow damage prevention measures on roads, such as maintaining snow protection facilities, snow melting facilities, medium openings, U-turn roads etc., and creation of timelines.
- Promotion of the creation of individual evacuation plans for the evacuation of those who require assistance evacuating.
- Respond to COVID-19 in shelters etc.

3. Progress Management of Five-Year Acceleration Plan

(1) Progress (based on project cost)
- The total project size was targeted to be approximately 15 trillion yen (including the use of fiscal investment and financial institutions' investment). (FY17) (excluding the project approved in the budget for FY2021), but the amount for FY2021, the first year of the project, was approximately 4.2 trillion yen.

(2) Progress on 123 measures
- Track and manage progress to ensure steady progress on medium- and long-term goals set for each of the 123 measures.
- Based on the implementation of the measures during the fiscal year, follow up the progress in the annual plan to be developed in the following fiscal year.

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Some of the tables do not add up due to rounding.
Summary of Annual Plan for National Resilience, 2021-3

4. Results of implementation of Three-Year Emergency Countermeasures for Disaster Prevention and Reduction, and National Resilience

(1) Implementation results (based on project cost)

- The project size was targeted to be approximately 7 trillion yen in total (including the use of fiscal investment and loan program (FIAP) and projects by the private sector). After the detailed examination of the local situation, approximately 6.3 trillion yen was secured by FY 2020, which is the period of the project, and the project is progressing smoothly.

<table>
<thead>
<tr>
<th>Category</th>
<th>Project Scale (Initial Assumption)</th>
<th>Project Scale (as of FY2020, the period of the project)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Maintain functions of critical infrastructure and others for disaster prevention</td>
<td>Approx. 31.5 trillion yen</td>
<td>Approx. 28.8 trillion yen</td>
</tr>
<tr>
<td>2. Prevention and reduction of damage caused by large-scale flooding, earthquake disaster (tsunamis, earthquakes, landslides, etc.)</td>
<td>Approx. 0.5 trillion yen</td>
<td>Approx. 0.5 trillion yen</td>
</tr>
<tr>
<td>3. Secure telecommunications for evacuation sites, etc.</td>
<td>Approx. 0.5 trillion yen</td>
<td>Approx. 0.5 trillion yen</td>
</tr>
<tr>
<td>4. Maintain the functions of critical infrastructure and other assets that support the national economy and livelihoods</td>
<td>Approx. 0.5 trillion yen</td>
<td>Approx. 0.5 trillion yen</td>
</tr>
<tr>
<td>5. Secure electricity and other energy supplies</td>
<td>Approx. 0.5 trillion yen</td>
<td>Approx. 0.5 trillion yen</td>
</tr>
<tr>
<td>6. Secure food supply,包括, supply facilities, etc.</td>
<td>Approx. 0.5 trillion yen</td>
<td>Approx. 0.5 trillion yen</td>
</tr>
<tr>
<td>7. Secure land, sea, and air transportation networks</td>
<td>Approx. 0.5 trillion yen</td>
<td>Approx. 0.5 trillion yen</td>
</tr>
<tr>
<td>8. Ensure information and communication functions, and services necessary for daily life, etc.</td>
<td>Approx. 0.5 trillion yen</td>
<td>Approx. 0.5 trillion yen</td>
</tr>
</tbody>
</table>

(2) Results of implementation of 160 emergency measures

- The budget up to FY2020 resulted in the achievement of 141 items. Although some delays occurred due to the impact of the spread of COVID-19 and changes in plans and processes due to site conditions and other factors, 12 items are on track to achieve their targets, and it is estimated that targets have been almost achieved as a whole.

- Targets are on track to be achieved in FY2021 and beyond. (**1) 12 items
- Needs to be considered to achieve the goal. (**2) 7 items
- Overall measures. 160 items

- Necessity of securing financial resources for local governments and private facility providers and adjusting rights with related parties, etc. has been clarified, and 7 items need to be considered for achieving the target. For these items, the relevant ministries and agencies will study the measures to be taken to achieve the target, reach a conclusion as soon as possible and promptly implement the measures.

(3) Cases of effectiveness in times of disaster, etc.

- Prevention and minimization of damage caused by large-scale flooding, sediment disaster (floods, landslides), earthquakes, tsunamis, etc.
  - Emergency measures for fixed hazards in rivers
  - Emergency measures for earthquake and tsunami risk
  - Emergency measures for regional risk of severe flood risk
  - Emergency measures to secure blue lines for disaster prevention and mitigation
- Ensuring social resilience, including rescue and first aid, and medical assistance
  - Emergency measures to secure disaster relief for residents in disaster-affected areas
- Ensuring electricity and other energy supplies
  - Emergency measures for protection of high-voltage power transmission lines
- Ensuring food supply, including rescue and support for residents
  - Emergency measures to ensure food supply to residents in disaster-affected areas
- Ensuring land, sea, and air transportation networks
  - Emergency measures for roads and transportation infrastructure

Examples of Disaster Prevention by Projects Related to National Resilience

- **River improvement in the Sendai River Area** (Hiyamizu City and Satsuma City, Kagoshima Prefecture, etc.)

  - By building new levees and excavating the river channel, the water level was reduced by approximately 3.1 m, and overflow from the mainstream of the Sendai River was avoided during the heavy rain in July of 2021. Damage of flooding was reduced.

  - Major projects: Details of measures - Project cost: Period of implementation
  - High-level levee: Construction of new levees and excavation of river channel. Approx. 20.5 billion yen 2020-2028
  - Anti-flood measures: Construction of new levees and excavation of river channel. Approx. 7.1 billion yen 2007-2024

- **Road flooding prevention project** (Hachinoe City, Gifu Prefecture)

  - Road flooding was prevented during the heavy rain in August of 2021 by installing drainage structures such as crossing culverts and gutters.

