



Experience from the Sixth International Nuclear Emergency Exercise (INEX-6)

Long-term Recovery Planning and Management
Following Radiological or Nuclear Emergencies

Experience from the Sixth International Nuclear Emergency Exercise (INEX-6):

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Foreword

Long-term recovery following a radiological or nuclear emergency is among the least tested and least mature areas of national preparedness. While emergency arrangements for the early phase of an event are generally well established, recovery requires a different type of preparedness: one that extends over months and years, cuts across sectors and levels of government, and addresses not only radiological protection but also health and well-being, social and economic recovery, environmental management, public communication and trust. The experience gained in the aftermath of Fukushima Daiichi nuclear power plant accident, together with subsequent international work under the aegis of the OECD Nuclear Energy Agency (NEA), demonstrated clearly that recovery cannot be treated as a simple continuation of emergency response. It requires its own frameworks, its own tools and, importantly, its own opportunities for testing.

The sixth International Nuclear Emergency Exercise (INEX-6) was designed in this context. The exercise focussed exclusively on the recovery phase and sought to test how countries would apply recovery concepts in practice. Its modular structure, covering health impacts, food safety, remediation and decontamination, and radioactive waste management, enabled participating countries and economies to examine recovery challenges in a structured but flexible manner, using a common scenario designed to be relevant to both nuclear and non-nuclear countries. In 2024, 26 countries and economies took part in one or more national tabletop exercises, providing a broad basis for international comparison on recovery preparedness.

INEX-6 shows that many countries have established important foundations for recovery, including legal frameworks, lead organisations, baseline resources and broad alignment with international radiological protection recommendations. At the same time, it also shows that these foundations are not yet consistently translated into operational readiness. Across the modules, recurring issues included unclear transition arrangements, uneven provision for sustained and surge capacity, limited recovery-specific communication arrangements, fragmented approaches to long-term health monitoring and psychosocial support, and practical constraints related to remediation logistics, temporary storage and radioactive waste management. The report therefore suggests not that recovery is unaddressed in principle, but that it remains insufficiently exercised and operationalised.

This report is intended to support the next stage of work. It brings together lessons from the national exercises, the common evaluation questionnaire, discussions within the NEA Working Party on Nuclear Emergency Matters (WPNEM) and the Committee on Radiological Protection and Public Health (CRPPH), and the international evaluation workshop. Its purpose is not to propose a single model for recovery but to identify common strengths, recurring challenges and practical priorities for follow-up. In doing so, it aims to support further progress from principle to implementation and to inform future work under WPNEM, CRPPH and related international co-operation frameworks.

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List of abbreviations

ALARA	As low as reasonably achievable.
CODEX	Codex Alimentarius Commission
CRPPH	Committee on Radiological Protection and Public Health (NEA)
DIL	Derived Intervention Level
ECURIE	European Community Urgent Radiological Information Exchange
EGINEX-6	Expert Group on the Sixth International Nuclear Emergency Exercise (NEA)
EGRM	Expert Group on Recovery Management (NEA)
EPZ	Emergency Planning Zone
EURATOM	European Atomic Energy Community
IAEA	International Atomic Energy Agency
IACRNE	Inter-Agency Committee on Radiological and Nuclear Emergencies
ICRP	International Commission on Radiological Protection
INEX	International Nuclear Emergency Exercise
MHPSS	Mental Health and Psychosocial Support
MPL	Maximum Permitted Level
NEA	Nuclear Energy Agency
NEO	National Exercise Organiser
NPC	National Planning Committee
OIL	Operational Intervention Level
PAG	Protective Action Guide
PTF	Preparatory Task Force
RANET	Response and Assistance Network
USIE	Unified System for Information Exchange in Incidents and Emergencies
WHO	World Health Organization
WPNEM	Working Party on Nuclear Emergency Matters (NEA)
WTO	World Trade Organization

Executive summary

The Sixth International Nuclear Emergency Exercise (INEX-6) marked an important step in the INEX series by focussing specifically on long-term recovery following a radiological or nuclear emergency. While previous INEX exercises addressed emergency response, public communication and some aspects of transition, INEX-6 was designed to look at the unique challenges of recovery preparedness. Recovery is prolonged, multi-sectoral and context-specific, and requires arrangements that extend beyond those typically used in the emergency phase. Building on earlier Nuclear Energy Agency (NEA) work on recovery preparedness (NEA, 2022), INEX-6 aimed to test how national arrangements would operate once immediate response activities had ended and longer-term decisions on health, food safety, remediation and waste management were needed.

For the exercise, all participating countries were given the same scenario set approximately one year after a transport accident involving radioactive material. The scenario was intentionally designed to be relevant to countries both with and without nuclear power programmes. INEX-6 was conducted as a modular tabletop exercise covering four thematic areas: health impacts, food safety, remediation and decontamination, and radioactive waste management. National exercises were supported by common materials and a standardised evaluation questionnaire. The findings were subsequently enriched through discussions within the NEA Working Party on Nuclear Emergency Matters (WPNEM), the Committee on Radiological Protection and Public Health (CRPPH) as well as during the international evaluation workshop, held in Fontenay-aux-Roses, France, on 3-4 November 2025 (NEA, 2025).

The exercise confirmed that many countries have established important elements of recovery preparedness. These include national frameworks or strategies, legislative provisions, designated lead organisations and baseline resources. In many cases, arrangements are also in place for international information exchange and assistance, and national approaches to recovery reference levels are broadly consistent with international radiological protection recommendations (ICRP, 2007; ICRP, 2009). More generally, the exercise showed that recovery is increasingly understood as requiring the integration of radiological and non-radiological factors, including health, social, economic and environmental considerations.

At the same time, INEX-6 highlighted a clear implementation gap. Compared with emergency response, recovery remains less clearly defined, less routinely exercised and less operationalised. Recovery-specific training is limited, legal requirements to exercise recovery are uncommon and dedicated communication arrangements for the recovery phase are often underdeveloped. The exercise also showed that governance below the national level, including arrangements for transition from response to recovery, remains uneven. In addition, confidence in maintaining resources and capabilities over the longer term is generally lower than confidence in baseline emergency arrangements. Questions also remain regarding how international assistance mechanisms developed for emergency response would function in a prolonged recovery context.

The Health Impacts module showed that many countries have sound clinical and radiation protection arrangements, including designated hospitals and the ability to extend existing dosimetry systems. However, long-term health surveillance remains less developed. Approaches to monitoring affected populations vary, dedicated public dose registries are uncommon and links between health and environmental data are often limited. Mental health and psychosocial support is widely recognised as essential, but arrangements are not always tailored to the recovery phase. The findings point to the need for clearer long-term monitoring strategies, stronger data arrangements, and more practical planning for mental health and psychosocial support.

The Food Safety module showed that most countries have legal authority and institutional arrangements to both impose and lift food restrictions, supported by experience in monitoring and control. However, the exercise highlighted practical challenges related to laboratory capacity, analytical throughput, sampling strategies and communication. The coexistence of domestic standards, EURATOM arrangements and CODEX guidance may also complicate decision making, particularly when restrictions are lifted and trade resumes. A central finding of

the module was that maintaining consumer confidence requires sustained transparency, clear communication and active engagement with producers, retailers and the public.

The Remediation and Decontamination module showed that countries generally anticipate using a combination of remediation approaches depending on local conditions, land use, feasibility and stakeholder considerations. While there is broad recognition that remediation objectives and end states must be clearly defined, operational arrangements are often incomplete. Approaches to prioritisation differ, resource assumptions vary, and many countries would rely on private contractors and, where necessary, international assistance. The exercise also confirmed the close interdependence between remediation and waste management, particularly in relation to sorting, temporary storage, transport and monitoring.

The Radioactive Waste Management module showed that, although most countries have established regulatory and technical arrangements for routine radioactive waste management, these are not necessarily suited to the scale and diversity of waste that could arise during recovery. Temporary storage and staging were identified as major bottlenecks, with constraints linked to site availability, ownership, licensing, characterisation, packaging and transport. Disposal strategies often rely on the application of waste hierarchy principles, including incineration, recycling or clearance where appropriate. However, practical options remain limited for some waste streams, and public acceptance continues to be a significant factor affecting implementation.

Overall, INEX-6 provides a strong basis for further work on recovery preparedness. Its main conclusion is that many countries have the foundations of recovery preparedness in place, but that these foundations are not yet consistently translated into operational arrangements. Long-term recovery requires not only sound principles, but also clear governance, sustained capabilities, realistic exercising, effective communication and practical implementation tools. INEX-6 has helped to identify where further national and international efforts are needed to strengthen preparedness for recovery.

Chapter 1. Introduction

Since 1993, the NEA International Nuclear Emergency Exercise (INEX) series has provided a structured forum for testing and improving emergency preparedness, response and recovery arrangements across participating countries (NEA, 1995; NEA, 2001; NEA, 2005; NEA, 2007; NEA, 2013; NEA, 2018a; NEA, 2018b). Previous INEX exercises focussed primarily on early-phase emergency management, communication and the transition to recovery, typically in the context of nuclear power plant accidents. Over time, it has become increasingly evident that long-term recovery from a radiological or nuclear emergency presents distinct legal, technical, social and political challenges that require tailored attention and sustained planning.

For an overview of the INEX series, Table 1.1 summarises the evolution of objectives and highlights selected outcomes across previous editions.

Table 1.1. **INEX series (1993-2016): Objectives, core focus and key outcomes**

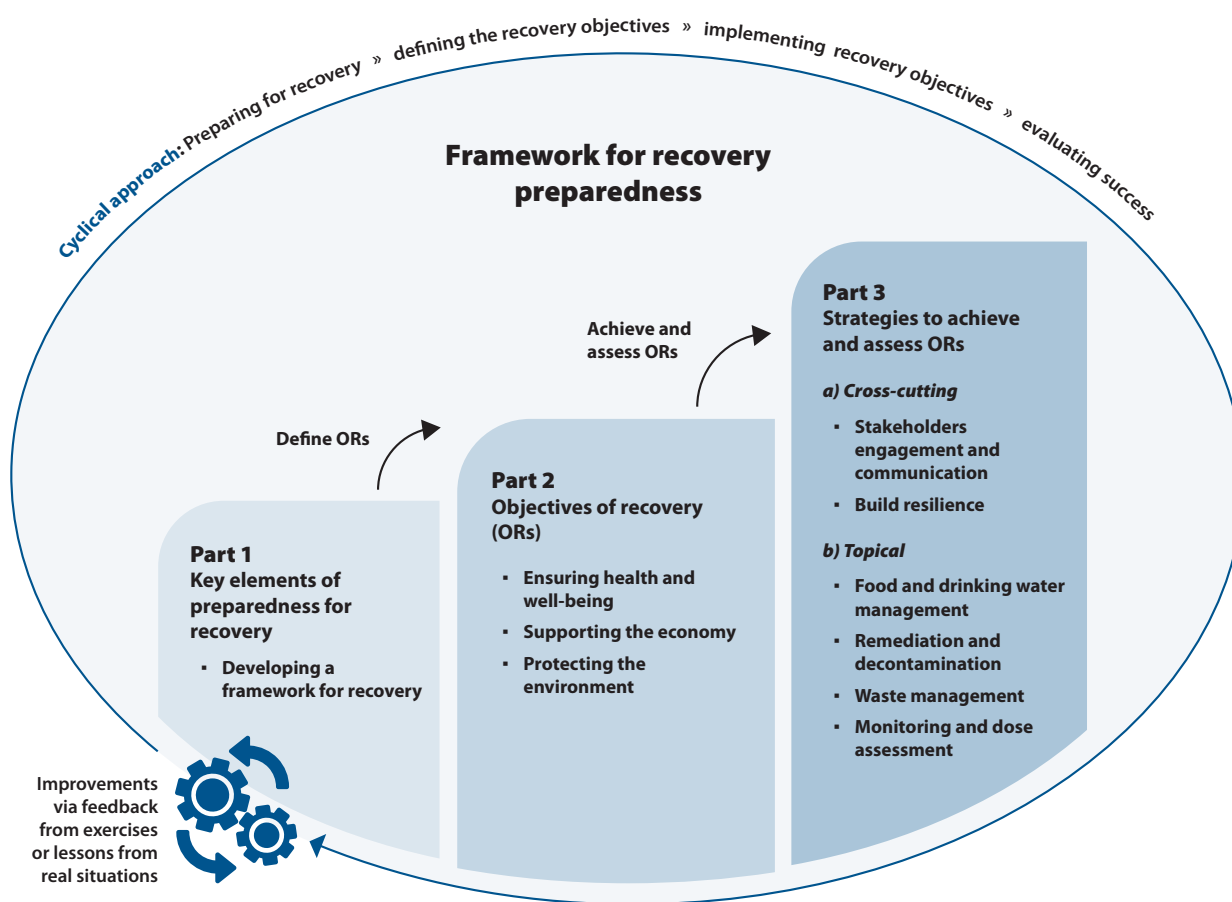
Series	Core focus	Representative objectives	Selected key outcomes
INEX-1 (1993)	Early-phase management and international notification	Test alerting and communication with neighbours and international bodies; support decision making under limited/uncertain data; examine protective actions and criteria; address export/import of contaminated goods; clarify how to request/receive international assistance	Strengthen co-ordination of communications and short-term countermeasures; harmonise responses across borders; support rapid yet justified decisions; design more realistic scenarios
INEX-2 (late 1990s-early 2000s)	Monitoring and data management strategies	Exercise real-time data exchange; practice use of monitoring technologies; clarify roles and data responsibilities; test processes for compiling, validating and sharing data for decisions	Timely and complete data are essential for informed decision-making; roles and responsibilities for information must be explicit; durable mechanisms for routine data sharing and FAQs help during crises
INEX-3 (2005-2006)	Consequence management	Work through food and agricultural restrictions; cross-border trade and customs issues; protective measures during longer timelines; information management and co-ordination between authorities	Stakeholder involvement is crucial in consequence management; cross-border interaction is essential for food, trade, and movement; practical arrangements for exchanging information proved valuable
INEX-4 (2011-2012)	Malicious acts and transition to recovery	Manage an RDD-type scenario; investigate crisis-to-recovery transitions; co-ordinate multi-agency response; address public information challenges under security constraints	Many response elements mirror large-scale emergencies; professional risk communication is critical; technical resource and knowledge management must extend into recovery
INEX-5 (2015-2016)	Public communication and cross-border co-ordination	Stress-test risk communication (incl. social media); improve consistency of messages; refine roles and interfaces among authorities; link communications to protective measures and recovery planning	More rigorous information management; stronger cross-border and inter-organisational co-ordination; closer linkage between technical experts and decision makers; attention to psychosocial and other public health aspects

The Fukushima Daiichi Nuclear Power Plant accident in 2011 underscored the profound and long-lasting consequences of a radiological emergency on public health, the environment, food safety and confidence, infrastructure and social trust. In its aftermath, it became clear that countries needed to develop dedicated recovery frameworks, distinct from initial emergency response plans. Recovery involves not only the restoration of living conditions but also long-term decision making on remediation, waste management, stakeholder engagement and the return or resettlement of populations.

In response to these evolving needs, the NEA Committee on Radiological Protection and Public Health (CRPPH) established the Expert Group on Recovery Management (EGRM) in 2019. Comprising experts from NEA member countries, the group drew on lessons from the Fukushima Daiichi and Chernobyl accidents, as well as national preparedness efforts, to develop the publication *Building a Framework for Post-Nuclear Accident Recovery Preparedness: National-Level Guidance* (NEA, 2022).

The report sets out a cyclical approach to national recovery preparedness (see Figure 1.1), anchored in early integration with emergency preparedness and response, clear governance and roles, and the application of ethical principles (prudence, justice, dignity) alongside stakeholder co-expertise processes (NEA, 2022).

Figure 1.1. **Framework for recovery preparedness**



The framework defines three interlinked recovery objectives to be pursued holistically and inclusively with relevant stakeholders: ensuring health and well-being, supporting the economy, and protecting the environment. To achieve and assess these objectives, the framework identifies cross-cutting and topical strategies including stakeholder engagement and communication, mental-health and psychosocial support (MHPSS), well-being indicators and health surveillance, food and drinking water management, remediation and decontamination, radioactive waste management, and environmental monitoring and dose assessment. This foundational work by EGRM highlighted both the complexity of recovery management and the limited attention it had historically received in international exercises. Building on this foundation, the NEA launched preparations for a recovery-focussed exercise within the INEX series (INEX-6), aimed at testing and operationalising the guidance across diverse national contexts. A Preparatory Task Force (PTF) was established under the Working Party on Nuclear Emergency Matters (WPNEM) in 2021 to define the objectives and structure of the new international exercise. The task force proposed a modular, scenario-driven format focussed exclusively on recovery, with flexibility for both nuclear and non-nuclear countries.

Based on the PTF's proposal, the Expert Group on the Sixth International Nuclear Emergency Exercise (EGINEX-6) was formally created in April 2022 to lead the design, delivery and evaluation of INEX-6. Its mandate was extended in 2024 to guide post-exercise analysis, organise an international workshop and produce this report.

INEX-6 represents a strategic evolution of the INEX series, focussing entirely on the long-term recovery phase of a radiological emergency. Its central aim was to assess the adequacy of national recovery frameworks, including legal instruments, technical capabilities, co-ordination mechanisms and stakeholder engagement practices. The fictional scenario, a transport accident resulting in widespread contamination, was intentionally designed to avoid reliance on nuclear power plant infrastructure, enabling participation from countries with and without nuclear power programmes.

The exercise was structured around four thematic modules reflecting core recovery challenges:

1. Health Impacts
2. Food Safety
3. Remediation and Decontamination
4. Radioactive Waste Management

Countries were invited to conduct national tabletop exercises on one or more modules between January and April 2024. These exercises were supported by NEA-developed scenario injects, guiding questions and a standardised post-exercise evaluation questionnaire.

To support shared learning, a Topical Session on INEX-6 was held during the 49th meeting of the Working Party on Nuclear Emergency Matters (WPNEM-49) in October 2024. This session enabled participating countries to exchange preliminary insights and explore key lessons beyond the scope of the questionnaires. The consolidated outcomes were later presented to NEA member countries at the 83rd meeting of the Committee on Radiological Protection and Public Health (CRPPH-83) in March 2025.

This report presents the outcomes of INEX-6, drawing on national responses, evaluation questionnaires and insights from discussions held during the WPNEM-49 and CRPPH-83 Topical Sessions. It highlights common strengths and challenges in recovery planning across countries, showcases good practices and identifies areas for improvement.

The report is structured as follows: Chapter 2 describes the exercise methodology and planning process; Chapter 3 presents results and trends derived from questionnaire responses; Chapter 4 lists good practices; Chapter 5 outlines follow-up actions and recommendations; and Chapter 6 provides concluding reflections. The appendices include key reference documents, scenario details and participant information.

INEX-6 reaffirms the critical importance of proactive recovery preparedness, supported by strong governance, stakeholder engagement and international collaboration. It also marks a milestone in the transition from theory to practice in long-term recovery planning within the international nuclear emergency management community.

Chapter 2. Exercise methodology and evaluation framework

Objectives and scope

The overarching objective of INEX-6 was to evaluate and improve national capabilities for managing the recovery phase following a nuclear or radiological emergency. The exercise was designed to:

- Test the adequacy of existing recovery frameworks, including laws, policies and operational procedures.
- Explore how decisions regarding long-term protective actions (e.g. decontamination, food safety measures, waste handling) are made and justified.
- Assess international co-ordination mechanisms and mutual aid arrangements for recovery.
- Promote good practices and harmonisation across member countries.
- Encourage the integration of social, psychological, and economic considerations into radiological protection strategies.

The INEX-6 exercise was conducted according to a set of agreed guiding principles:

- Delivery as national tabletop exercises using a common scenario to enable international comparison.
- Four independent modules were included, addressing key topics in long-term recovery: Health Impacts, Food Safety, Remediation and Decontamination, and Radioactive Waste Management.
- Question-driven format encouraging the application of existing plans, procedures and established decision making frameworks.
- Designed as a reusable package, allowing countries to replay the modules or expand them with additional recovery issues in the future.
- Scenario beginning after termination of the emergency, consistent with an existing exposure situation (IAEA, 2018; ICRP, 2009).
- Open to all countries and territories, regardless of preparedness level.
- Direct linkage to NEA guidance on recovery preparedness, in particular the NEA publication *Building a Framework for Post-Nuclear Accident Recovery Preparedness* (NEA, 2022), in order to test implementation of this guidance in practice.
- Facilitation of the examination of similarities and differences in recovery management strategies between countries, including, where possible, the treatment of transboundary issues between neighbouring countries.
- “No-fault” approach focussed on suitability of arrangements, not performance of individuals.

To support international comparison, a single, common set of questions was developed for each module, and all participating countries were asked to adopt the shared objectives and scenario questions. While countries could conduct additional “bolt-on” activities to test specific elements of their arrangements, it was recommended that planning focus primarily on the core objectives and common question sets provided by the NEA.

Evaluation focussed on the adequacy of emergency management arrangements for longer-term recovery in relation to the scenario, including plans, procedures, organisational structures, information exchange, decision-making processes, resources, international interfaces and supporting systems. Each country conducted its own evaluation, with the intention of sharing experience internationally. To facilitate this, a standardised evaluation questionnaire, based on the common scenario and objectives, was prepared for completion and submission to the NEA.

INEX-6 did not attempt to test every aspect of recovery, nor to simulate a highly technical, real-time response. Rather than relying on a very detailed, quantitative accident description, the scenario was deliberately framed in a narrative or semi-quantitative way to stimulate strategic and policy-level discussion on long-term recovery options.

Beyond the initial implementation, the common scenario and shared question sets help ensure that, even when adapted and replayed nationally, exercises remained comparable across countries and over time.

At the national level, participation was aimed at emergency planners, recovery-phase responders and technical decision makers from competent authorities, complemented, where appropriate, by governmental and non-governmental stakeholders. The scenario was designed to support such broader stakeholder involvement where it was consistent with the national exercise objectives.

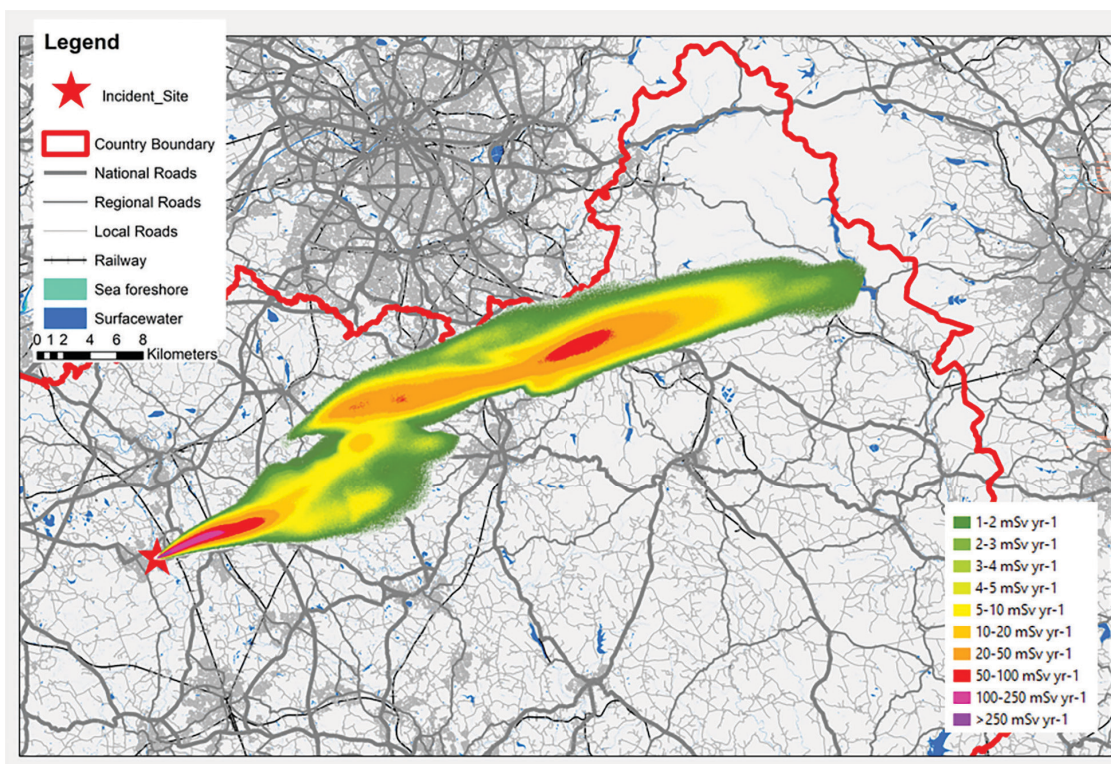
Scenario design

The INEX-6 exercise scenario is presented in full in the materials referenced in Appendix B. It was designed to simulate a complex, long-term recovery situation following a radiological emergency. The scenario was constructed with the explicit intention of being non-reactor-based, to ensure broad applicability across both nuclear and non-nuclear countries and economies. The scenario begins 12 months after the event, placing all participating countries directly in the long-term recovery phase rather than focussing on the initial emergency response.

Background of the event

The initiating event of the exercise is a transport accident involving a vehicle fire that occurred while nuclear material was in transit. The driver was overcome by smoke, and emergency services were summoned by bystanders unaware of the radioactive nature of the cargo. As a result, the first responders lacked critical protective measures. It was only after fire suppression efforts had begun that the radiological hazard was identified, resulting in unplanned exposure to emergency personnel and the surrounding population.

Figure 2.1. **Range of estimated ground shine dose rate from deposition at the local level (mSv yr⁻¹)**

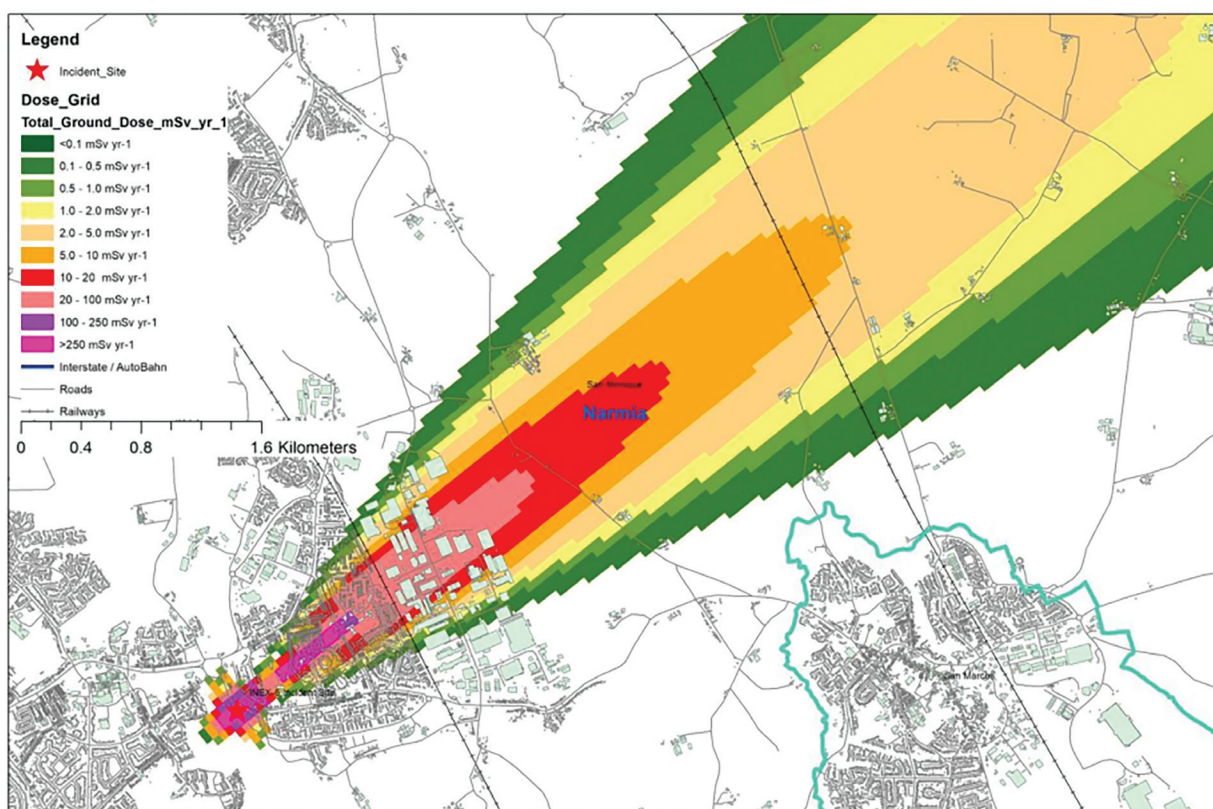


The fire was extinguished within one hour, and emergency actions were eventually taken to contain contamination. However, by the time the radiological nature of the event was identified and appropriate controls were implemented, radioactive material had already been dispersed into the environment.

Nature and extent of contamination

Due to prevailing weather conditions and post-incident factors such as vehicle and foot traffic, contamination spread across a wide geographic area, affecting both urban and rural zones and crossing jurisdictional boundaries. Monitoring identified contamination in soils, buildings, watercourses and reservoirs. Hotspots with deposition exceeding 1 kBq/m² were found, and several long-lived radionuclides, including Cs-137, Sr-90, Am-241, Pu isotopes and others, were detected. The presence of these isotopes indicated the need for a prolonged and multifaceted recovery effort.

Figure 2.2. INEX-6 scenario plume dose band



Twelve months later, many of the most affected zones remain restricted and residents, workers, and institutions have not been allowed to return. A number of areas initially evacuated were found to have low contamination levels and have been cleared for return, but public distrust and logistical complications continue to delay repopulation. The situation presents layered challenges across health, environmental management, food safety, infrastructure rehabilitation and psychosocial well-being.

To ensure relevance for all participants, the scenario is deliberately generic in its cause and quantitative detail, but rich in consequences and complexity. Countries were asked to simulate the scenario as if it occurred within their own territory, applying national procedures, legal frameworks and resources. Where gaps exist, participants were encouraged to propose interim solutions, identify assumptions and flag areas for further development.

Modular structure

INEX-6 was delivered through four independent but interrelated modules:

1. **Health Impacts** – health status, medical follow-up and surveillance, mental health and psychosocial support.
2. **Food Safety** – regulatory and policy framework, quality assurance, trade and consumer confidence
3. **Remediation and Decontamination** – regulatory and policy framework, identification of remediation goals and remedial actions, and implementation of remedial actions.
4. **Radioactive Waste Management** – regulatory and policy framework, transport of radioactive waste, temporary storage, staging areas and facilities, and disposal routes.

Each module included a set of exercise injects, guiding questions and discussion points developed by EGINEX-6, and was designed to run in a 4-hour tabletop format. Countries could undertake any combination of modules and, after the exercise, could reuse or expand them for national purposes.

Module-specific objectives

This subsection summarises the intent of each module so that the subsequent evaluation can be read against clearly stated objectives.

Figure 2.3. INEX-6 modules



Module 1 – Health Impacts

- Establish arrangements for long-term dose assessment and registries (workers, public, vulnerable groups).
- Define medical follow-up and surveillance pathways, including referral criteria and data sharing.
- Integrate mental health and psychosocial support (MHPSS) across recovery activities.
- Clarify decision bases for return/resettlement and ongoing protective actions.
- Ensure governance for health data (privacy, access, interoperability).

Module 2 – Food Safety

- Design monitoring/surveillance strategies (commodities, sampling, frequency, laboratory capacity).
- Apply and communicate criteria for placing food on the market (reference/derivation levels, exemptions).
- Implement proportionate control measures (restrictions, tracing, import/export interfaces).
- Co-ordinate across jurisdictions and with trading partners.
- Communicate risks and controls to producers, retailers and consumers.

Module 3 – Remediation and Decontamination

- Select and optimise remediation options using radiological and socio-economic criteria (ALARA, reference levels, acceptability).
- Plan, permit and prioritise actions in diverse environments (urban, rural, critical infrastructure).
- Minimise secondary waste and integrate remediation with recovery of livelihoods/services.
- Involve stakeholders in option selection and end-state definition.
- Define funding responsibilities and contracting approaches.

Module 4 – Radioactive Waste Management

- Classify, characterise and segregate wastes arising from recovery activities.
- Plan logistics from collection to treatment, interim storage and final disposition.
- Secure regulatory approvals and quality assurance for transport and facilities.
- Manage capacity constraints and surge volumes, and plan for scaling.
- Co-ordinate interfaces with existing national waste infrastructures and cross-border requirements.

INEX-6 exercise format

INEX-6 was designed as a question-driven, tabletop modular exercise bringing together relevant organisations and stakeholders in a common setting. An Exercise Moderator guided the discussion based on scenario developments, and predefined themes and questions. This moderated format enabled in-depth exploration of recovery arrangements without the pressures of real-time decision making.

- Each module was supported by an INEX-6 exercise slide deck.
- The scenario was introduced with a narrative briefing, followed by technical information and evolving questions to prompt reflection. As the exercise progressed, additional inputs were provided to guide thematic discussions and highlight areas of strength and potential improvement.
- The emphasis was on discussion, problem-solving and identifying issues, rather than rapid decision making. Players were encouraged to apply existing policies, plans and procedures to address long-term recovery challenges.
- Players were asked to assume access to resources under existing national and international arrangements and to keep artificialities to a minimum.
- Evaluators documented key issues and responses for later analysis and reporting. No individual performance was assessed.

At the conclusion of each module, the Moderator formally closed the session and facilitated a short debriefing with participants and Evaluators, to capture immediate feedback and impressions for inclusion in the overall evaluation process.

National planning and roles

Each participating country appointed a National Exercise Organiser (NEO) responsible for co-ordinating its national exercise effort. The NEO was tasked with forming a National Planning Committee (NPC) composed of representatives from all relevant government departments, regulatory authorities, technical support organisations and stakeholder bodies. The scope and composition of participation in each country were determined by the NPC, reflecting national arrangements and the level of preparedness for recovery, so participation varied between countries and between modules.

The NPC responsibilities included:

- Selecting which modules to play.
- Organising tabletop discussions at the national level, including arranging suitable venues and basic meeting facilities for each module.

- Preparing national participants for the exercise.
- Translating exercise materials where needed.
- Assigning exercise roles, including Players, Moderators, Evaluators/Recorders, and Observers.
- Ensuring that each module involved a sufficient number of Players representing organisations that would be involved in the recovery effort related to the module topic.
- Submitting the post-module INEX-6 Evaluation Questionnaire to the NEA.

Participating countries were asked to assign the following roles as part of their planning for INEX-6 (Table 2.1).

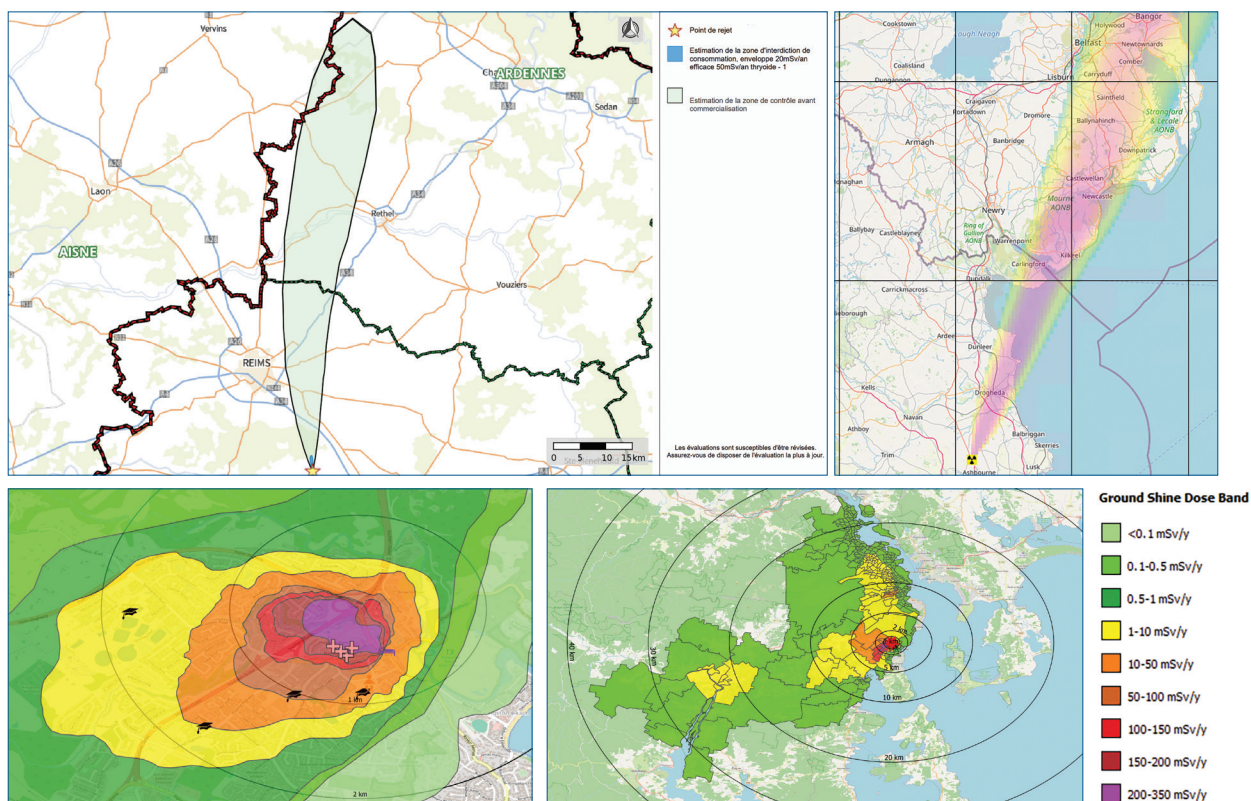
Table 2.1. **National exercise roles and responsibilities (INEX-6)**

Role	Description
National Exercise Organiser (NEO)	The individual (or organisation) that “owns” the exercise and has overall responsibility for efficient exercise delivery, ensuring that all participating organisations are involved from the beginning of the exercise development process. The NEO acts as the main point of contact with the NEA.
National Planning Committee (NPC)	The collective group of representatives from responsible organisations, chaired by the National Exercise Organiser, with the overall responsibility for delivering the national table-top exercises/modules.
Exercise Players	Participants in the exercise who are required to respond to the exercise scenario in accordance with existing policies, protocols, and emergency preparedness and recovery plans/procedures.
Exercise Moderator	The individual(s) responsible for maintaining the efficient conduct of a national INEX-6 exercise. The Exercise Moderator is responsible for ensuring that exercise play and discussions progress smoothly according to the exercise framework, and that Exercise Players are provided with all necessary technical materials and driving inputs, according to the exercise timeline.
Exercise Evaluator/Recorder	The individual(s) responsible for ensuring that exercise activities in support of exercise objectives are effectively recorded to support the completion of the INEX-6 Exercise Evaluation Questionnaire and any other exercise reporting.
Exercise Observer	Individuals invited to observe the exercise with no responsibility to contribute to exercise play or organisation.

The NEA provided support throughout the planning process, including preparatory briefings, guidance documents, scenario materials and module slide decks, as well as common evaluation tools. Together, these resources provided a shared technical basis that NPCs could adapt to national conditions, as needed. Some countries adapted the map to real national locations, as illustrated in Figure 2.4: France (upper left), Australia (upper right), and Ireland (lower panels).

INEX-6 exercises were conducted between January and April 2024, and evaluation questionnaires were submitted by 31 May 2024.

Figure 2.4. **National adaptations to INEX-6 scenario**



Evaluation framework

A key aspect of INEX-6 was the development of a standardised **Exercise Evaluation Questionnaire**, designed to gather both qualitative and quantitative data across all participating countries. The questionnaire included generic questions on recovery governance, reference levels, stakeholder engagement, international co-ordination and training, and module-specific questions addressing the core themes of each exercise component.

Evaluation focussed on:

- Current national capabilities and gaps;
- Legal and regulatory arrangements;
- Capacity for stakeholder engagement;
- Interoperability with international standards and support mechanisms;
- Opportunities for improvement in planning, training and co-ordination.

All responses were treated on a no-fault basis, anonymised and aggregated to enable international comparison and trend analysis. The full questionnaire is provided in Appendix C.

Additional evaluation activities

Beyond the collection of questionnaire responses, INEX-6 incorporated structured opportunities for direct dialogue and contextual reflection. These activities were essential for capturing insights that cannot be fully conveyed through standardised reporting alone.

To this end, the NEA convened a dedicated Topical Session on INEX-6 during the 49th Meeting of the Working Party on Nuclear Emergency Matters (WPNEM-49) in October 2024. This session brought together representatives from participating countries to share preliminary observations, clarify interpretations and highlight emerging cross-cutting issues across the modules. These discussions provided a richer understanding of national experiences and helped facilitate the interpretation of questionnaire responses within their proper context. As many countries emphasised, formal questionnaires offer only a snapshot of national recovery arrangements; much of the value of INEX-6 lies in the nuanced discussions, challenges, and reflections that occur during and after the exercise itself.

Further analysis and strategic reflection took place during the 83rd meeting of the Committee on Radiological Protection and Public Health (CRPPH-83) in March 2025. Here, the consolidated findings of INEX-6 were presented and discussed with senior policy and technical representatives. This high-level dialogue enabled member countries to consider the broader implications of the exercise and identify areas where additional NEA support, harmonised guidance or future work might be needed.