  - Major projects: Details of measures - Project cost: Period of implementation
  - Cross culverts and gutters: Construction of crossing culverts and gutters. Approx. 7.1 billion yen 2007-2024
  - Anti-flood measures: Construction of new levees and excavation of river channel. Approx. 20.5 billion yen 2020-2028

- **Localized heavy rain in August of 2021**

  - Approx. 183 mm (continuous rainfall)

  - Road flooding occurred in a section exceeding 100 m

  - Damage and effect

- **Heavy rain in August of 2021**

  - Approx. 183 mm (continuous rainfall)

  - No damage
5-2 The National Resilience Related Budgets and Revision of Tax Systems Contributing to National Resilience

In the FY 2021 supplemental budget, a national expense of approximately 1.5 trillion yen was booked as a cost to accelerate and deepen the Five-Year Acceleration Plan, along with another national expense of around 0.3 trillion yen as a cost to promote measures for national resilience consistently based on the Fundamental Plan for National Resilience. In the original budget for FY 2022, a national expense of approximately 4.6 trillion yen was also booked as a national resilience-related budget.

To encourage private business operators to work on national resilience by way of the tax system, the related ministries and agencies have been collaborating to further improve the tax system contribution to national resilience. 8 revisions, including 1 new item and 2 expansions and improvements, were completed in the FY 2022 tax system revisions.

5-3 Support in the Formulation of Fundamental Plans for Regional Resilience

To proceed with national resilience effectively, the promotion of regional resilience with a focus on local governments is extremely important. Local governments moved forward with formulating the Fundamental Plans for Regional Resilience (hereafter referred to as the "Regional Plans" in this section). The national government sent officers to hold briefings and supported by 57 grants and subsidies from relevant government ministries and agencies for measures that local governments conducted based on the Regional Plans. As a result, as of April 1st, 2022, 47 prefectures and 1,683 municipalities completed their formulation, while the rest of the 58 municipalities are in discussion to formulate plans as soon as possible (FIG. 5-3-1). Regarding the support of the grants and subsidies, based on the situations of each Regional Plan formulation, a determination was made from FY 2022 to promote the improvement of the content in these Regional Plans by focusing on projects that clarify project...
5-4 Encouragement of Measures for National Resilience by Private Sectors, Promotion of Public Relations, and Raising Public Awareness

(1) Encouragement of Measures for National Resilience by Private Sectors

To encourage private sectors to work on measures contributing to national resilience, the government has been operating an initiative where the third party organization approves organizations that proactively continue their projects to enhance resilience as "Organizations Contributing to National Resilience" since FY 2016. During large-scale disasters, maximizing both the self-help of each organization and the mutual support of the entire society is critical. Therefore, the government started another system to approve organizations that take the initiative in social actions as "Organizations Contributing to National Resilience (+Mutual Support)" among "Organizations Contributing to National Resilience" in FY 2018. By the end of November FY 2021, 257 organizations, including 156 "+Mutual Support" organizations, were approved in total. Advanced measures for national resilience by private sectors are spread via publishing the "Collection of Private Sector Efforts to Contribute to National Resilience" every year and introducing them on the website and social media (FIG. 5-4-1).

Furthermore, to spread individual and local activities for national resilience, the "National Resilience Work Shop" are held online for the general public, and it has been held 4 times in total in FY 2021. In addition, pilot projects for industrial parks are also conducted to promote collaboration between the government and private sectors for national resilience. In January 2022, a symposium was held to share the results in Kyoto City, Kyoto Prefecture.
(2) Promotion of Public Relations and Raising of Public Awareness for National Resilience

To promote public relations and to raise public awareness for national resilience, a determination was made to formulate the Strategy for Public Relations and Public Awareness for National Resilience (tentative) in the Annual Plans 2021. Therefore a new study group on public relations and public awareness was established and it made an interim report in January 2022. In this report, based on the review and the analysis of problems in the past measures, the directionality for improvement and following basic policies for public relations and public awareness were mentioned:

a) Show clear, specific information on the philosophy of national resilience, its effects, etc.

b) Offer information from the receivers' perspective, and use suitable media.

c) Encourage related agencies to take the initiative and have a positive manner in conducting measures, and enhance the collaboration.

Based on this report, the Cabinet Secretariat will formulate the Strategy for Public Relations and Public Awareness for National Resilience with cooperation between related ministries and agencies, and work harder on public relations and public awareness measures for national resilience.

5-5 Reconsideration of the Fundamental Plan for National Resilience

Under the philosophy that "we have to proceed with measures for national resilience as a part of the 100-year-national development based on 'the Grand National Plan' looking far ahead to 1,000 years" (the Fundamental Plan Chapter 1), the current Fundamental Plan for National Resilience (hereafter referred to as the "Fundamental Plan" in this section) establishes the basic guidelines regarding the formulation of measures for national resilience as the basic plans to aim to promote them comprehensively and systematically. It also determines to "review contents of the plans approximately every five years considering future changes of the socio-economic status surrounding national resilience and the future situation of promoting national resilience measures" (the Fundamental Plan Chapter 4). Considering that the last revision of the current Fundamental Plan was completed in December 2018, which is three years prior to FY 2021, the Advisory Committee began to discuss its reconsideration.

In light of past measures for national resilience, the philosophy of national resilience, and knowledge from changes in the latest social circumstances and disasters, the Advisory Committee is discussing the general issues...
on national resilience in the future, including the Regional Plans, the Annual Plans, how to stimulate private sectors into taking their measures, and systems of national resilience plans such as each national resilience measure in order to promote national resilience even further. The Advisory Committee will proceed with a revision of the Fundamental Plan based on these discussions.