Finally, the NEA held the INEX-6 recovery workshop “Enhancing Preparedness for Recovery: From Exercise to Action through INEX-6 Insights” on 3 and 4 November 2025, alongside the 50th WPNEM meeting, hosted by the Autorité de Sûreté Nucléaire et de Radioprotection (ASNR) in Fontenay-aux-Roses, France (NEA, 2025). Through plenary, panel and breakout discussions, participants reviewed consolidated INEX-6 findings, exchanged practical experience, and identified priorities and next steps to strengthen recovery preparedness. The detailed workshop outcomes and conclusions are presented in Chapter 5 of this report.

Together, these sessions formed a critical component of the INEX-6 evaluation process, enriching the comparative analysis presented in the following chapters of this report.

Assumptions and limitations

- **No-fault, non-operational:** not real-time; no deployment of resources/personnel; emphasis on arrangements and decision pathways.
- **Semi-quantitative scenario:** values sufficient to drive discussion; national authorities could substitute domestic parameters.
- **Scope boundary:** INEX-6 does not cover every recovery aspect nor prescribe a single approach; it is intended to surface strengths, gaps and options.
- **Comparability:** a common scenario improves comparability, but differences in national governance and terminology affect how questions were interpreted.

Data governance and confidentiality

Questionnaire data were collected through national channels and submitted to the NEA for aggregation. Individual country responses were anonymised in the international analysis. Qualitative inputs were synthesised to extract trends while avoiding attribution to specific organisations or individuals. Any country-specific examples presented later were reviewed and approved by national representatives before publication.

Chapter 3. Summary of evaluation results

This chapter consolidates evaluation results from INEX-6 across all participating countries and economies. It draws primarily on the common Evaluation Questionnaire, complemented by national reports and exchanges during WPNEM-49. Chapter 3 reports results and observed patterns, good practices are consolidated in Chapter 4, and priorities for improvement are presented in Chapter 5. Responses were anonymised and analysed on a no-fault basis.

Readers should bear in mind several limitations: the scenario was semi-quantitative and designed to stimulate discussion; some terms (e.g. “reference level”, “lead organisation”) were interpreted differently across governance systems; and not all questions were answered by all respondents. Percentages therefore reflect the number of responses to each question. Where relevant, interpretation differences are noted, along with areas requiring follow-up work. Comparisons are made only at the level of common trends across participating countries and economies.

For ease of reading, this chapter uses “participating countries and economies” when referring to the national entities taking part in INEX-6, and “respondents” when referring specifically to questionnaire responses.

The chapter is organised as follows: the first section profiles participation and module uptake; the following sections summarise cross-cutting arrangements and capacities, reports module-specific results and synthesises overarching findings.

INEX-6 participants and module engagement

INEX-6 involved 26 participating countries and economies, including 18 with nuclear power programmes and 8 without. This diverse participation enabled broad comparison of long-term recovery preparedness across different national contexts.

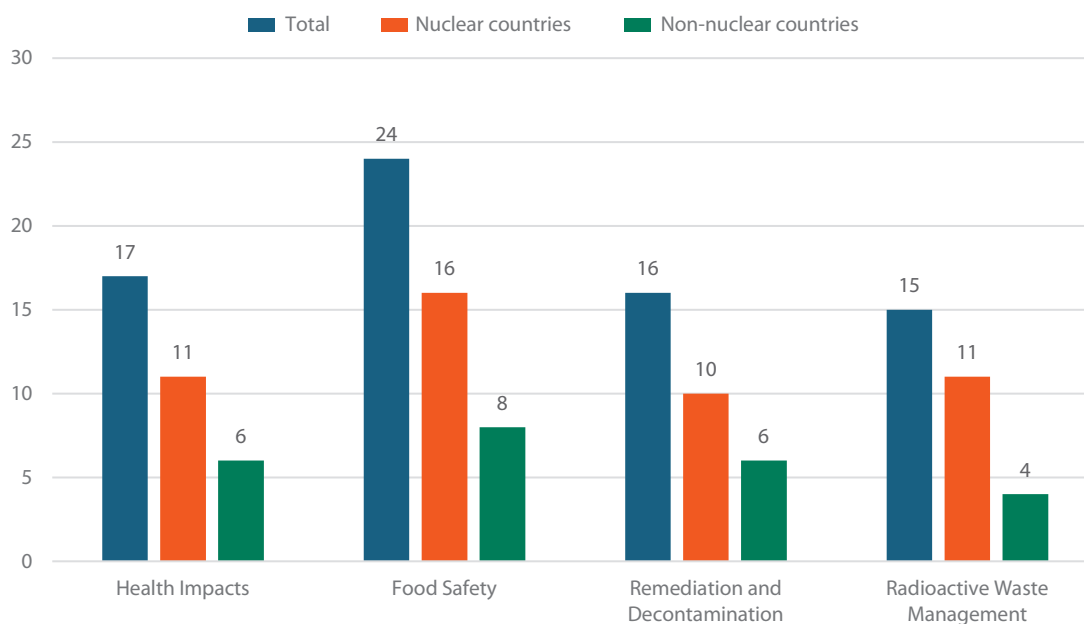
Table 3.1. **Participating countries and economies, and modules selected**

Australia (1,2,3,4)	Hungary (1,2,3,4)	Slovak Republic (1,2,3,4)
Austria (1,2,3,4)	Ireland (1,2)	Slovenia (1,2,3,4)
Belgium (2)	Italy (2,3)	Spain (2,4)
Canada (1,2,3,4)	Japan (2)	Sweden (1,2,3,4)
China (People’s Republic of) (1,4)	Korea (1)	Switzerland (1,2,3)
Czechia (2,3)	Netherlands (2)	Chinese Taipei (2)
Finland (1,2,3,4)	Norway (1,2,3,4)	United Kingdom (1,2,3,4)
France (2,4)	Poland (1,2)	United States (1,2,3,4)
Germany (1,2,3,4)	Portugal (2,3)	

Note: Numbers in parentheses indicate the INEX-6 modules selected: (1) Health Impacts; (2) Food Safety; (3) Remediation and Decontamination; (4) Radioactive Waste Management.

The exercise was structured around four modules, with countries selecting one or more of these thematic areas according to national recovery priorities: Health Impacts; Food Safety; Remediation and Decontamination; and Radioactive Waste Management. Participation varied across modules.

Figure 3.1. **INEX-6 participation by module**



Each National Exercise Organiser (NEO) convened a multiagency planning team and involved organisations across national, regional and local levels, including radiological and nuclear regulators, and technical support organisations; public health authorities and healthcare providers; agriculture and food safety agencies; environment and water authorities; civil protection and emergency management; interior or home affairs, customs and trade, and foreign affairs; transport and policing; radioactive waste operators; laboratories and monitoring networks; local authorities and municipalities; critical infrastructure operators; and industry bodies. Sessions involved standard exercise roles (Moderator, Evaluator/Recorder, Players, Observers), were delivered in person, virtually or in hybrid formats, and concluded with structured debriefs that informed completion of the common questionnaire. Participation levels varied; some countries convened several hundred participants across multiple modules, leading to cumulative engagement numbering in the thousands across all participating countries and economies.

According to the feedback received in the evaluation questionnaire, all participating countries found the exercise useful and the materials sufficient, and 84% indicated that they would repeat the exercise.

Cross-cutting results

Cross-cutting results are presented for the following areas: legal and policy frameworks, governance, capacity and resources, international co-ordination, reference levels, stakeholder engagement, public communication and education/training. Results are expressed as proportions of respondents per question. This section provides an overview of system-level strengths and gaps that cut across modules; module-specific nuances follow in Section 3.3.

Framework for recovery

A majority of respondents, 17 of 26 (65%) reported having a national recovery framework or strategy in place for nuclear or radiological emergencies, though not all have made theirs publicly available. Among the 17 respondents reporting a recovery framework, 14 (82%) indicated that a publicly available version exists,

while 3 (18%) reported that their framework is internal or otherwise not publicly accessible. However, it was observed that only a few respondents have developed a detailed, standalone recovery framework; the majority have incorporated recovery measures into broader emergency response frameworks or off-site emergency plans.

Recovery legislation

For recovery legislation, 21 of 26 respondents (81%) reported having such legislation in place. However, 16 countries (63%) indicated that they do not have legal mandates requiring recovery exercises. Additionally, significant variations in how respondents approach recovery policies and legislation were observed. While some have well defined legal frameworks mandating recovery plans, others rely on policy guidance rather than enforceable laws. This suggests that recovery preparedness is often driven by planning obligations, with exercising and validating more commonly occurring on a voluntary or ad hoc basis.

Differences were also observed in the allocation of responsibilities across levels of government. In some countries, recovery planning was established through a national legal framework, whereas in federal systems responsibilities were more often delegated to state or local authorities.

Another key finding is that 14 of 25 (56%) respondents recognise the need to develop a recovery plan, with some actively working to strengthen their policies in line with international best practices.

Organisation structures

Among the respondents, 20 of 26 (77%) indicated that they have a designated lead organisation responsible for managing the recovery phase. National governance structures are generally well defined, while local and regional arrangements vary significantly.

Capacity and resources

Among the respondents, 18 of 26 (69%) indicated that they have identified baseline resources for recovery though the level of detail of the planning efforts varies. For a recovery event of the scale explored in INEX-6, arrangements to scale up capacity were described, but these varied significantly by module and national context.

International co-ordination

Among the respondents, 21 of 26 (81%) reported having agreements with neighbouring countries for recovery assistance. These agreements vary in scope; while some conduct regular exercises, others activate them as needed.

Many indicated that they would consider requesting assistance through the IAEA's Response and Assistance Network (RANET) for recovery operations, which was developed under the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (IAEA, 1986a). However, concerns were raised about RANET's capacity, as it is primarily designed for assistance during the emergency response phase. Respondents indicated that assistance would primarily be needed for remediation and decontamination issues.

Most reported using the IAEA's Unified System for Information Exchange in Incidents and Emergencies (USIE) for information exchange, which was developed under the Convention on Early Notification of a Nuclear Accident (IAEA, 1986b). Within the European Union, ECURIE provides arrangements for early information exchange (87/600/Euratom).

Reference level

Among the respondents, 20 of 25 (80%), indicated that they have established reference levels to be applied during the recovery phase, that is, for managing residual public exposure in an existing exposure situation. Respondents that have established such reference levels generally align them with International Commission on Radiological Protection (ICRP) recommendations (ICRP, 2007; ICRP, 2009), typically within the range of 1 to 20 mSv per year, while others do not set explicit reference levels but provide guidance instead.

Factors influencing the determination of reference levels commonly include health considerations, social impacts and economic implications. Some countries base their reference levels on national regulations, while others adopt international standards. This variation suggests differences in national priorities and risk management strategies in radiation protection.

No respondent reported a mechanism for adopting public reference levels above 20 mSv per year during the recovery phase. Occupational exposure of recovery workers should be considered separately under the applicable worker protection arrangements and was not the main focus of this question.

Stakeholder engagement

While most responding countries and economies have established stakeholder engagement mechanisms for the recovery phase following a nuclear or radiological emergency, approaches vary widely. For example, some rely on state and local governments for communication and decision making, while others use national frameworks or take a more flexible approach. Fewer than half of respondents, 10 of 25 (40%), reported using a co-expertise process, involving affected communities in decision making, though implementation details are often lacking. Co-ordination structures also differ, with some countries working through government agencies while others engage multiple stakeholders based on the situation.

A common trend is the integration of both radiological and non-radiological specialists in decision making, ensuring that social, economic, and health impacts are considered alongside radiation risks.

Public communication

There was significant variation among respondents in public communication preparedness. Just over half, 14 of 25 (56%), reported the absence of a dedicated communication strategy for the recovery phase. In many cases, existing communication strategies are designed mainly for the response phase. Those reporting a recovery-phase communication strategy provided additional details, including references to national emergency websites and the integration of recovery communication into broader crisis management frameworks.

While the majority of respondents, 23 of 25 (92%), reported having national-level co-ordination mechanisms for public communication, the qualitative responses provided limited detail on arrangements for international audiences. Many respondents, 15 of 25 (60%), have a designated crisis communication agency, but some lack designated spokespersons, which could affect effective public messaging during emergencies.

Education and training

Among the respondents, 17 of 25 (68%) indicated that they do not provide training courses related to the recovery phase.

For methods of public education regarding ionising radiation and nuclear emergencies, the responses reveal a diverse approach, including publicly accessible guidance, online information, webinars, national campaigns and printed materials such as leaflets. Some responses suggest a multi-channel approach, leveraging digital and traditional media to reach different audiences. The dataset suggests that while some countries have structured educational initiatives, others rely on general emergency preparedness information that may not specifically address nuclear or radiological concerns.

A defined strategy to inform members of the public about how best to protect themselves in the recovery phase was reported by 11 of 25 respondents (44%), reinforcing the finding that recovery-specific preparedness is less developed than immediate-response communication in many countries.

The following section presents the module-specific results of the survey.

Module-specific results

This section identifies trends, inconsistencies and key results from all the survey responses presented by module (Health Impacts, Food Safety, Remediation and Decontamination, and Radioactive Waste Management). The corresponding questions and figures are referenced in the Appendix C of this report, and a small number are reproduced in this chapter for readability. Country-level inputs are anonymised.

Percentages are calculated based on the respondent base for each question, as described at the start of this chapter.

Module 1: Health Impacts

The information provided by the 17 participating countries and economies for module 1 on Health Impacts are presented here. The module covered three themes:

- M1-1 Health status.
- M1-2 Medical follow-up and surveillance.
- M1-3 Mental health and psychosocial support.

To frame the discussion, the Module 1 exercise materials (referenced in Appendix B) assigned *illustrative* emergency-phase effective dose bands to ZIP codes/postal districts and provided corresponding estimates of the resident, worker and vulnerable populations present at the time of the incident (which occurred mid-morning, with pupils and staff in schools and employees at workplaces, alongside populations in transit). Under the default scenario assumptions, evacuation on the day of the accident was triggered by projected emergency doses exceeding 30 mSv; a subsequent relocation decision point was introduced following environmental monitoring, where elevated ground shine dose rates ($>5 \text{ mSv yr}^{-1}$) were identified during the first year. Participants were invited to apply their national thresholds while keeping the population scale comparable.

Against this backdrop, the module questions examined arrangements to:

- implement and sustain long-term dose assessment, screening and registries for affected populations (including non-radiation workers and vulnerable groups),
- define medical follow-up, and surveillance pathways and capacity for individuals requiring enhanced follow-up,
- integrate mental health and psychosocial support (MHPSS) for evacuees and host communities, including decision bases for continuing or lifting evacuation/relocation one year into recovery.

The scenario also assumed disruption to local health and care infrastructure within the affected area (including the evacuation of patients/residents and closure of some facilities), reinforcing the need to consider continuity of care, referral pathways and surge capacity, alongside radiological follow-up.

Table 3.2. **Illustrative emergency-phase dose bands and affected population**

Emergency-phase effective dose band	Area (km ²)	Residents	Households	Businesses	Estimated workers
0.5-3.0 mSv	104.6	44 030	19 022	2 960	44 400
3-10 mSv	26.7	3 529	1 491	258	3 870
10-30 mSv	6.0	1 877	751	160	2 400
30-100 mSv	0.3	766	356	34	510
100-300 mSv	0.3	638	280	11	165
Grand total	137.9	50 840	21 900	3 423	51 345

Table 3.3. **Illustrative evacuation cohort**

Category	People
Resident evacuees	1 404
Business/workers evacuees	675
Vulnerable evacuees	615
Total	2 694

Note: Cohort defined for day of accident, $>30 \text{ mSv}$.

M1-1: Health status

The questionnaire explored the existence of national dosimetry programmes, the availability of resources for population monitoring and for individuals having received high doses, as well as the existence of dedicated databases for record-keeping. It furthermore probed the types of organisations that are responsible for record-keeping, the type of information recorded, any long-term health monitoring arrangements and associated strategies. Findings also yielded information about key health indicators, and specialised medical indicators for affected populations and highly exposed individuals that various countries used.

Trends

The trends identified are linked to the figures found in the Appendix C and summarise the information that was provided by respondents. The information provided included qualifying statements and limitations that existed within the dosimetry programmes, resources and healthcare programmes.

To assess existing arrangements for occupational dose monitoring during recovery, countries were asked whether they had established dosimetry programmes for radiation workers. Of the 17 countries that responded, 11 (65%) reported that such programmes were already in place (see Figure 3.2).

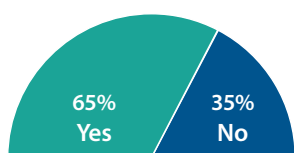


Figure 3.2. Countries that have a national dosimetry programme

Additional context:

A “radiation worker” is typically an individual who works in a licensed facility and whose radiation dose is monitored through a formalised dosimetry programme required by law.

A “non-radiation worker” in the context of a nuclear or radiological emergency is an individual who may be occupationally exposed to radiation, such as a first responder, but who is not normally covered by a formalised dosimetry programme. Members of the public may also be exposed to radiation, but are not occupationally exposed.

Several respondents indicated that existing occupational dosimetry arrangements could, to some extent, be adapted or extended to support the monitoring of non-radiation workers or affected populations in the context of a nuclear or radiological emergency. At the same time, respondents identified important limitations, including legal mandates, staffing, laboratory capacity, bioassay capability and in vivo monitoring capacity. Of the 11 countries that reported having a national dosimetry programme for radiation workers, 8 (73%) indicated that they would have sufficient resources to monitor the exposed population in the exercise scenario, although often with caveats.

Several countries also noted that personal dosimetry would not necessarily be the most practical approach for monitoring members of the public in a long-term recovery context. Instead, public exposures would often be better estimated using environmental measurements and dose modelling, which may be less resource intensive. Some inconsistencies in how respondents interpreted this question were also identified and are discussed in the following section.

A separate question asked whether countries had dosimetry programmes specifically for highly exposed individuals. In response, 8 of 17 countries (47%) reported that such arrangements were in place, while 9 (53%) reported that they were not. Reasons cited by respondents without such arrangements included the absence of formal programmes, the separation of healthcare and radiation protection responsibilities across different authorities, and limited resources to extend existing occupational arrangements beyond their current mandates.

Of the 8 countries that reported having dosimetry arrangements for highly exposed individuals, 7 indicated that they would have sufficient resources to monitor several high-dose cases in the exercise scenario. However, several respondents noted that this assessment was based on the assumption that the number of such cases would remain limited.

Figure 3.3 shows that 16 of the 17 responding countries (94%) reported that they did not have a dedicated database to register and track dosimetry results for affected populations. The detailed responses nevertheless suggest that, in some cases, existing

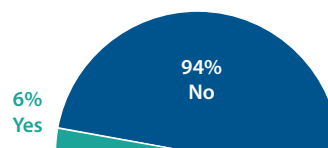


Figure 3.3. Countries that have a dedicated database to register and track dosimetry results of the affected population

occupational databases could be adapted to record doses for affected populations and other individuals in the context of a nuclear emergency. At the same time, respondents raised concerns related to data management and privacy requirements. Limited information was provided on the potential functions and governance of such databases, including whether they would cover non-radiation workers and what information would be needed to populate them.

More than half of respondents, 9 of the 17 countries (53%), also reported that they did not have specific arrangements in place for long-term health monitoring of populations affected by nuclear or radiological emergencies (see M1-Q1.4 in Appendix C). A common theme across both positive and negative responses was the decentralisation of responsibility. Several respondents noted that responsibility for long-term health monitoring would often fall to regional governments or health authorities.

Several respondents indicated that long-term health monitoring arrangements could be developed by building on existing health programmes, such as cancer screening and mental health support. Two respondents stated that such arrangements would be established on an event-specific basis, noting that their current legal framework requires long-term health monitoring of populations within the emergency planning zone (EPZ).

Commonly identified health indicators for long-term population monitoring included a combination of radiation-specific and general health metrics. Radiation-specific indicators included monitoring for symptoms potentially associated with radiation exposure, such as fatigue, weight loss and night sweats, as well as for specific radiation-related outcomes, including lymph node abnormalities, cancer markers and abnormal blood test results, such as complete blood counts and chromosomal assays. In scenarios involving radioactive iodine, thyroid screening would form part of the emergency response and would be offered particularly to the critical group, notably persons under 18 years of age. More than one third of respondents noted that psychological health, in addition to conventional radiation-related indicators, would be an important component of long-term health monitoring. However, while recognising its importance, they did not report having specific psychological health screening indicators for people exposed to radiation.

General health indicators considered relevant for long-term health surveillance included routine monitoring of reproductive, immune, digestive, respiratory and cardiovascular health. Some respondents also indicated that such programmes could include the monitoring of bone density and tumour markers.

Respondents also provided additional information on the specialised medical indicators that would be used for individuals exposed to higher radiation doses (above 100 mSv).

Inconsistencies

Although 11 of the 17 respondents (65%) reported having established dosimetry programmes for radiation workers, responses revealed important differences in scope, coverage and preparedness for emergency situations. In particular, national approaches differed in how they defined occupational exposure and distinguished between radiation workers and non-radiation workers, such as first responders.

Several respondents indicated that existing occupational dosimetry programmes could be extended to cover non-radiation workers in an emergency. However, not all had formal arrangements in place to do so, particularly for affected populations beyond those normally considered occupationally exposed. Even where such extensions were considered possible, implementation was often described as subject to significant capacity constraints.

Responses also differed in how the capacity to monitor the exposed population was understood. Some respondents referred to direct individual monitoring, such as personal dosimetry, in vivo monitoring, bioassay or biodosimetry, while others referred to dose assessment based on environmental monitoring and modelling. As a result, positive responses do not necessarily indicate sufficient resources for direct monitoring, while negative responses do not necessarily mean that dose assessment would not be possible by other means.

Further inconsistencies were observed regarding the existence of dedicated databases for tracking dosimetry results and the extent to which long-term health monitoring strategies were already in place. Approaches to tracking long-term health effects also varied, reflecting differences in health authority responsibilities and in the indicators used for monitoring, including whether specialised arrangements would apply to highly exposed individuals.

Key results

- Responses varied considerably in scope and level of detail, which limited comparability across countries.
- Countries with national dosimetry programmes generally appeared better placed to support long-term health monitoring of affected populations, although arrangements remained uneven.
- The responses highlighted the difficulty of linking specific health outcomes directly to radiation exposure, pointing to the need for robust assessment methodologies.
- Only one country reported having a dedicated database to track doses for affected populations, including non-radiation workers, during a nuclear emergency. The database is managed by the national health authority and includes personal identifiers, exposure information and source-related data.
- Overall, the findings underscore the need for a comprehensive and systematic approach to long-term health monitoring, covering both physical and psychological health, together with clear follow-up procedures, including laboratory analyses such as blood tests and chromosomal assays.

M1-2: Medical follow-up & healthcare system

In this theme, participants discussed the status of their national healthcare infrastructure relating to the capacity and the capability of providing medical follow-up and longer-term treatment of affected populations. Key factors explored were the ability to screen and treat the affected populations by having available, dedicated medical centres/ hospitals with radiation expertise including adequate capacity of trained medical professionals. Participants were also asked about the existence of any strategic plans for surge capacity to increase the number of trained personnel and facilities for the screening, and treatment of affected individuals.

Trends

A majority of the respondents, 12 of the 17 countries (71%), reported that their current healthcare system could support the long-term healthcare needs of exposed individuals, while 1 country (6%) was unsure (see M1-Q2.2 in Appendix C). The remaining 4 countries (23%) reported that their healthcare systems would be unable to support the long-term healthcare of exposed individuals.

The 12 countries that responded positively reported having at least one designated hospital or medical treatment facility with specialised staff trained in radiation protection or radiation medicine, thereby providing a basis for long-term health monitoring and follow-up of exposed populations (see Figure 3.4). However, several respondents noted that additional resources could still be required to strengthen capacity in affected areas. By contrast, countries that reported not having dedicated medical centres or hospitals with radiation expertise indicated that ad hoc solutions would need to be used for long-term health monitoring.

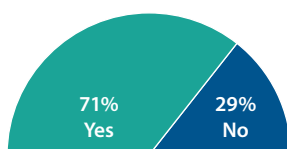


Figure 3.4. Participating countries that have medical centres/hospitals with radiation expertise

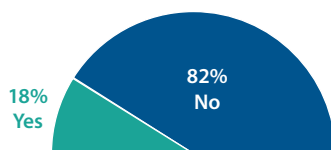


Figure 3.5. Presence of a long-term recovery strategy to address long-term health monitoring and care

These ad-hoc solutions include the training of general practitioners and hospital emergency staff, the triaging of exposed individuals, collaboration between dosimetry programmes and medical centres, and resorting to private sector resources. One country that already had dedicated medical centres with radiation expertise also noted that an event-specific strategy might still be required to manage the long-term monitoring of large numbers of exposed individuals.

Most countries, 14 of 17 respondents (82%), reported not having a clear long-term recovery strategy to address long-term health monitoring and care (Figure 3.5). Five of those respondents further qualified their answers by indicating that such a strategy would be developed on an event-specific basis, either as an extension of existing planning frameworks or on the basis of plans currently under development. Two respondents also noted that specialised medical treatment would generally not be required beyond 12 months for acute radiation health effects, which typically arise at doses of around 1-2 Sv. In their view, longer-term healthcare in the recovery phase would focus primarily on psychosocial support and continued medical surveillance for potential late effects, including increased cancer risk among those identified as most at risk.

In relation to the exercise scenario, responses were evenly split on whether countries had an adequate number of trained medical professionals to provide treatment and screening for affected populations: 8 of the 17 respondents (47%) considered that they did, 8 (47%) considered that they did not, and 1 was unsure (see M1-Q2.4 in Appendix C). Several respondents noted that additional training would be needed to strengthen healthcare capacity, including for mental health and psychosocial support (MHPSS). Of the 8 respondents reporting insufficient numbers of trained medical professionals, 4 (50%) indicated that they had a strategy to train staff or provide surge capacity for medical follow-up (see M1-Q2.4-a in Appendix C). However, 3 of these 4 countries also noted that the strategy had not yet been implemented, while some countries without such a strategy indicated that capacity building was being addressed on an ad hoc basis.

A somewhat larger share of respondents, 10 of 17 (59%), reported having sufficient facilities to provide treatment and screening for affected populations (see M1-Q2.5 in Appendix C), suggesting that facility availability may be less of a constraint than the availability of trained medical professionals. Most positive responses referred to arrangements for the redistribution or repurposing of existing facilities, although some noted that adequacy would depend on the scale and location of the event. Among the 7 countries reporting insufficient facilities, 5 (71%) also reported having no surge-capacity strategy.

Overall, capacity building through training emerged as a recurring theme. Respondents pointed to the need for additional training for general practitioners, specialists and MHPSS personnel, as well as for clearer strategies to expand capacity in the event of a large-scale emergency.

Inconsistencies

Although 12 of the 17 respondents (71%) reported having dedicated medical centres (see Figure 2.4), these were not always the same countries that reported being able to support the long-term healthcare of exposed individuals (see M1-Q2.2 in Appendix C). Respondents cited several possible reasons for this discrepancy, including limited equipment and facilities despite having at least one specialised centre and sufficient personnel, the absence of scientific guidance for mid- and long-term medical follow-up after emergency exposure, and challenges associated with the 'worried well'. Conversely, three countries without dedicated medical centres nevertheless reported that they would be able to support the long-term healthcare of exposed individuals.

While many respondents considered that existing facilities and staffing could support treatment and screening, some also noted significant challenges in monitoring large populations over time. Reported constraints included limited equipment and facilities, staff burnout and reduced capacity to address other healthcare needs. Some respondents also noted that health insurance systems do not always cover preventive medical measures for non-occupational emergency exposures.

Responses to the question on whether countries had an adequate number of trained medical professionals also revealed differences in interpretation. These included differences in what respondents considered to be an adequate number of trained personnel, how capacity was measured, and the extent to which answers were shaped by assumptions about the size of the affected population in the exercise scenario. Some respondents referred to broader healthcare capacity, such as hospital bed availability, rather than the number of radiation medicine specialists available nationally. Both positive and negative responses also indicated that trained professionals would likely need to be reallocated from unaffected to affected areas.

There were also inconsistencies in how respondents interpreted the question on strategic plans for surge capacity in medical personnel. Some responses referred to established plans, while others referred to measures that would be developed on an ad hoc basis during an emergency. As shown in Figure M1-Q2.4-a in Appendix C, half of the respondents that reported not having enough trained medical professionals to carry out treatment and screening also indicated that they had a strategy to train staff or provide surge capacity for medical follow-up. This suggests that the existence of a strategy does not necessarily mean that it has been implemented or that it would be sufficient in practice.

Key results

- Sustained demand could lead to staff burnout and reduce capacity to meet other healthcare needs, as observed during the COVID-19 pandemic.
- In some countries, preventive medical measures for individuals exposed in a non-occupational emergency context are not covered by the health insurance system.
- Strategic plans to address surge capacity through training, staffing measures or facility adaptation remain limited.

M1-3: Mental health and psychosocial support (MHPSS)

This theme examined the existence of a strategy for providing MHPSS for evacuees and their communities, information surrounding the responsible organisations for co-ordinating MHPSS programmes, and the co-ordination between radiation and non-radiation specialists to support affected communities (NEA, 2024a; WHO, 2020). Key factors explored include the objectives of a MHPSS strategy, community engagement, and how these public communications campaigns and/or guidance are used during recovery from a nuclear or radiological emergency.

Trends

Countries were asked whether they had a strategy in place to provide mental health and psychosocial support (MHPSS) for evacuees and their communities. Eleven of the 17 respondents (65%) reported having a strategy to provide mental health and psychosocial support for evacuees and their communities (see Figure 3.6). Of the 6 respondents that did not report having an overall national strategy, 3 nevertheless indicated that they had related guidelines, processes, programmes or other arrangements in place. Two of these respondents provided further detail on those approaches. Of the 11 respondents reporting the existence of a strategy, 10 (91%) were able to provide a link or reference to the relevant document, while 1 noted that the document was for internal use only (M3-Q3.1a, see Appendix C).

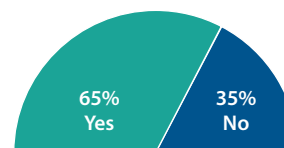


Figure 3.6. Countries that have a strategy to provide MHPSS for evacuees and their communities

Responsibility for co-ordinating MHPSS programmes was divided fairly evenly between national and regional structures, with a smaller number of respondents indicating shared responsibility across both levels (M3-Q3.2, see Appendix C). One respondent noted that this issue had not been discussed during the exercise.

A slight majority of respondents, 9 of the 17 (53%) reported that co-ordination between radiation and non-radiation specialists to support affected communities was already in place (see M1-Q3.3 in Appendix C). Among the 8 respondents that answered negatively, most indicated that such arrangements were under development, could be developed if needed, or would be established only in the event of an emergency. Of the 9 respondents reporting that such co-ordination was in place, 5 provided links to national emergency plans, although only 2 referred specifically to the recovery phase. Some respondents without a dedicated strategy nevertheless referred to existing mechanisms developed for other crises or other phases of a nuclear or radiological emergency that could also be applied in this context.

A small majority of respondents, 9 of the 17 countries (53%), reported having a communication strategy on MHPSS for long-term engagement with affected communities (see M1-Q3.4 in Appendix C). Open communication, consistency, trust-building and public engagement emerged as important principles across many responses. All respondents reporting the existence of an MHPSS strategy confirmed that it would be used during the recovery phase, with adjustments as needed (see M1-Q3.4-b in Appendix C). Seven of these nine countries also provided links to publications describing their strategies.

Most respondents, 10 of the 17 countries (59%), reported not having pre-prepared public advice on MHPSS (see M1-Q3.5 in Appendix C). In most countries, mental health promotion campaigns are typically led by a national health authority, although several respondents also described an important role for regional or local authorities, or shared arrangements across levels of government.

Overall, the organisations involved appear to be integrated within the broader nuclear emergency response framework.

Inconsistencies

Many of the documents provided were only partially relevant to the specific question of whether countries had a strategy to provide MHPSS for evacuees and their communities. In several cases, the referenced sources were broader handbooks, strategies or emergency plans, such as national disaster protection plans or medical care guidance, in which MHPSS for evacuees was mentioned only briefly or remained underdeveloped.

Responses to Q3.2 also varied in how responsibility for co-ordinating MHPSS programmes was understood. Some respondents assigned this responsibility exclusively to governmental authorities at the national or local level, while others referred to a role for non-governmental organisations. In several cases, responses appeared

speculative, reflecting the absence of a clearly designated lead organisation or explicit legal framework, with co-ordination instead expected to be arranged on an ad hoc basis after an incident. Some respondents also noted that this issue had not been specifically addressed during the exercise.

Similar inconsistencies were observed in responses concerning co-ordination between radiation and non-radiation specialists and the use of communication materials during recovery. Of the 9 respondents that answered positively to Q3.3, 4 did not provide a supporting link, and 2 of these explicitly noted that they did not have a separate or fully developed document on the matter. Likewise, 2 respondents that indicated communication campaigns or guidance would be used during recovery stated that they did not have public documents addressing this issue.

A related issue concerns the relevance of the materials provided. Some documents shared as MHPSS strategies, guidance or public advice contained useful information on radiation, its impacts and associated risks, including in emergency situations, and could therefore help to mitigate negative mental health effects. However, these documents did not always correspond closely to the specific question asked. Similarly, only a limited number of the documents provided as pre-prepared public advice on MHPSS in recovery were directly aligned with that purpose. Other materials focussed more broadly on MHPSS in general or on unrelated contexts, such as domestic violence or the COVID-19 pandemic.

Overall, the responses suggest that, although some countries have arrangements or materials that could be applied in recovery, dedicated and clearly documented provisions for MHPSS during the recovery phase remain less consistently established. This is also reflected in the fact that, among the 9 respondents reporting that co-ordination between radiation and non-radiation specialists was already in place, only 2 provided documentation showing that such arrangements were specifically established for the recovery phase.

Key results

- There is a common general understanding that the responsibility for MHPSS is shared among the various levels of government and emergency response organisations/structures.
- There is widespread agreement on the importance of proactive communication strategies.
- In some cases where respondents answered “no,” many noted that existing arrangements, mechanisms, or guidance developed for different purposes could be adapted for this context. Others stated that non-existent arrangements could be established quickly if the need arose.
- Some respondents reported having well-developed MHPSS guides or mechanisms that, while not specific to nuclear recovery, may still be relevant.
- Overall, responses show substantial variability in the key elements identified, both across countries and in the individual answers.

Conclusion

The module shows that countries have important clinical and radiation protection foundations, but these are not yet consistently translated into arrangements for long-term recovery. Extending dosimetry to emergency workers appears feasible in many cases, but is often subject to capacity constraints. Long-term health surveillance remains uneven: strategies and indicators vary, dedicated public dose registries are uncommon, and links between health and environmental data are limited. MHPSS is widely recognised as essential, but relevant provisions are often embedded in general emergency plans rather than in recovery-specific pathways, with variable co-ordination arrangements and unclear responsibility for sustained follow-up.

Module 2: Food Safety

The information provided by the 24 participating countries and economies for module 2 on Food Safety are presented here. The module covered three themes:

- M2-1 Regulatory and Policy Framework.
- M2-2 Quality Assurance.
- M2-3 Trade and Consumer Confidence.

In total, 24 of the 26 participating countries and economies carried out this module, making it the most widely conducted module in INEX-6.

To help interpret the results, Module 2 was framed by an illustrative food-production setting in which agricultural land used for meat and crops had been contaminated (over 500 km²), and longer-term restrictions and radiological criteria now needed to be defined. The scenario also introduced practical drivers for recovery decision making and communication: most production is consumed locally, but some products are well-known nationally and internationally; large retailers temporarily halted sales from the affected area due to low demand and limited reassurance; and some retailers announced “zero contamination” expectations and independent screening programmes. Neighbouring countries and economies were assumed to have no contaminated food.

Against this backdrop, the module examined how countries and economies would (i) establish the legal basis and radiological criteria for maintaining, adapting and lifting restrictions on production, supply, trade and consumption; (ii) set up and resource long-term monitoring and screening programmes (including quality assurance, surge capacity and the handling of independent screening); and (iii) manage trade and consumer confidence, including the interface between domestic criteria and international standards, and the operation and termination of compensation arrangements.

Table 3.4. **Illustrative food product activity levels used in Module 2**

Products	Activity *1,2 (after the release) [Bq kg ⁻¹]	Activity *1,3 (1 year later) [Bq kg ⁻¹]	Consumption characteristics
Crop 1	< 350	Below detection limit	The third-largest producer in the country/economy
Crop 2	< 400	Below detection limit	Consumed locally
Crop 3	< 800	< 120	Consumed locally
Crop 4	< 550	< 40	Well known nationally and internationally
Animal 1	< 1 800	< 20	Consumed locally
Animal 2	< 700	Below detection limit	Consumed locally
Animal 3	< 2 300	< 50	Well known nationally and internationally

Note: Values are illustrative inputs from the exercise materials. “<” indicates a generic guide value (not a limit of detection). *2 and *3 indicate illustrative radionuclides (e.g. Cs-134, Cs-137 and others) as provided in the materials.

M2-1: Regulatory and policy framework

The first theme of the Food Safety module concerned regulatory and policy frameworks in the participating countries and economies. The questions included whether respondents have a legal basis for implementing restrictions on consumption, delivery, or production of contaminated food impacted by the radiological accident. Also, what criteria have they applied to evaluate food safety and the need for modifying or lifting restrictions, including values (comparing default vs. exercise criteria). Furthermore, do they have procedures in place to supply the community with alternative foods in the long-term, and strategies/processes for maintaining the trust of the population and businesses, in the measures taken to ensure the safety of food supplies?

Trends

All respondents (100%) confirmed they have a legal basis for maintaining and/or lifting of restrictions related to the consumption, delivery and production of food. In European countries (18/24 respondents), this legislation is almost always based on the European Atomic Energy Community (CEEA or EURATOM), supplemented in some cases by national legislation (sometimes not nuclear-specific). However, some countries suggested that certain provisions – and in particular criteria – could be adapted during a crisis. Finally, most countries reported having a designated agency or organisation that was dedicated to food management, to implement the provisions.

Most respondents, 20 of 24 (83%), had a default national radiological criteria and food specific regulations. Most of them, 19 of 24, (79%) (Figure 3.7) have also applied these default criteria to INEX-6. Some European

respondents, whether they responded that they had applied the default criteria or not, specified that the EURATOM criteria may be waived in the event of a crisis at the request of the affected country, based on scientific criteria and parameters such as the type of population, the diet, social factors, etc. The default criteria could thus be revised upwards or downward in order to increase public confidence. Indeed, the EURATOM Regulation itself provides for a review of the criteria within three months of an event.

There is also reference to environmental or population safety regulations in the event of a radiological incident, as well as distinctions between emergency and recovery phases, and potential restrictions on international trade.

A large portion of the respondents, 15/24 (63%) (see M2-Q 1.4 in Appendix C) indicated having procedures in place to supply communities with alternative foods in the long-term. These procedures included:

- the release and distribution of emergency food stocks and other strategic reserves;
- substitution of unavailable foodstuffs with equivalent alternatives;
- the mobilisation of food and other resources from unaffected areas, including increased production or sourcing from those areas
- the use of alternative domestic supply and distribution routes;
- increased imports, additional purchases from abroad and emergency food-supply agreements with other countries;
- assistance from non-governmental organisations and food banks and, where necessary, the relocation of affected populations to areas where supplies were available.

Among respondents that do not have such procedures, some indicated that plans may exist locally (i.e. industries, local communities). Some countries concluded that, in any case, the INEX-6 scenario would not necessitate the provision of substitute foods.

All respondents reported having strategies to maintain the trust of the population and of businesses in the food supply. These strategies often relied on measurements, which should be publicly published and surveyed. Various communication channels would be used for information, as well as education (popularisation of science): social media, TV, radio, press, brochures and public meetings with local communities (a network for this already exists in several countries). Engagement of consumers, but also of producers, industry and suppliers, are also a part of these strategies. The importance of traceability was also emphasised. And the importance of involving the affected communities in managing the situation in the recovery phase was noted as good practice. Community engagement would increase public confidence and ensure that affected individuals are aware of the restrictions in place and how to manage the food they consume. The possibility for consumers to self-monitor their food was also mentioned.

Inconsistencies

Use of legislation for controls is mostly effective but inconsistent, with variation in the basis for the application of controls. Some countries do not have specific arrangements in place for a radiological scenario but do have alternatives that could be used as in the case with other hazards or disasters. For consistency a composite plan with acknowledgement of how to control food safety for a radiological event would aid understanding of likely trade issues.

The major findings regarding inconsistencies concern criteria and organisation, for instance across responding countries and economies, there is no consensus about the criteria to use. There is a mixed use of Maximum Permitted Levels (MPLs), dose-based criteria and Operational Intervention Levels (OILs). Some countries use the CODEX criteria and others use their own domestic criteria. In Europe, the consensus appears to be to use the EURATOM values as criteria.

There was considerable variation among the respondents in the allocation of roles and responsibilities for managing food restrictions. As with other modules, there is a clear difference between centralised and decentralised countries. In countries with decentralised governance structures, responsibilities were distributed

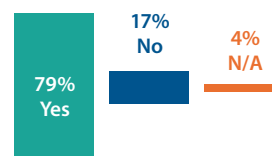


Figure 3.7. Countries whose criteria applied in this scenario are the same as the default national criteria

across national, regional and local authorities, and arrangements for involving organisations and stakeholders varied between jurisdictions. Respondents also described diverse routes of communication utilised for sharing information regarding measures taken for ensuring the safety of food supplies.

Key results

- Respondents highlighted the potential for stress on food supply chains, noting that many countries might rely simultaneously on imports during recovery, which could contribute to wider disruption.
- Several countries also noted that monitoring and analytical programmes are important not only for decision making, but also for building trust and reassurance. In this context, respondents described links between monitoring results and communication strategies aimed at reassuring the public.
- In many responding countries and economies, nuclear and radiological food safety is addressed as part of a broader food safety strategy rather than through a separate framework.
- Most countries reported using domestic criteria to set food restrictions. A broad distinction emerged between EU countries, where regulations are generally more consistent, and countries in other regions, where greater variation was reported.
- Respondents recognised the importance of CODEX standards for international trade, while also noting that countries may set domestic levels based on national circumstances. At the same time, significant divergence from CODEX standards may be perceived as a non-tariff barrier.

M2-2: Quality assurance

The questionnaire explored quality assurance procedures related to food safety, including long-term monitoring and screening programmes. Questions included whether the participating countries and economic areas have long-term food strategies following a nuclear or radiological emergency that are co-ordinated as part of their nuclear emergency response structure. Also discussed was whether they have sufficient resources, personnel and equipment to monitor and screen food products based on the scale of contamination. Moreover, whether or not they would authorise independent or government screening programmes was covered.

Trends

More than half of the respondents, 14 of 24 (58%), indicated they have a long-term safety strategy following a nuclear/radiological emergency (Figure 3.8), co-ordinated in large part (13 of 14, 93%) as part of their nuclear emergency response structure. Several countries outline monitoring programmes that are specific to radiological incidents, whilst other countries have equivalent infrastructure and frameworks in place for disasters or for peacetime surveillance which could be utilised or expanded.

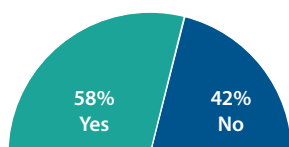


Figure 3.8. Countries that have a long-term food safety strategy following a nuclear or radiological emergency

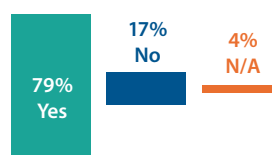


Figure 3.9. Countries whose regulator allows food producers and retailers to implement their own independent food screening programme

A large majority of respondents, 23 of 24 (96%) have an organisation that would conduct their own long-term monitoring after a nuclear or radiological event. All are required to be fully accredited laboratories, with standardised methodologies and appropriate equipment, along with trained personnel. This sets the basis for being robust in comparing levels to limits. Some countries noted the long-term capacity of their laboratories and support from commercial laboratories is uncertain as they must also support other radiation monitoring tasks. Most countries, 18 of 23 (78%) already have processes in place to expand monitoring resources. A number of these expansions would be developed based on the implementation of laws (sometimes requisitions),

mobilisation of public (research laboratories) and private (industry) resources, and agreements with laboratories. Expansions may also involve additional training and additional provision of personnel and equipment. Others with established monitoring programmes also have contracts/structures/systems in place to handle such incidents. Many countries also mention the IAEA RANET network.

Most respondents, 19 of 24, 79% (Figure 3.9), indicated that their national regulators would allow food producers and retailers to implement their own independent food screening programmes. Such programmes would generally supplement, rather than replace, official monitoring and would be expected to follow the methods and criteria established by competent authorities, often using accredited laboratories. Their results could provide preliminary or supplementary information, but regulatory decisions would remain based on official or accredited measurements.

Respondents noted that results from non-accredited laboratories, or differences between official and independent measurements, could undermine credibility and cause public confusion. In such cases, the competent authorities would need to explain the differences, publish validated results and carry out appropriate quality checks to maintain public confidence.

One respondent also indicated that official measurement services could be made available to members of the public wishing to test their own products, as was done after the Fukushima accident. Nevertheless, the use of criteria differing from official requirements would generally be strongly discouraged or prohibited.

Inconsistencies

Six of 24 respondents (25%) (see M2-Q2.3 in Appendix C), indicated that they did not have sufficient resources (equipment and personnel) to implement the monitoring and screening of food products based on the scale of contamination in this scenario. This was largely due to limited resources, trained personnel or the number of measurements the equipment is used for. This may lead to the need to prioritise or seek analysis from independent screening or outside of the respective country, or to build up the needed capacity. However, this could take time and incur additional financial cost. Countries could investigate co-ordination for monitoring and screening of food products.

There is also some discussion about how to overcome capacity limitations in certain countries, such as additional training, collaboration across organisations and international support such as through IAEA's Response and Assistance Network (RANET) or commercial laboratories. However, this could incur additional time or financial cost, and it is not currently clear whether RANET would be available to co-ordinate assistance during the recovery phase of a nuclear or radiological emergency. Clarity on this would be helpful. There may also be a need to further investigate capacity based upon the specific radionuclide to be analysed.

Some limits, not based on risk, are significantly below the CODEX suggested limits and therefore offer serious perception issues, given an inconsistent application and trade impacts, which could trigger restoration delays and reputational damage. Where there are variations in the basis for the application of controls, these should be explained fully in national recovery plans, as not all have such plans. Communication strategies should be thorough and where possible pre-thought. Given that recovery is likely to be a lengthy process, countries may benefit from developing a long-term food safety strategy following a nuclear or radiological emergency. Some respondents indicated that such strategy would be developed during recovery; however, pre-defining certain elements would be advantageous, particularly the resources and analytical capacity that may be required. Seven respondents indicated that they might seek international support or analytical capacity abroad. Simultaneous requests for the same limited resources could therefore create bottlenecks and affect the implementation of planned approaches.

Analysis of the survey responses also noted some countries do not distinguish between response and recovery in food safety plans.

Key results

- Respondents highlighted the potential competition between radiological food samples and non-food samples during recovery, which could place additional pressure on accredited laboratory capacity.
- Respondents also raised questions about how samples would be prioritised if several countries requested international assistance simultaneously, particularly given the potential for capacity constraints and analytical delays across the emergency and recovery phases.

M2-3: Trade and consumer confidence

The final theme of the Food Safety module assessed how issues associated with domestic and international trade would be managed, including building and maintaining consumer confidence. Additionally, international exports were assessed, including the application and acceptance of radiological criteria for food. Questions in this theme covered topics including the legal basis for international trade, compensation, regeneration of trade and campaigns to build consumer confidence, as well as stakeholder engagement in lifting restrictions.

Trends

Most respondents cited a general theme of open, direct, consistent and transparent communication being key when lifting restrictions. It is noticeable that all communication strategies are based on monitoring and publication of measurement results. There is an overall theme of establishing trust through developing a shared, consistent, message and provision of clear information via different routes and stakeholders, as well as using expert advice and educational initiatives, as needed. Restrictions were expected to last several years (e.g. 3 to 5 years) depending upon the impact of the incident. Throughout this period, implementation of communication strategies such as public information campaigns or a marketing plan to target local and international markets, as well as different avenues for communication are also discussed. Examples were given of the expected use of press conferences, call centres, websites, social media and town hall meetings. Communication would be expected with multiple stakeholders, such as producers, public, businesses and local authorities. Formation of various stakeholder groups which government could consult for additional insight should be promoted.

The majority (16 of 23, 70%) (Figure 3.10) of respondents use domestic criteria when exporting food products; EURATOM for trade within the EU, and CODEX for international trade. Figure 3.11 shows that almost half (59%) of the countries responded that their domestic standards were stricter than CODEX, based on specific foodstuffs (e.g. baby food). EURATOM is noted as being, in general, more restrictive than CODEX depending on the radionuclide and the project type.

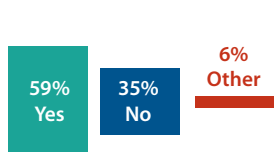


Figure 3.10. Criteria applied when exporting food products outside a country



Figure 3.11. Countries whose domestic criteria is stricter than CODEX standards

Furthermore, 82% (see M2-Q3.4 in Appendix C) of respondents indicated that food imports that pass CODEX standards, but not domestic standards, would not be allowed to enter their country. Moreover, 56% (M2-Q3.5 in Appendix C) of respondents would allow the export of food products that pass the CODEX standards, but not their domestic standards. Restrictions could subsequently be lifted if concentrations in specified foods were lower than these levels, with some countries having the criteria for cancelling such measures laid out in regulations. The lifting of restrictions could be based on risk assessment and monitoring results.

Most countries consider international standards such as CODEX to be the basis or guide for establishing national standards. They can even be used to justify them. In addition, they set the framework for trade between countries (CODEX is established by the WTO). A country therefore considers that CODEX would have quasi-legal value in the event of an accident.

Many respondents noted compensation schemes would be terminated when restrictions are lifted. Termination may be introduced by appropriate legislation, adjustment of emergency ordinances, and, in some instances, advance notice of termination of government schemes may be provided. Most countries do not have detailed pre-established termination procedures; instead, they expect these to be defined during recovery and adapted to the unique circumstances of the event.

Most countries stipulate that the lifting of food restrictions would be based on measurements. If the food contamination is below a certain level (MPL or dose limit), then the restrictions can be lifted. However, two countries mention that the decision should not be made too early, as the level of contamination could increase again depending on meteorological and hydrological conditions and/or transfers from other environmental compartments. For most respondents, compensation to industries would cease at the same time as, or gradually as, restrictions are lifted. In some cases, compensation is said to cease on a case-by-case basis.

Inconsistencies

Not all countries and economies use the same criteria for food exports. Most use domestic criteria, some use CODEX, two would use both CODEX and domestic criteria in their decision process, and one country uses the standards of the destination country, while others would not export if levels exceeded their domestic levels.

Fourteen of 25 respondents (56%) answered “Yes” for having a compensation scheme or procedures to support the food industry in the event of food restrictions (Figure 3.12). Other respondents referred to the polluter-pays principle, or have acts or laws that allow the release of funds in response to catastrophic events or emergencies; these arrangements were not necessarily specific to nuclear accidents.

The definition of what routine monitoring is compared to what is considered post-incident ongoing monitoring, needs to be further clarified. Both are likely to be long-term food safety monitoring but with different drivers. They would also impact decision making for the lifting of restrictions. The gradual lifting of restrictions and ensuring the restoration of proper production and trade in affected areas would be an important consideration. Compensation may continue until consumer confidence and/or market share in international markets was ensured at a sustainable level. Having a clear strategy in advance for how a country expects to lift restrictions would be beneficial for planning purposes.

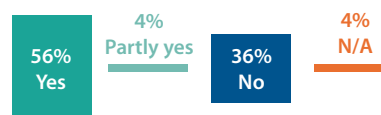


Figure 3.12. Countries that have a compensation scheme/procedure to support the food industry in the event of food restrictions

Key results

- Although CODEX provides an international standard, the use of a range of other food marketability criteria suggests that it often serves more as a reference point than as the sole basis for decision making. Notably, 82% of respondents indicated that food imports meeting CODEX standards, but not domestic standards, would not be allowed to enter their country.
- Monitoring programmes are essential to support the lifting of food restrictions.

Conclusion

This module shows that legal authorities and broad arrangements for imposing, adapting and lifting food restrictions are generally in place. In practice, however, the effectiveness of these arrangements depends heavily on monitoring and analytical capacity, including the availability of accredited laboratories, trained personnel, and clear prioritisation for sampling and analysis. This is particularly important in recovery, where food controls may need to be maintained over prolonged periods and may remain among the most visible measures for affected communities, producers and markets.

This exercise also highlighted that communication and stakeholder engagement are central to maintaining confidence in the food chain. Transparent use of monitoring results, clear explanation of criteria, and sustained engagement with producers, retailers and consumers are essential to support both compliance and the gradual lifting of restrictions. At the same time, the coexistence of different food criteria, including domestic standards, EURATOM arrangements and CODEX guidance (Council Regulation [Euratom], 2016; Codex Alimentarius Commission, 1995), can complicate decision making, create trade frictions and increase communications challenges.

Overall, this module suggests that food safety arrangements are relatively well developed in principle, but that their implementation in recovery depends on sustained monitoring capacity, coherent communication, and clearer approaches to managing differences in criteria across jurisdictions.

Module 3: Remediation and Decontamination

This section summarises the national reports for Module 3: Remediation and Decontamination, and covers three themes:

- M3-1: Regulatory and policy framework;
- M3-2: Identification of remediation goals and remedial actions;
- M3-3: Implementation of remedial actions.

In total, 16 of the 26 participating countries and economic areas responded to this module (62%).

To support interpretation of the results, Module 3 was framed by an illustrative contamination footprint in which restrictions and access controls remained in place, and only limited remedial action had been undertaken to date. The module materials provided indicative contamination bands (by area), together with contextual information on land use, radionuclide composition and the location of critical infrastructure, to support discussion of feasibility, prioritisation and resourcing. Key illustrative scenario information used to frame the module is summarised in Table 3.5.

The scenario also proposed four illustrative remediation strategy packages (Strategies 0–3), ranging from a “do nothing” baseline to progressively more intensive options. To support structured comparisons, the exercise materials provided a summary of the main actions in each package (Table 3.6) and indicative, relative comparative constraints (Table 3.7) (e.g. waste generation, worker dose, residual dose, effort and cost). These packages were used to prompt discussion on the definition of remediation goals and end points, option selection and optimisation, and practical implementation considerations (including monitoring of effectiveness and interfaces with waste management).

Table 3.5. **Illustrative contaminated area by contamination band**

Contamination band (kBq m ⁻²)	Area (km ²)
1-10	365.51
10-100	137.99
100-1 000	17.68
1 000-10 000	1.72
10 000-100 000	0.12
> 100 000	0.02
Grand total	523.04

Table 3.6. **Illustrative remediation strategy packages used in Module 3**

Strategy	Characterisation (scenario)	Remedial actions included in the package
Strategy 0 – “Do nothing”	No remediation; maintain restrictions	Restrictions and control of access remain in place Residents and businesses are not permitted to return
Strategy 1	Light actions (limited disruption)	Hosing down walls, roofs and roads Vacuum cleaning of interior surfaces Grass cutting and plant removal Restrict access
Strategy 2	Intermediate actions (more extensive)	High-pressure hosing walls, roofs and roads Washing interior surfaces Grass cutting Cover with clean soil Plant and tree removal and replacement Restrict access
Strategy 3	Intensive actions (highest disruption/resources)	Peelable coatings Roof replacement; road removal Washing interior surfaces Mechanical topsoil and turf removal and replacement Plant and tree removal and replacement Manual digging Restrict access

Note: The strategy packages are illustrative inputs provided in the exercise materials for discussion purposes only.

Table 3.7. **Illustrative comparative constraints used in Module 3**

Results	Strategy 0 ("Do nothing")	Strategy 1	Strategy 2	Strategy 3
Total amount of waste produced (relative)	0	Lowest amount (M)	Intermediate amount (4×M)	Highest amount (8×M)
Max dose to workers (relative)	0	Lowest dose (D)	Intermediate dose (3×D)	Highest dose (10×D)
Individual maximum effective dose in the area of interest during a defined integration period (ED)	Highest dose ED (ED>20)	Intermediate dose (ED/5)	Lowest dose (ED/10)	Low dose (ED/12)
Total amount of work required for implementing the countermeasure strategy in the area of interest (relative)	0	Lowest amount (T)	Intermediate amount (10×T)	Highest amount (50×T)
Total cost (relative)	No cost	Lowest cost (\$)	Intermediate cost (5×\$)	Highest cost (25×\$)

Note: Indicative, relative values from the exercise materials. M, D, T and \$ are baseline units (multipliers shown). ED is the scenario-defined maximum individual effective dose (external + inhalation) over the stated integration period.

M3-1: Regulatory and policy framework

In this section, respondents reported on: (a) the existence of a regulatory, policy or legislative framework for the long-term management of contaminated areas in post-accident situations; (b) the integration of this framework with the national nuclear emergency response structure; (c) whether a framework applies to conducting remedial actions on or in private property; (d) the existence of a strategy for prioritising areas for remediation and decontamination; and (e) whether a lead organisation responsible for remediation and decontamination activities is designated.

Trends

A very large majority report having a regulatory/policy/legislative framework for long-term management of contaminated areas (14 of 16, 88%). Most also integrate remediation and decontamination policy within their national nuclear-emergency structures (12 of 16, 75%).

Around two-thirds reported having a framework that covers remedial actions on or in private property (11 of 16, 69%). Fewer than half report a formal strategy to prioritise areas for remediation (44%) (Figure 3.13).

Most respondents also reported that a lead organisation is designated for remediation and decontamination; however, clarity on roles and implementing responsibilities below the national level varies across countries.

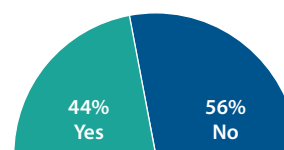


Figure 3.13. Countries that have a strategy for prioritising areas for remediation and decontamination

Inconsistencies

Legislative detail and implementing regulations vary across countries, leading to uneven clarity on roles at national vs. subnational levels, and the potential for overlapping competences.

Key results

- Regulatory and policy foundations for remediation and decontamination are generally in place, including integration within national emergency arrangements and the designation of lead bodies.
- A key capability gap remains in translating these frameworks into clear, prioritised and executable delivery at regional and local levels, where responsibilities and implementing arrangements can be fragmented or overlapping.
- The ability to undertake remedial actions on private property, including access, consent or authorisation, and potential compensation or enforcement, was highlighted as a practical constraint that is likely to affect feasibility and public acceptability. Respondents therefore stressed the importance of early and sustained engagement with affected communities to support decision making and implementation during recovery.

M3-2: Identification of remediation goals and remedial actions

In this section, respondents considered how remediation goals and end points would be defined, and how remedial actions would be selected and optimised, drawing on the illustrative scenario inputs and strategy packages summarised in Tables 8 and 9. The survey then asked whether a national remediation strategy exists, whether one of the scenario options was selected, which considerations informed their choice, and which areas for improvement were identified.

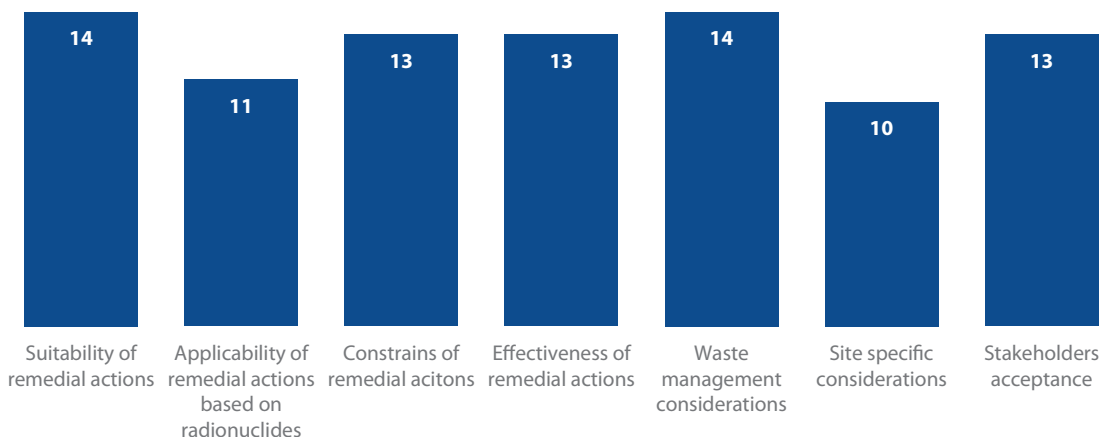
Trends

Against this backdrop, three-quarters of respondents, 12 of 16 (75%), reported not having a pre-established remediation strategy for an event of this type. No respondent developed a complete strategy during the exercise because of time constraints. Most envisaged a portfolio of options rather than a single approach, varying by land use, contamination level and the presence of critical infrastructure. Stakeholder acceptance was repeatedly highlighted as essential.

Respondents also repeatedly noted that strategy selection depended on first defining the intended end-state(s), which would then drive prioritisation, the selection of performance indicators, and the design of monitoring arrangements to demonstrate progress.

Most respondents anticipated using a combination of strategies tailored to specific locations, depending on contamination levels, land use, population and critical infrastructure. When discussing strategy elements, respondents most often considered the suitability of remedial actions and waste management considerations, followed by the effectiveness of remedial actions, constraints, stakeholder acceptance, radionuclide specific applicability and site-specific factors (Figure 3.14).

Figure 3.14. **Considerations for strategy selection**



Among the 16 respondents to module 3, “waste management considerations” and “stakeholder acceptance” were selected by 14 and 13 respondents, respectively. This underscores that remediation strategy selection relies on a broader optimisation process in which radiological considerations are assessed together with practical feasibility (including waste logistics) and societal factors (including stakeholder acceptance).

Inconsistencies

Respondents acknowledged the complexity of the scenario, which made it difficult to define a strategy within the exercise timeframe. Many noted the need to set clear decontamination objectives before selecting options, and several attributed the difficulty to limited preparedness and the absence of higher decision levels from the exercise.

Waste generated by decontamination activities emerged as a major concern for a minority of respondents, 4 of 16 (25%), even though waste management considerations were widely cited overall.

Remediation planning cannot be considered independently of waste management as increased decontamination generates more waste. Several respondents also noted insufficient waste storage capacity, an issue further addressed in Module 4.

Although the INEX-6 exercise used a generic site, site-specific considerations were still addressed by 10 of 16 respondents (63%), underscoring that decontamination strategies are strongly linked to the type of impacted land.

Key results

- The exercise confirmed that, given the complexity of decontamination, no respondent selected a single strategy. All respondents acknowledged the need to strengthen preparedness for such situations. INEX-6 prompted broader reflections, and most respondents converged on similar conclusions.
- The principal gap identified was the lack of agreed, operational remediation strategies with clear end states (i.e. a defined level of “clean” that is acceptable), even though decision criteria are well understood in principle.
- The questionnaire results indicate that remediation choices are strongly influenced by site-specific factors (including land use, feasibility, waste implications and stakeholder considerations), which can make it difficult to translate high-level decision criteria into a single, generally applicable operational endpoint.

M3-3: Implementation of remedial actions

In this section, countries and territories reported on: (a) priority areas for remediation and decontamination in the scenario; (b) whether operational plans exist to implement remedial actions; (c) whether organisations and resources are available, including surge arrangements and potential requests for international assistance; and (d) whether environmental monitoring is integrated to assess effectiveness, including lead responsibility and resourcing.

Trends

Only one-quarter of the respondents, 4 of 16 (25%), reported having operational plans already in place to conduct remediation and decontamination activities (Figure 3.15). A large majority reported having organisations available to conduct these activities (14 of 16, 88%), and just over half of those respondents judged current personnel and equipment sufficient for this scenario (8 of 14, 57%).

Where capacity was judged insufficient, most reported being able to mobilise additional domestic resources (5 of 6, 83%), such as fire and rescue services or the private sector, and all indicated they would request international assistance if still needed (6 of 6, 100%).

Environmental monitoring is widely integrated into remediation and decontamination strategies (13 of 16, 81%), and a large majority reported having a lead organisation identified to manage ongoing environmental monitoring following remediation and decontamination (14 of 16, 88%).

However, only around three-fifths of respondents considered they have sufficient resources to implement such monitoring in this scenario (10 of 16, 63%). Where monitoring resources were judged insufficient, most respondents would mobilise domestic reinforcements (4 of 6, 67%) and, where domestic mechanisms were not available, both would seek international assistance (2 of 2, 100%).

Inconsistencies

A number of responses concerning operational details were left blank, most likely due to time constraints during the exercise. Consequently, the exercise provided limited evidence on contracts, logistics, workforce arrangements and monitoring plans. Future INEX exercises may benefit from dedicated discussion time or preparatory work to explore these aspects in greater detail.

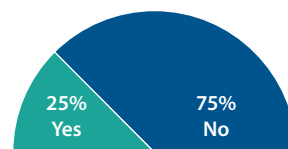


Figure 3.15. Countries reporting operational plans to conduct remediation and decontamination activities

The need for prioritisation was widely recognised, but expectations differed on how to apply it. Some proposed cleaning areas with low contamination first, others prioritised critical national infrastructure such as hospitals and schools, and others favoured clearing access routes first to enable follow-on activities.

In one case, given high volumes of decontamination waste and possible reluctance of the public to return, a respondent proposed isolating and fencing off certain areas as a long-term solution. There was no mention of how to enforce these measures. Another respondent suggested repurposing such areas for uses that require little or no human presence in order to reduce recovery costs.

Although the exercise used a generic site, site specific considerations were addressed by 10 of 16 respondents.

Key results

- With one exception, all respondents indicated that decontamination should aim to achieve conditions acceptable for the reoccupation of areas by people and livestock.
- Respondents also agreed that the public and other stakeholders should be consulted and kept informed throughout recovery, although the questionnaire provided limited detail on how such engagement would be implemented in practice.
- Capabilities exist, but they are unevenly operationalised. Few countries reported having complete and executable plans, and many would rely on private sector surge capacity and, if necessary, international assistance. Monitoring appears to be a relative strength, although it could be constrained by resources at scale.
- These findings are reflected in the good practices identified in Section 4.3, particularly in relation to clarity of governance, prepared catalogues of remediation options, access to expertise to define end states, and integration with monitoring and waste management logistics.

Conclusion

The module shows that countries envisage a context-dependent blend of remediation methods rather than a single preferred option, with choices shaped by radiological conditions, land use, and stakeholder acceptability. In practice, remediation is closely linked to waste management, and progress depends not only on the technical merits of the selected methods, but also on downstream factors such as classification, sorting, staging and temporary storage. End-state criteria, responsibilities for ongoing environmental monitoring and approaches to prioritisation are not yet consistently defined.

Operational readiness also remains uneven. Few countries reported having complete remediation strategies or operational plans in place, and many indicated that they would rely on private sector capacity and, if necessary, international assistance. This suggests a potential dependency risk: where national strategies, surge arrangements and dedicated manpower are limited, countries may face difficulties in defining timely and well-scoped requests for support and in sustaining implementation over a prolonged recovery.

Module 4: Radioactive Waste Management

This section summarises responses for the Module on Radioactive Waste Management. The module covered four themes:

- M4-1 Regulatory and policy framework
- M4-2 Transport of radioactive waste
- M4-3 Temporary storage (staging areas and facilities)
- M4-4 Disposal routes.

In total, 15 of the 26 participating countries and economic areas reported on this module (58%).

To frame the discussion, Module 4 assumes that remediation and recovery actions have already generated significant quantities of *solid* radioactive waste across a range of activity concentrations (with liquid waste out of scope unless a country chose to include it). The exercise materials describe wastes locally collected in multiple holding areas, comprising soils, crops/timber/vegetation and “hardcore” demolition materials (e.g. concrete, brickwork and tarmac), and segregated into broad activity categories (e.g. <10 GBq/t and >10 GBq/t). Indicative waste inventories (by waste stream, volume/mass and activity) were provided to stress-test national arrangements under “surge” conditions. The main totals used in the scenario are summarised in Table 3.8.

Table 3.8. **Illustrative waste inventory totals used in Module 4**

Waste stream (scenario input)	Quantity	Additional scenario information
Contaminated soil removed (5 cm)	10 598 486 m ³	Total activity: 246,492 GBq; mass: 13 778 032 t
Contaminated crops/biomass removed	116 858.8 t	(Scenario values provided by contamination band)
Contaminated demolition waste	55 136.8 m ³ (raw) / 66 164.1 m ³ (packaged)	Total activity consigned: 8 940.3 GBq

Against this backdrop, the module questions cover the full waste lifecycle: whether existing legislation and regulatory processes can be applied to atypical waste streams and very large volumes (including classification, ownership and funding), how packaging and transport would be organised (including potential cross-border interfaces), how temporary storage/staging would be selected, authorised and managed, and how credible end-points would be secured (clearance/reuse/recycling and disposal routes) given that the scenario volumes may exceed routine national capacity.

The discussion that follows is organised across the four themes, starting with whether existing waste governance and radiological criteria can be applied to emergency-generated waste at the recovery scale assumed in INEX-6.

M4-1. Regulatory and policy framework

This theme examined whether the regulatory and policy architecture that governs routine, licensed radioactive waste operations also apply to emergency-generated waste at INEX-6 recovery scale, and any adaptations that may be required. It also looks at the clarity of lead responsibilities along the waste chain and the radiological criteria used to classify or categorise waste streams during recovery.

Trends

All responding countries reported having legislation/policy for routine licensed operations. However, countries differed on whether those routine frameworks would apply to emergency-generated waste at INEX-6 scale: 10 of 15 (67%) reported that the routine framework would apply fully or partly, while 5 of 15 (33%) reported that it would not.

Several noted these frameworks are not optimised for the pace and scale required during recovery at INEX-6 magnitudes, and anticipate targeted amendments (e.g., accelerated permits/licences, planning decisions) or the flexible use of existing instruments (e.g., extending permitted facilities, lengthening permissible “in-transit” storage) to maintain momentum.

Responses were split on whether frameworks needed adaptation for emergency-generated waste. Of the 15 respondents, 7 reported that adaptations were required, 7 reported that they were not, and 1 responded “n/a” (Figure 3.16). Excluding the “n/a” response, this represents an even split among the 14 substantive responses.

Most countries reported having designated lead organisations: 14 of 15 (93%) reported that a lead organisation is identified, while 1 of 15 (7%) did not (see M4-Q1.4 in Appendix C).

Classification criteria generally follow existing radiological bases (total activity, activity concentration, half-life or dose consequences); only 2 of 13 countries (13%) reported having no criteria for emergency-generated waste (M4-Q1.5, see Appendix C).

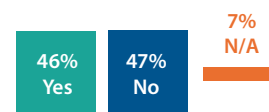


Figure 3.16. Countries that adapted the regulatory and policy framework to manage large volumes of radioactive waste generated in the emergency

Inconsistencies

Countries with very small or no nuclear footprints have less developed legislation and preparation than those that have nuclear power plants, fuel processing facilities, etc.

There are some countries with no regulations for dealing with the waste generated by a nuclear emergency. These would be drawn up when needed.

In some countries, there is divergence in the role of the State and local regions/authorities in managing the impact of a major nuclear accident.

Key results

Routine frameworks provide many necessary controls but are not optimised for large-scale, time-critical recovery; scenario volumes and timelines would likely stretch business-as-usual capacity without temporary adaptations.

M4-2. Transport of radioactive waste

This theme asked countries to assess whether their regulations for transporting radioactive waste (developed for routine, licensed operations) would also apply to emergency-generated waste, and whether mechanisms exist to authorise the surge of shipments such an event would require. It also examined whether sufficient resources (carriers, personnel, equipment) would be available to manage transport at recovery scale.

Trends

All responding countries (15 of 15, 100%) reported having regulations for the transport of radioactive material.

However, views differed on whether those regulations would apply to emergency-generated waste: 11 of 15 (73%) reported that they would apply, 3 of 15 (20%) reported that they would not apply and 1 of 15 (7%) was unsure.

EU member states adhere to the International Carriage of Dangerous Goods by Road (ADR) Regulations, transportation by road being the scenario solution. Non-EU respondents confirmed their own national equivalent regulations would apply.

All countries except 1 would operate under the IAEA regulations or their own national equivalent regulations. Countries stated their own domestic legislation matches that of the IAEA.

Most countries, 10 of 15 (67%), expect capacity constraints but consider that, with roughly a year between accident and recovery start, equipment could be procured, operators trained/licensed, and regulations adapted to enable progress with limited disruption (see Figure 3.17).

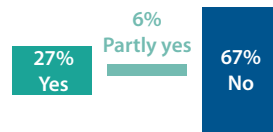


Figure 3.17. Countries that have sufficient licensed resources available to transport the volumes of radioactive waste in this exercise to temporary storage locations

Inconsistencies

There is an inconsistency about whether transportation of waste produced in an emergency INEX-6 type incident would be covered in existing national regulations for planned transportation of radiological waste.

Regarding insurance and qualifications for surge carriers, 6 of 15 (40%) reported no established process to insure and qualify additional carriers. Several of these indicated the insurance question would be handled later during recovery planning. No country indicated government indemnification; contractors are generally expected to secure their own cover (which is potentially costly, especially if policies must also cover damage caused during handling/storage).

Financial-security expectations vary. Requirements and pathways for proving financial security/indemnity for additional carriers are uneven or undefined, creating uncertainty ahead of peak shipments.

While most anticipate adapting within approximately a year (procurement, training/licensing, regulatory updates), timelines and mechanisms to obtain extra resources are not uniform

Key results

- The scenario implies moving very large soil volumes (on the order of tens of millions of one-tonne bags), underscoring the need to plan logistics throughput and carrier capacity well in advance of field operations.
- It also highlights that large-scale transport and handling operations can become a major non-radiological constraint, requiring early stakeholder engagement and careful management of conventional environmental and nuisance impacts (e.g. traffic disruption, noise, emissions and safety) in populated areas.

M4-3. Temporary storage (staging areas and facilities)

This theme examined the temporary holding steps that keep recovery moving for emergency-generated waste, across two levels: staging areas near impacted zones for short-duration aggregation and sorting, and temporary storage facilities for compliant, multi-year storage pending treatment or disposal. It considered whether routine rules apply or need temporary adaptations; the authorisations required to open or expand sites; siting principles and community engagement; packaging/conditioning and inventory traceability; environmental monitoring, security, and radiation-protection requirements; capacity planning and interfaces with remediation sequencing and transport; and the clarity of roles, ownership and cost allocation along the chain.

Trends

Staging areas

About half of respondents, 8 of 15 (53%), have a strategy for selecting/authorising staging areas (see Figure 3.18). Where no formal mechanism exists, several noted the topic was discussed during the exercise.

Selection principles commonly cited include:

- Minimising transport by siting near impacted/ contaminated zones.
- Preferring geologically suitable locations, ideally within already contaminated or most-affected areas.
- Safeguarding groundwater and the food chain through siting and engineering controls.
- Using multi-agency checks and approvals.
- Engaging early with local authorities, residents, and stakeholders.
- Limiting the number of staging areas to reduce footprint and oversight complexity while maintaining safety for human health and the environment.

Only about one-third of countries, 5 of 15 (33%), identified specific staging locations during the exercise (see M4-Q3.3 in Appendix C). Because the scenario did not specify an affected area, most discussions remained at a general level about staging-area principles rather than concrete sites.

Availability of suitable existing sites for staging appears highly country-dependent: 4 of 15 (27%) considered existing locations sufficient, while 11 of 15 (73%) did not (Figure 3.19).

Regulatory approaches vary. In some countries, 3 of 15 (20%), no additional authorisation from the radiation regulator is required, provided remediation and decontamination are conducted under existing exposure conditions. Even where a regulatory licence is required, several respondents noted that contaminated waste from these activities is managed under the general waste-treatment framework rather than the standard radioactive-waste regime.

The question of land ownership in contaminated areas was not discussed in several countries during the exercise. Where it was addressed (and in some countries even if not discussed in-session), the prevailing view was that contamination itself did not alter ownership; title remained with the original owner and, where temporary acquisition or restrictions were used to enable response actions, ownership is typically returned after decontamination according to defined criteria (Figure 3.20).

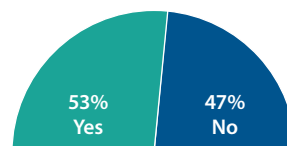


Figure 3.18. Presence of a strategy for selecting and authorising staging areas for this waste

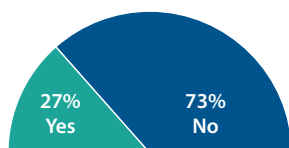


Figure 3.19. Countries that have a strategy to select and authorise temporary storage facilities for this waste



Figure 3.20. Countries whose regulatory framework for radioactive waste assigns ownership for contaminated areas

Many countries also noted that expropriation is legally possible, if required.

When land is formally acquired to support recovery (through purchase, swap or expropriation) ownership most commonly transfers to the state; in some jurisdictions it may instead rest with sub-national authorities. In a few cases, the licensed operator carrying out remediation may hold title or long-term control, depending on national law and the terms of the authorisation.

Temporary storage facilities

Only around one-quarter of respondents (4 of 15, 27%) reported having a strategy for selecting/authorising temporary storage facilities.

Almost all respondents (14 of 15, 93%) reported lacking sufficient temporary storage facilities for the volumes implied by the exercise scenario, often noting that additional locations would need to be identified and authorised under time pressure. Among those reporting insufficient capacity, 7 of 14 (50%) identified candidate temporary storage locations during the exercise, often with the prospect of using existing general waste or low-/intermediate-level waste facilities.

Regulatory authorisation was reported as required for temporary-storage facilities by 13 of 15 respondents (87%). As noted earlier, 12 of 15 (80%) reported that authorisation is required for staging areas, indicating a similar pattern.

Regarding the processing and packaging of waste for temporary storage, 12 of 15 (80%) of the countries responded that relevant regulatory standards or legal requirements are already in place (Figure 3.21). As noted above, this likely reflects the expectation that storage can be managed in facilities for general waste or in facilities licensed for low- and intermediate-level solid radioactive waste. Consistent with this, 11 of 12 (92%) of those with such standards indicated that these regulations would also apply to emergency-generated waste.

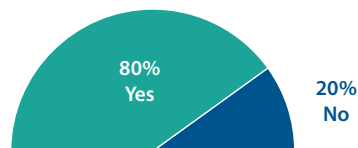


Figure 3.21. Countries that have regulatory standards or requirements for the processing and packaging of waste for temporary storage

Inconsistencies

Among the 14 respondents reporting insufficient temporary-storage capacity, 7 (50%) identified candidate temporary-storage locations during the exercise. By comparison, 5 of 15 respondents (33%) identified staging areas.

Among the 14 respondents reporting insufficient temporary storage capacity, 7 (50%) identified new temporary storage candidates during the exercise. By comparison, only 5 of 15 respondents (33%) identified staging areas. This suggests that, even where current capacity is lacking, countries may have better prospects for securing temporary storage sites than for obtaining staging areas. Indeed, several countries that could not identify staging locations were able to name candidates for temporary storage facilities. A likely reason is that much of the anticipated waste would be low-activity material not classified as radioactive waste; consequently, countries expect to use or adapt conventional waste storage sites for temporary storage rather than facilities licensed for radioactive waste. However, this expectation may not translate directly into usable capacity at scale, as access to such sites will still depend on meeting site-specific waste acceptance criteria, which may require sufficient characterisation and, where necessary, conditioning before material can be accepted.

There was an almost fifty-fifty split between countries that have a temporary storage strategy and those that do not. The countries without a strategy stated they were aware of the issues and how they would approach them, but a formal strategy would not be developed until needed. Ownership models for contaminated land (state purchase/expropriation vs. revert to original owners post-decontamination) and the identity of the licensee (state vs. regional vs. site operator) vary widely.

Approaches to land ownership vary: some governments acquire land as a matter of course, others only as a last resort. In most cases, contamination or the siting of staging areas does not change title. Where temporary acquisition occurs, ownership is typically returned after decontamination.

The licence holder differs widely by country and may be a central ministry or national agency, a sub-national authority or the contracted site operator.

Key results

- Many respondents agreed that stakeholder consultation, including the public, is necessary before deciding on storage site locations.
- There was broad agreement that temporary storage should be sited as close as practicable to the contaminated area. However, for staging areas, where waste is aggregated before transfer to temporary storage, many countries noted that the expected volumes will make siting difficult and may require new legal authorisations and/or additional co-ordination arrangements.
- Many respondents indicated that relevant regulatory standards already exist and could be applied to emergency generated waste. However, potential issues may arise in practice where the use of existing facilities is constrained by waste acceptance criteria and the associated requirements for characterisation and, where necessary, conditioning.

Overall, anticipated staging and temporary storage bottlenecks were identified as a dominant constraint on recovery pace, given the sheer number of one tonne soil bags foreseen in the scenario.

M4-4. Disposal routes

In this theme, respondents discussed application of the waste hierarchy (reduce, reuse, recycle, dispose), legal preparedness, use of incineration, public acceptance and potential end points for radioactive waste.

Trends

One-third of respondents, 5 of 15 (33%), reported lacking a strategy to apply the waste hierarchy for very large volumes, and 1 of 15 (7%) reported having only a partial plan; 9 of 15 (60%) reported having a strategy (Figure 3.22).

However, many countries anticipate difficulty managing waste volumes that exceed the scenario assumptions. Apart from scrap metal, there is little convergence on methods to reduce, reuse, or recycle contaminated materials, suggesting that practical options for other waste streams are not yet established or widely adopted. A majority of respondents to this question (10 of 14, 71%) reported that their long-term waste-management strategy includes incineration for volume reduction, while 4 of 14 (29%) did not. Among those indicating incineration is included, 9 of 10 (90%) reported that legal standards /regulations for such routes already exist.

Nearly all would reuse/recycle materials once residual activity is at acceptable levels, though the time needed to reach endpoints at large scale is expected to be long. Beyond scrap metal, there is limited commonality in established reuse/recycle routes.

More than half consider that increased waste could be managed through a combination of volume reduction and regulatory amendments/derogations.

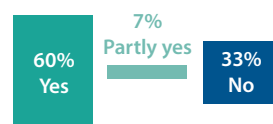


Figure 3.22. Countries that have a strategy to apply the waste hierarchy to manage the large volumes of radioactive waste generated in this scenario

Inconsistencies

Reuse/recycling ambitions often depend on exemptions/clearance, and public acceptance remains a significant barrier even where thresholds are legally defined (e.g. recyclers may refuse contaminated streams).

Key results

- Even with incineration and reuse or recycling, many countries anticipate multi-year to decade-scale timelines to reduce inventories to agreed endpoints, reinforcing the need to link remediation choices with waste-throughput planning.
- Questionnaire responses also suggest uneven readiness for very large volumes, with around one-third of countries lacking a dedicated strategy and limited convergence beyond scrap metal on practical approaches to reduce, reuse or recycle contaminated materials.

Conclusion

This module shows that countries generally have mature regulatory frameworks and established transport regimes for radioactive waste, but these are not designed for the volumes and timescales associated with long-term recovery. In practice, recovery pace is likely to be governed by staging capacity, the timely authorisation of temporary storage and the availability of suitable sites. Roles, ownership and cost allocation for emergency-generated waste, much of it of relatively low activity, also vary across countries. Transport rules generally exist and are expected to apply, but surge-carrier availability and the processes for qualification, insurance and financial security remain uneven.

The findings also show that disposal strategies rely heavily on the waste hierarchy, with incineration and clearance, reuse or recycling, particularly for metals, widely envisaged. However, practical options for other waste streams remain limited, and public acceptance is likely to constrain implementation, even where legal routes exist. As a result, reducing inventories to agreed end-points is expected to take many years in most cases. Overall, sustained progress depends as much on early siting and authorisation, logistics and throughput planning, and clear governance and financing arrangements, as on treatment and disposal capacity itself.

Overarching findings

This section synthesises the overarching findings of INEX-6 based on responses to the generic and module-specific evaluation questionnaires, as well as national discussions and exchanges during the WPNEM-49 Topical Session. It highlights recurring strengths, systemic gaps, and co-ordination challenges with implications for national and international recovery planning.

Strengths identified across modules

A number of encouraging trends were observed across the participating countries and economies. Most notably, the majority of countries and economies have established foundational legal and organisational structures for recovery, including national frameworks, lead agencies and baseline resource plans. There is widespread alignment with international guidance such as ICRP recommendations for reference levels, and countries consistently demonstrate a commitment to integrating long-term considerations into their radiological protection policies. These choices are underpinned by national law or guidance and are commonly weighed against health, social and economic factors.

Operationally, many respondents report mature capacities in areas most immediately needed in recovery: food-chain controls and laboratory networks; transport regulations and licensing for waste; and the ability to extend existing monitoring systems (environmental and, where feasible, health) to post-emergency conditions. Multiple respondents described flexible waste handling arrangements (e.g. clearance/acceptance criteria for metals), and established public-communication mechanisms specific to food safety and health topics.

Stakeholder engagement is widely recognised as essential. Most respondents integrate radiological and non-radiological specialists in decision-making, and several described co-expertise approaches and structured dialogues with affected communities to shape remediation end-states and the lifting of restrictions.

Common gaps and limitations

Despite progress, INEX-6 reveals planning and readiness gaps that recur across modules:

- **Exercise and training mandates.** Legal requirements to exercise recovery arrangements remain uncommon; most respondents lack recovery-specific training programmes and curricula, particularly for long-term health surveillance and MHPSS.
- **From response to recovery governance.** Transitions from response-led command to recovery governance are frequently fragmented below the national level, with overlapping competences and unclear ownership for sustained follow-up (e.g., long-term health monitoring, psychosocial support).
- **Resource sufficiency and surge.** Baseline resources are usually identified, but confidence in sustaining or scaling operations across modules is lower. Recurring constraints include trained personnel, monitoring and laboratory throughput, specialised equipment and licensed capacity. Surge triggers, standby contracts and financing pathways are seldom formalised.

- **Temporary storage and throughput planning.** Anticipated staging/temporary-storage bottlenecks constrain the pace of remediation and waste flows, with authorisations, siting, and public acceptance being decisive long-lead items.
- **Data systems and long-term follow-up.** Dedicated public-dose registries and integrated health–environment data governance remain the exception. Indicator sets and surveillance strategies vary widely.
- **Public communication for recovery.** Many respondents lack a recovery-specific communication strategy (existing plans focus on response), even though nearly all co-ordinate nationally; this can challenge coherence when lifting restrictions or addressing trade criteria.

Co-ordination challenges

While most countries and territories maintain bilateral or multilateral agreements for mutual aid, many respondents questioned the applicability of existing international mechanisms, such as the IAEA’s RANET, to the recovery phase. There is limited clarity on how international assistance could be mobilised post-emergency, particularly for recovery-related waste transport, remediation efforts and sustained monitoring.

Differences in regulatory thresholds, public communication strategies and food safety standards also pose co-ordination challenges in cross-border recovery scenarios.

Chapter 4. Good practices and recommendations

This chapter presents a consolidated selection of good practices and recommendations identified during the INEX-6 exercise. These practices were drawn from national evaluation responses and expert exchanges during the WPNEM-49 and CRPPH-83 topical sessions, and the final INEX-6 Workshop. They are not prescriptive; rather, they offer practical options that can be adapted to national contexts. In essence, they represent approaches, tools or frameworks that participating countries and territories found effective in supporting long-term recovery planning and implementation.

The following sections organise these practices by module.

Health impacts

The exercise highlighted several effective practices for managing long-term health impacts, focussing on robust dose tracking, targeted medical follow-up, psychosocial support and sustaining medical capacity. Key good practices and recommendations include:

- **Strengthen multi-level co-ordination and governance:** Establish clear co-ordination mechanisms across national, regional and local authorities (including pre-event arrangements), with agreed roles, decision pathways and consistent approaches to long-term monitoring and follow-up.
- **Integrate dosimetry with health surveillance, with strong data governance:** Link national dosimetry registries (for workers, emergency workers and public cohorts where feasible) with public health surveillance systems and relevant environmental datasets to support consistent long-term follow-up and evidence-based recovery decisions. Define privacy safeguards, access rights, interoperability requirements and data use purposes at the outset.
- **Design population registries and affected-person databases carefully:** Where dose registries or affected-population databases are considered, explicitly weigh benefits against feasibility and societal risks (including public reluctance to share sensitive data and risks of stigmatisation or discrimination). Where implemented, enable tracking of cumulative exposure over time and, where appropriate, link these databases to occupational exposure registries. (IAEA, 2024)
- **Standardise health indicators and follow-up protocols:** Define a harmonised set of physical and psychosocial health indicators and agree on consistent procedures for data collection and analysis (e.g. minimum datasets, timing of clinical follow-up, laboratory methods and quality assurance, cytogenetic protocols). This supports comparability across regions and over time, and strengthens the evidence base for recovery decisions.
- **Implement prioritised, risk-based monitoring under resource constraints:** Prioritise individual dose and health monitoring for higher-risk groups and high-dose individuals, with explicit triage strategies when capacity is limited. Include specific consideration for children and young people, including thyroid follow-up where doses are near pre-defined thresholds (e.g. around 50 mSv to the thyroid), and complement individual monitoring with environmental monitoring and dose modelling to support population-level assessment.
- **Plan for sustained medical follow-up without displacing routine care:** Pre-identify centres of expertise (e.g. hospitals or clinics with radiological medicine capacity) and define surge arrangements (training, staffing, facilities, mutual aid). Build capability in primary care by training general practitioners and frontline staff to support follow-up and recognise acute radiation injuries where relevant.

- **Leverage specialised biomedical expertise through partnerships:** Establish agreements with academic or specialised institutions to provide advanced services (e.g. cytogenetic analysis, in vivo monitoring) that augment national capacity to detect, interpret and manage potential radiation-related health effects.
- **Integrate psychosocial support and stakeholder engagement throughout recovery:** Embed mental health and psychosocial support (MHPSS) expertise in planning structures from an early stage, include non-governmental actors where appropriate and explore cross-training (medical professionals in MHPSS; MHPSS counsellors in radiation basics). Maintain accessible, multi-channel information (FAQs, websites, media and local outreach) to support affected communities and manage the “worried well” through clear guidance and reassurance, reducing unnecessary demand on health services (NEA, 2024a; World Health Organization, 2020).
- **Address attribution and uncertainty transparently:** Recognise challenges in attributing health outcomes to radiation exposure and strengthen methodologies, documentation and communication of uncertainty, to support credible long-term follow-up, and public confidence in health advice and recovery decisions.

Food safety

The Food Safety module underscored the importance of maintaining food supply confidence and protecting consumers through co-ordinated monitoring, clear criteria and stakeholder engagement. Good practices and recommendations identified in this area include:

- **Emergency food supply continuity measures:** Maintain reserve food stocks earmarked for emergencies and/or establish emergency food supply agreements with other countries to stabilise availability and confidence.
- **Public alert and information systems:** Operate publicly available information/alert systems (beyond routine communications channels) to support transparency and trust in the food chain.
- **Traceability and certification tools:** Use traceability of agricultural/food products and, where applicable, certification marks/certificates of fitness for foods (including templates defined in legislation) to support consumer confidence and market functioning.
- **Accredited laboratory capacity and standardised methods:** Rely on accredited/certified laboratories and standardised procedures to ensure reliable, comparable results; use government-accredited labs for verification/confirmation.
- **Clear role of the competent authority:** Ensure the competent authority communicates its own monitoring activity and results, with official results treated as authoritative when multiple screening programmes exist.
- **Industry/self-monitoring under oversight:** Require food businesses to implement self-management and food safety monitoring plans, with regulator-defined inspection/verification methods; accept industry or independent screening only where QA, accreditation and standardised procedures are in place (including evaluation by regional authorities where relevant).
- **Guidance on self-produced food:** Provide targeted information and guidance on self-produced foods (home-grown/foraged/hunted), recognising this as a key trust and exposure pathway after an incident.
- **Visible prevention of re-entry of contaminated products:** Build confidence by demonstrating that contaminated products are removed/disposed of, with the process validated so they cannot re-enter the food chain.
- **Calibrated risk communication:** Avoid absolute claims such as “zero radioactivity/contamination”; communicate instead in terms of meeting established safety criteria to reinforce trust in legitimate standards.
- **Citizen monitoring with expert interpretation:** Where appropriate, enable citizen science monitoring programmes supported by monitoring stations and expert interpretation, to help citizens understand results and relevance.
- **Centralised co-ordination of monitoring outputs:** Strengthen co-ordination by linking radiological surveillance and food monitoring outputs through centralised reporting/co-ordination mechanisms (e.g. shared platforms or consolidated reporting), enabling coherent situational awareness across authorities.
- **Transparent criteria for adjusting and lifting restrictions:** Communicate in advance how and when food restrictions will be adjusted or lifted, and explain the basis for decisions (e.g. contamination levels, time elapsed, benchmarks) to manage expectations and sustain confidence during recovery.

- **Supply substitution and market stabilisation measures:** Maintain procedures to substitute contaminated foods via alternative suppliers and support continuity of supply when local production is curtailed.
- **Producer support measures tied to criteria:** Where relevant, link producer compensation/support arrangements to transparent criteria and communicated decision processes to reduce market distortion and sustain compliance.
- **Strengthening the role of international standards:** Although an international standard exists (i.e. CODEX), many of the respondents prioritise the application of their own MPLs over international standards for food imports. However, a significant gap between domestic MPL and international standards risks complicating cross-border trade, creating communication challenges, and generating public distrust. The role of current international standards related to food safety should be clarified and strengthened (Codex Alimentarius Commission, 1995; Council Regulation [Euratom], 2016).

Remediation and decontamination

Effective remediation of contaminated environments requires planning tools, stakeholder involvement and integration with waste management. The exercise highlighted several good practices for remediation and decontamination:

- **Defined governance, roles and enabling authorities:** Define roles and responsibilities for remediation in advance, and provide remediation authorities with emergency powers and authorisations to enable timely action and avoid delays. Where appropriate, establish and maintain a standing multi-agency remediation expert group (or network) to preserve institutional memory, support regional and local implementation, and continuously update guidance, training and tools for recovery remediation. For example, Sweden highlighted its long-standing remediation expert group (NESA), established post-Chernobyl, which supports authorities through information sharing, training and the revision of national remediation guidance (SRVFS, 2007).
- **Prepared catalogue of remediation options:** Prepare and maintain a national catalogue of potential remedial actions, documenting each option's benefits and risks, optimal timing relative to deposition, applicability by radionuclide and setting, and key operational requirements. Keep the catalogue aligned with waste management and monitoring plans so decision-makers can rapidly select feasible measures. For example, the United Kingdom's Recovery Handbook for Radiation Incidents provides a structured, decision-aiding framework and set of remediation options (UK Health Security Agency, 2024).
- **Co-expertise and community input to set goals and end-states:** Use co-expertise processes to define remediation goals and locally acceptable end-states in collaboration with affected communities. Document how chosen strategies balance radiological benefit with social acceptability and practical constraints such as waste generation, feasibility, and timeframes.
- **Measurable goals, indicators, and review points:** Define measurable remediation goals, performance indicators and explicit review points to reassess effectiveness over time. Plan for geographic differentiation (different objectives and measures by zone, land use, contamination level and return priorities) and periodic adjustment as conditions evolve and new information becomes available.
- **Prioritisation and strategy tiers to manage trade-offs:** Apply prioritisation frameworks that explicitly manage trade-offs between dose reduction, cost, waste generation and societal function. One illustrative approach discussed used strategy tiers ranging from "do nothing" (e.g. forests or highly contaminated limited-access areas) to more intensive measures for densely populated areas, priority return zones and areas hosting critical societal functions (e.g. hospitals, airports). Strategies will evolve over time, so prioritisation and reassessment are essential.
- **Early action where return is the objective:** Where the recovery objective includes population return, begin decontamination early, as delays can reduce feasibility and prolong disruption. Where return is unlikely, plan for longer-term management pathways.
- **Integration with monitoring and decision support:** Establish environmental (and, where relevant, health) monitoring programmes to support prioritisation, track effectiveness and inform strategy updates. Ensure monitoring outputs feed directly into the criteria and indicators used for reviews and adjustments.
- **Mobilise domestic capacity, including SMEs:** Map domestic actors (public bodies and private sector, including SMEs) and their capabilities, and establish surge and co-operation agreements in advance. Use pre-arranged contracting frameworks (with training/accreditation as needed) so additional capacity can be mobilised quickly and safely after an incident.

- **Operational integration with waste management, logistics and communications:** Integrate remediation plans from the outset with radioactive waste management strategies and stakeholder communication plans. Remediation actions generate waste and require sustained public engagement; aligning waste handling (collection, classification/sorting, transport, staging, temporary storage) and communications with remediation choices helps prevent bottlenecks and sustain trust.
- **Cross-agency implementation playbooks:** Develop practical, cross-agency playbooks linking authorisations, procurement/contracting, site access, classification/sorting rules, staging and temporary storage so decontamination can proceed without bottlenecks, with explicit linkages to waste management interfaces (Module 4).

Radioactive waste management

Managing the large volumes of waste produced in recovery demands flexible criteria, and pre-planning of logistics and surge capacity. Good practices and recommendations in radioactive waste management include:

- **Transparent clearance, acceptance and reuse criteria:** Publish clear clearance and waste acceptance criteria, particularly for materials such as metals, to enable reuse or recycling where appropriate, and to support communication with industry and the public. Clear criteria help reduce unnecessary classification as radioactive waste, and improve predictability for operators and stakeholders.
- **Flexible and proportionate regulatory frameworks:** Apply proportionate classification and management approaches so that very low activity materials can, where justified, be managed under conventional waste legislation, reserving radioactive waste controls for higher-activity fractions. Where needed, pre-identify regulatory “fast-track” arrangements (e.g. temporary derogations or provisions for extended in-transit storage) to match recovery timelines while maintaining safety and oversight.
- **Advance planning for siting, storage and authorisations:** Map potential staging areas and temporary storage sites in advance and codify siting principles (e.g. proximity to the source, stable ground, hydrological protection). In parallel, establish streamlined authorisation pathways for emergency use of these sites and enable regional/local implementation under national supervision to ensure both speed and consistency.
- **Standing community engagement for temporary storage:** Maintain ongoing engagement plans with communities that may host staging areas or temporary storage facilities, to improve transparency and support acceptability of siting and operations during recovery.
- **Surge arrangements and contracting frameworks across the waste chain:** Establish surge agreements and contracting frameworks with commercial operators to provide additional capacity (e.g. containers, mobile interim storage or treatment units, access to suitable facilities) so volumes can be managed without bottlenecks.
- **Transport readiness integrated with compliance and financing:** Pair compliance with associated transport requirements (e.g. IAEA transport regulations, ADR, and national/local rules) with pre-agreed surge contracting for carriers and clear, pre-defined financial security and liability/insurance requirements, ensuring transport can scale quickly without regulatory or contractual delays.
- **Leverage conventional facilities where feasible:** Plan to use conventional facilities (e.g. warehouses or other suitable infrastructure) for temporary storage where radiological characteristics permit, to expand options and reduce lead times, while ensuring appropriate controls and monitoring are in place.

Cross-cutting practices

In addition to the module-specific measures above, INEX-6 identified several cross-cutting practices that strengthen recovery preparedness across all areas. These overarching recommendations include:

- **Link recovery in emergency frameworks:** Ensure legal and institutional frameworks explicitly link long-term recovery to national emergency management legislation. This enables the timely activation of special powers, funding mechanisms, and co-ordinated structures for recovery operations (including the conduct of recovery exercises), without needing ad-hoc arrangements, post-incident.
- **Dedicate a recovery communication lead:** Designate lead agencies or authorities for communication during the recovery phase, supported by trained spokespeople and pre-approved messaging templates.

Clear ownership of recovery communications helps maintain message consistency when discussing issues like lifting protective measures, health follow-ups, food safety, or remediation progress. Proactive communication planning for recovery can greatly enhance public trust.

- **Broaden training across disciplines:** Develop training programmes for non-radiological specialists who will be involved in recovery efforts. This includes professionals in areas such as mental health and psychosocial support, agriculture (e.g. farming advisors), water safety, education, and other sectors. Building basic radiological protection knowledge and recovery-specific skills in these groups in advance will improve interdisciplinary co-ordination when a nuclear emergency recovery is underway.
- **Institutionalise stakeholder engagement:** Make stakeholder engagement an integral part of routine emergency preparedness, not just a post-accident activity. This means establishing ongoing forums, communication channels, and participatory planning processes with community representatives and civil society, so that trust and co-operation are in place before any crisis. Institutionalising these practices ensures that after an incident, authorities can immediately draw on established networks to involve stakeholders in recovery decision-making.
- **Strengthen international support networks:** Develop a network of international support to assist countries in scaling up their recovery capacity when needed. Given that few countries will experience major nuclear accidents frequently, an international pool of expertise and resources (for example, through bilateral agreements or international organisations) can be invaluable for providing technical support, laboratory analysis, equipment or experienced personnel in a recovery situation. Formalising such support mechanisms in advance can greatly enhance a country's resilience.

Collectively, these cross-cutting practices emphasise the importance of robust frameworks, co-ordinated communication, skilled human resources, stakeholder involvement and international cooperation in long-term recovery management. By implementing these good practices across all modules, countries can significantly improve their preparedness for the complex challenges of post-emergency recovery.

Chapter 5. Evaluation workshop outcomes and next steps

Purpose and rationale

As part of the INEX-6 evaluation phase, the NEA organised an international evaluation workshop entitled *“Enhancing Preparedness for Recovery: From Exercise to Action through INEX-6 Insights”*, hosted by the Autorité de Sûreté Nucléaire et de Radioprotection (ASNR) in Fontenay-aux-Roses, France, on 3-4 November 2025 (NEA, 2025). The workshop brought together national exercise organisers and participants, members of the Working Party on Nuclear Emergency Matters (WPNEM) and the Committee on Radiological Protection and Public Health (CRPPH), international organisations and technical experts.

The workshop was conceived as a bridge between the consolidated evaluation results (Chapters 3 and 4) and the follow-up actions needed to strengthen long-term recovery preparedness. It aimed to: (i) confirm lessons learnt from INEX-6, including common strengths, gaps and notable practices; (ii) identify priorities for international co-operation and follow-up activities; and (iii) translate exercise insights into concrete actions that can be taken at national and international levels.

Workshop structure and approach

The workshop was structured to move from shared findings to action-oriented next steps for both national authorities and international co-operation. To support this, the programme combined: (i) a synthesis of cross-module results emerging from INEX-6; (ii) peer exchange on national implementation and evaluation approaches; and (iii) structured action planning to identify concrete priorities, while also checking alignment with ongoing international initiatives and available support mechanisms.

Discussions were organised through plenary sessions, moderated panels and two rounds of facilitated breakout sessions. The plenaries framed the context and consolidated shared conclusions, while the breakouts enabled broad participation and were focussed on producing tangible outputs that could be consolidated into an action-oriented set of recommendations. Across both days, participants addressed recovery as a multi-dimensional, multi-sectoral policy challenge spanning technical, public health, legal, social, governance and stakeholder dimensions.

Day 1: Background, consolidated findings, and prioritisation

Following welcome and scene-setting presentations, the programme recalled key lessons from previous work on recovery preparedness (including reflections on the 2022 recovery workshop) and re-emphasised the rationale for dedicating INEX-6 to long-term recovery. The workshop then moved to implementation experience, using a panel dialogue to compare how countries organised INEX-6 nationally (e.g. duration and format, participant profiles, governance arrangements and evaluation approaches). In the afternoon, the EGINEX-6 presented an overview of the consolidated INEX-6 results across modules, followed by a plenary discussion to validate the main takeaways.

This first day concluded with **Breakout round 1: “Priorities and outcomes”**. Small groups were asked to agree on the most important recovery-preparedness priorities highlighted by INEX-6, while also identifying benchmarkable good practices and organisational/logistical aspects of exercising recovery (including exercise design, roles, logistics and evaluation). Each group reported back in plenary to build a shared view of the most pressing gaps and the areas where practical improvements and international co-operation could add value.

Day 2: Draft report review and action planning

The second day opened with a recap of Day 1 outcomes and a structured review of the draft INEX-6 report, focussing on clarity, consistency and usability. This ensured the evaluation workshop not only generated new recommendations, but also directly strengthened the quality and accessibility of the consolidated INEX-6 output.

The programme then included a bridge session on the transition from emergency response to early recovery, drawing on national experiences to highlight how transition considerations extend into recovery decision making and governance. This was followed by Session 4: “Reviewing efforts and defining the way forward”, which brought in existing international mechanisms. In particular, the session included: (i) inputs on ongoing work on food safety frameworks; (ii) legal perspectives on liability and compensation issues relevant to recovery; (iii) reflections from Fukushima-related expertise on longer-term recovery challenges; (iv) an overview of stakeholder involvement activities relevant to recovery preparedness; and (v) a review of existing international support mechanisms and how they could interface with recovery needs (including the EC Union Civil Protection Mechanism and the IAEA Response and Assistance Network (RANET)).

Building on these inputs, the workshop moved to **Breakout round 2: “Action planning”**. Parallel groups were tasked with developing practical action items for the coming years, identifying potential owners, deliverables and indicative timelines. The breakout results were then presented in plenary and consolidated during the final wrap-up session, including confirmation of how the outcomes would feed into the subsequent work of the related NEA committees and expert groups. The detailed programme can be found in Appendix D.

Key outcomes

Overall, the workshop confirmed the main evaluation findings presented earlier in this report and helped prioritise follow-up needs. Participants emphasised that recovery preparedness remains underdeveloped and under-tested compared with emergency response arrangements, with transition and intermediate phases among the least defined and least exercised, often not required by legislation or national plans.

Recurrent gaps were identified in governance and role clarity, particularly below the national level, and in decision criteria for terminating the emergency and transitioning to recovery. Stakeholder engagement, trust, communication, and the management of uncertainty and misinformation were seen as decisive enablers of recovery. Participants also noted that international assistance arrangements are more mature for the emergency phase than for recovery, highlighting the need to clarify what can realistically be requested and delivered over the long term.

Finally, they viewed the modular exercise format as effective for accommodating different national contexts while enabling comparison, and called for earlier engagement of senior decision makers and associated non-radiological actors, improved alignment between scenarios, evaluation questions and reporting outputs, and more practical templates and examples, to support recovery exercising and evaluation.

Looking ahead, participants highlighted priorities for the coming years. These included developing guidance and tools for exercising recovery, promoting mechanisms to mandate recovery exercises, establishing clearer and more standardised termination and transition criteria, strengthening national arrangements for health monitoring and MHPSS, advancing work towards greater coherence in food safety approaches, improving remediation and waste management readiness, and further testing transition and intermediate recovery phases through more international exercises, while recognising that sustained political commitment and clearer governance are needed to translate recovery concepts into actionable preparedness improvements.

Follow-up actions and recommendations

In the second breakout round, participants were asked to identify follow-up actions for national authorities and for future work under the NEA and its expert bodies, as well as for other stakeholders. Across the group presentations, there was strong convergence on the need to strengthen recovery preparedness through clearer national frameworks, more realistic exercising of transition and recovery and more structured international support mechanisms. The discussions also highlighted a set of cross-cutting issues that participants considered important to address in recovery planning, including stakeholder engagement and trust, trade and transport impacts, legal and governance arrangements, long-term health monitoring and occupational exposure across phases.

The proposals below therefore reflect a menu of potential next steps that emerged from the breakout discussions; decisions on whether and how to take these forward would be made by the pertinent NEA bodies, taking into account mandates, resources and prioritisation.

The breakout outputs were consolidated into the following priority themes and next steps:

Establish a structured follow-up mechanism to address gaps identified by INEX-6

Workshop participants discussed options for a structured follow-up under WPNEM to help address gaps highlighted by INEX-6. Suggested elements included compiling a short list of issues not fully covered in INEX-6 that may warrant further scoping; using targeted questionnaires or short surveys to clarify national approaches, key decision points and practical constraints; maintaining a “living” repository of relevant resources (e.g. good practices, stakeholder mapping examples, and reusable exercises and evaluation approaches); and producing concise implementation-oriented outputs, such as an executive-level summary of key INEX-6 messages, and practical tools and templates to simplify the design, conduct and evaluation of recovery exercises.

Some participants suggested that elements of this work could be taken forward through a new dedicated group under WPNEM.

Strengthen international guidance and standards for recovery and exercising

Multiple groups emphasised that transition and recovery should be systematically exercised. Participants noted that achieving this will require stronger emphasis on recovery exercising and, over time, its progressive integration into international standards and guidance, ultimately supporting incorporation into national legislation and planning requirements. They also encouraged using INEX-6 outcomes to inform ongoing international guidance processes, including clearer expectations for exercising recovery and on managing the transition between phases.

As a practical next step, participants suggested bringing these messages to international fora and co-ordination mechanisms, including the IAEA Emergency Preparedness and Response Standards Committee (EPReSC) and the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE), as well as other pertinent emergency preparedness and recovery discussion platforms.

Improve international co-ordination on food criteria and trade impacts

As the INEX-6 exercise was conducted independently by countries without interactions at an international level, groups converged on the need to address the friction which could be created by different national food criteria and their downstream impacts on trade, consumer confidence, and cross-border flows of goods. Proposed actions included an NEA-led survey to assess countries’ willingness to pursue greater interoperability or harmonisation; a scenario-based desktop workshop or exercise to compare approaches and communication strategies; and engagement with bodies such as the World Trade Organization (WTO) to ensure that technical decisions are aligned with trade realities and confidence management.

Strengthen stakeholder engagement, trust and misinformation management

Participants emphasised that recovery is highly dependent on sustained stakeholder engagement and public trust. Suggestions included compiling case studies and good-practice guidance on engagement approaches (including lessons from the Fukushima Daiichi accident and from non-nuclear emergencies such as floods) and strengthening links with organisations such as the World Health Organization (WHO). Addressing misinformation and disinformation was identified as a specific capability area requiring more explicit attention in recovery planning and exercises. Participants noted that these messages could be taken forward through NEA groups focussed on stakeholder engagement and communication, to support more consistent integration into recovery guidance and exercising.

Strengthen long-term health monitoring and occupational exposure management

Several groups highlighted the need for practical approaches and indicators to monitor long-term physical and mental health impacts, with potential follow-up under CRPPH, and clearer, more consistent approaches to controlling occupational exposure across all phases, including for recovery workers. Participants suggested that this work could be taken forward through dedicated follow-up groups established under WPNEM, in co-ordination with CRPPH and other associated NEA bodies.

Explore options for international assistance mechanisms tailored to recovery

Participants discussed the potential value of developing an international recovery assistance mechanism broadly analogous to the IAEA Response and Assistance Network (RANET), noting that RANET is primarily oriented to the emergency phase. They suggested that this topic be considered in those fora and committees working on emergency preparedness and response. As a pragmatic first step, they encouraged strengthening bilateral and regional arrangements (particularly among neighbouring countries and within existing regional frameworks) to clarify what recovery support could be requested and delivered over time.

Next steps

Following the workshop, the Secretariat and EGINEX-6 consolidated the breakout outputs and plenary discussions into the present chapter. In parallel, participants were invited to provide written feedback on the draft report to improve consistency and usability. The recommended follow-up actions outlined above will be taken forward through WPNEM and CRPPH work planning and, where appropriate, through collaboration with international organisations and related international initiatives.

Chapter 6. Conclusions

INEX-6 represented a milestone in the INEX series by focussing exclusively on long-term recovery preparedness following a radiological or nuclear emergency. Through a common scenario and a modular approach, it enabled comparison across diverse national contexts while remaining flexible enough to reflect different governance systems, technical capacities and preparedness levels. Drawing on national tabletop exercises, evaluation questionnaires and workshop discussions, the exercise provides a substantial basis for assessing how recovery arrangements would function in practice once the immediate emergency phase has ended.

The exercise confirmed that many countries have established important foundations for recovery preparedness. These include legal and organisational frameworks, designated lead bodies, baseline technical capabilities and broad alignment with international radiological protection recommendations. More broadly, the findings show that recovery is increasingly understood not only as a radiological protection issue, but as a wider societal challenge requiring attention to health and well-being, social and economic impacts, environmental management, communication and long-term governance.

At the same time, INEX-6 highlighted a persistent implementation gap. Compared with emergency response, recovery remains less clearly defined, less routinely exercised and less operationalised. Across the modules, recurring issues included unclear roles and handover arrangements, particularly below the national level; limited legal or regulatory drivers to exercise recovery; uneven plans for sustaining resources and surge capacity over months or years; and insufficient recovery-specific communication arrangements despite the central importance of trust, stakeholder engagement, and the management of uncertainty and misinformation.

The exercise also showed that the pace of recovery is likely to be shaped not only by policy choices, but by practical constraints. Monitoring and assessment capabilities may be relatively robust in principle, yet difficult to sustain at scale because of limitations in laboratory capacity, trained personnel, equipment and long-term logistics. In the same way, remediation, decontamination and radioactive waste management are closely tied to staging arrangements, temporary storage, transport capacity, authorisations and public acceptance, all of which can become decisive bottlenecks regardless of the technical strategy selected.

Across the thematic areas, common patterns emerged. In health, countries recognised the need for clearer long-term monitoring arrangements and more practical planning for mental health and psychosocial support. In food safety, differences in criteria and approaches remain a potential source of friction, with implications for consumer confidence and cross-border trade. In remediation, decontamination and radioactive waste management, respondents highlighted the importance of clearer end states, decision criteria and executable strategies, together with realistic planning for waste logistics, throughput and siting. The exercise and the evaluation workshop also confirmed that international assistance mechanisms are generally better developed for the emergency phase than for recovery, and that expectations regarding longer-term mutual support should be clarified in advance.

The findings presented in this report should be understood in light of the exercise design. INEX-6 was based on a modular tabletop format and a semi-quantitative common scenario intended to stimulate strategic discussion rather than test every technical aspect of recovery in detail. Even so, the consistency of the issues raised across countries and modules gives confidence that the exercise has identified a credible set of common strengths, recurring gaps and practical priorities for improvement.

Overall, INEX-6 provides a strong evidence base and a practical basis for follow-up work on recovery preparedness. Its central conclusion is that many countries have the foundations of recovery preparedness in place, but that these foundations are not yet consistently translated into operational arrangements. Strengthening recovery preparedness will require sustained political commitment and practical steps to move from principles to implementation, including clearer governance and transition criteria, more systematic exercising of recovery phases, and usable tools and arrangements that reflect real-world constraints in logistics, resources and public confidence.

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Appendix A. EGINEX-6 membership

Peter Wright (Canada), Chair	Selwyn Runacres (United Kingdom), Vice-Chair
Tristan Barr (Canada), Subgroup Lead	Stephanie Ellis (United Kingdom), Subgroup Lead
Gerry Knight (United Kingdom), Subgroup Lead	Paulo Nunes (Portugal), Subgroup Lead
Paul Tossell (United Kingdom), Subgroup Lead	Holly Arrigoni (United States)
Carol Attwood (United Kingdom)	Kyuwon Choi (Korea)
Kathleen Corriveau (Canada)	Thierry Doursout (France)
Martina Dubničková (Slovak Republic)	Alex Jenkins (United Kingdom)
Courtney MacDonald (Canada)	David Moroz (Canada)
Nina Mosimann (Switzerland)	Ivan Nikolov (Bulgaria)
Lieve Sweeck (Belgium)	Richard Tennant (Canada)
Marilyne Tombette (France)	Angelina Todorova (Bulgaria)
Katrijn Vandersteen (Belgium)	Jens Weismüller (Germany)
Kazuya Yamamoto (Japan)	Lucas Martiri (NEA), EGINEX-6 Secretariat
Chris Mogg (United Kingdom), former EGINEX-6 Secretariat	Kazuhiko Hiruta (Japan), former EGINEX-6 Secretariat

Appendix B. **INEX-6 materials**

The documents listed below were prepared as supporting materials for the INEX-6 exercise and shared with national exercise organisers. They were not issued as publicly accessible NEA publications and are therefore not included in the reference list. Copies are available on request from the NEA Secretariat at wpnem@oecd-nea.org.

Core reference documents

- INEX-6: General Information, NEA/CRPPH/INEX(2023)2, [https://one.oecd.org/document/NEA/CRPPH/INEX\(2023\)2/en/pdf](https://one.oecd.org/document/NEA/CRPPH/INEX(2023)2/en/pdf).
- INEX-6: How to start preparing for the INEX-6 exercise, NEA/CRPPH/INEX(2023)3, [https://one.oecd.org/document/NEA/CRPPH/INEX\(2023\)3/en/pdf](https://one.oecd.org/document/NEA/CRPPH/INEX(2023)3/en/pdf).
- INEX-6: Guide for National Planning Committees, NEA/CRPPH/INEX(2023)9, [https://one.oecd.org/document/NEA/CRPPH/INEX\(2023\)9/en/pdf](https://one.oecd.org/document/NEA/CRPPH/INEX(2023)9/en/pdf).
- INEX-6: Guide for Exercise Players, NEA/CRPPH/INEX(2023)11, [https://one.oecd.org/official-document/NEA/CRPPH/INEX\(2023\)11/en](https://one.oecd.org/official-document/NEA/CRPPH/INEX(2023)11/en).

Module-specific exercise slide decks

Module-specific exercise slide decks were also developed to support the conduct and moderation of the INEX-6 exercise. Copies are available on request from the NEA Secretariat

Appendix C. Evaluation questionnaire and quantitative results

This appendix presents the evaluation questionnaire used for INEX-6, together with selected figures illustrating key quantitative responses. Figures that already appear in the main body of the report are not repeated here.

Generic questionnaire

1) Contact Information (un-numbered)

Name

Institution

Country

Email address

Please indicate your participated modules

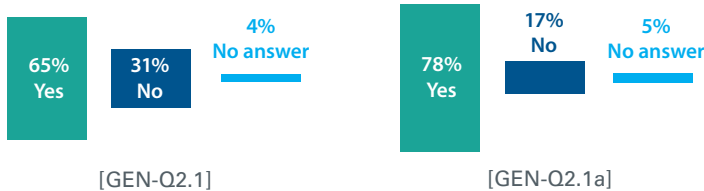
Other organisations involved in completing this survey (if any) – *[Please list]*

2) Framework for recovery

[GEN-Q2.1] Do you have a national recovery framework or strategy that covers nuclear or radiological emergencies? *(Yes/No + details box)*

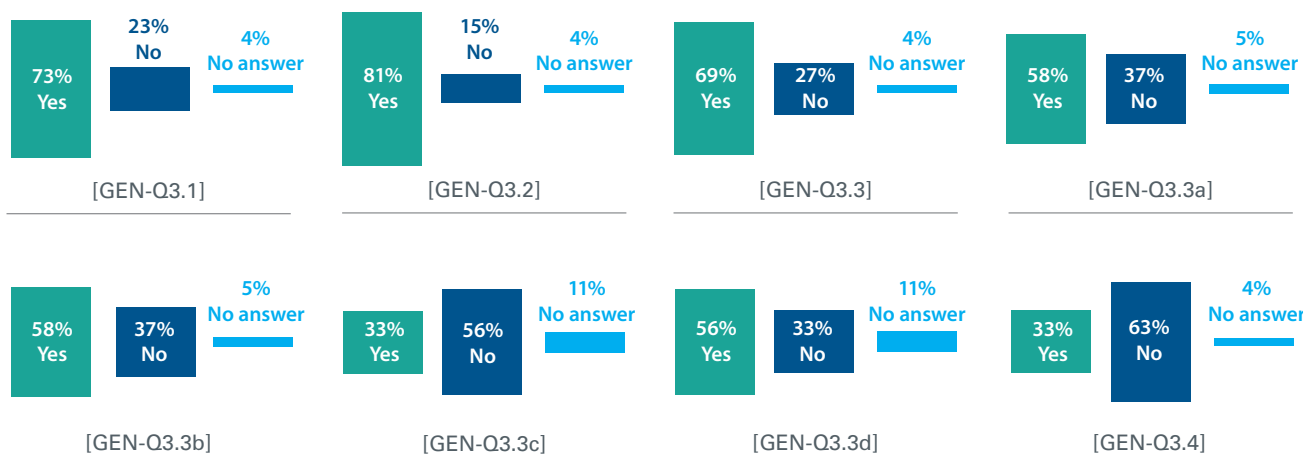
[GEN-Q2.1a] If Y to Q2.1: Is there a published version? *(Yes/No)*

[GEN-Q2.1a-1] If Y to Q2.1a: Please provide a link to the public document.



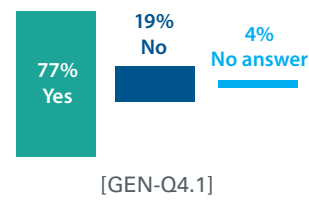
3) Recovery legislation

- [GEN-Q3.1] Do you have national policies that apply to the recovery phase of nuclear and radiological emergencies? *(Yes/No + details box)*
- [GEN-Q3.1a] If Y to Q3.1: Please list the policy areas and provide links to the published versions.
- [GEN-Q3.2] Do you have legislation for the recovery phase of nuclear and radiological emergencies? *(Yes/No + details box)*
- [GEN-Q3.3] Does your legislation require the development of recovery plans? *(Yes/No + details box)*
- [GEN-Q3.3a] If Y to Q3.3: Does your country have (a) recovery plan(s) for all-hazards emergencies? *(Yes/No + details box)*
- [GEN-Q3.3b] If Y to Q3.3: Does your country have (a) recovery plan(s) for nuclear or radiological emergencies? *(Yes/No + details box)*
- [GEN-Q3.3b-1] If Y to Q3.3b: Please describe or provide link to your plan.
- [GEN-Q3.3c] If N to Q3.3: Does your country intend to develop (a) recovery plan(s) for all-hazards emergencies? *(Yes/No + details box)*
- [GEN-Q3.3d] If N to Q3.3: Does your country intend to develop (a) recovery plan(s) for nuclear or radiological emergencies? *(Yes/No + details box)*
- [GEN-Q3.4] Does your legislation require exercising the recovery phase of nuclear or radiological emergencies? *(Yes/No + details box)*
- [GEN-Q3.4a] If Y to Q3.4: What is the legislative requirement for recovery exercising and how often?
- [GEN-Q3.4b] If N to Q3.4: Does your country exercise recovery from nuclear or radiological emergencies, and how often? *(e.g. one per year, per two years... etc)*
- [GEN-Q3.5] Based on the status of your country's framework, legislation and policies for recovery from nuclear or radiological emergencies, are there any areas you think could be improved after taking part in this exercise? *(e.g. plans, arrangements, governance, exercising, training)*



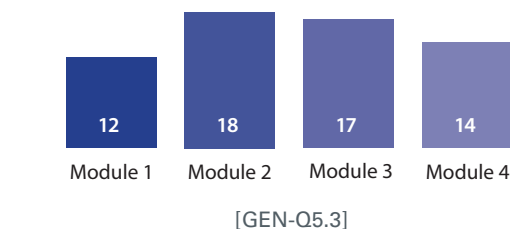
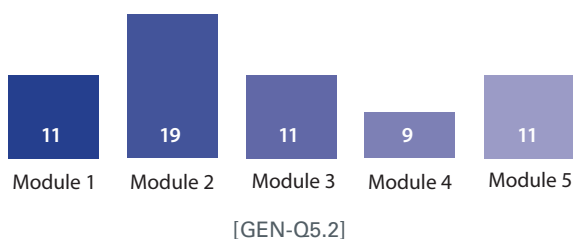
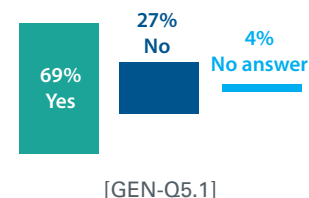
4) Organisational structures

- [GEN-Q4.1] Do you have a lead organisation/department responsible for the recovery phase of a nuclear or radiological emergency? *(Yes/No + details box)*
- [GEN-Q4.2] Please describe your governance arrangements for recovery at the national level.
- [GEN-Q4.3] Please describe your governance arrangements for recovery at the local or regional level.
- [GEN-Q4.4] Please describe your governance arrangements for the transition from response phase to recovery phase.



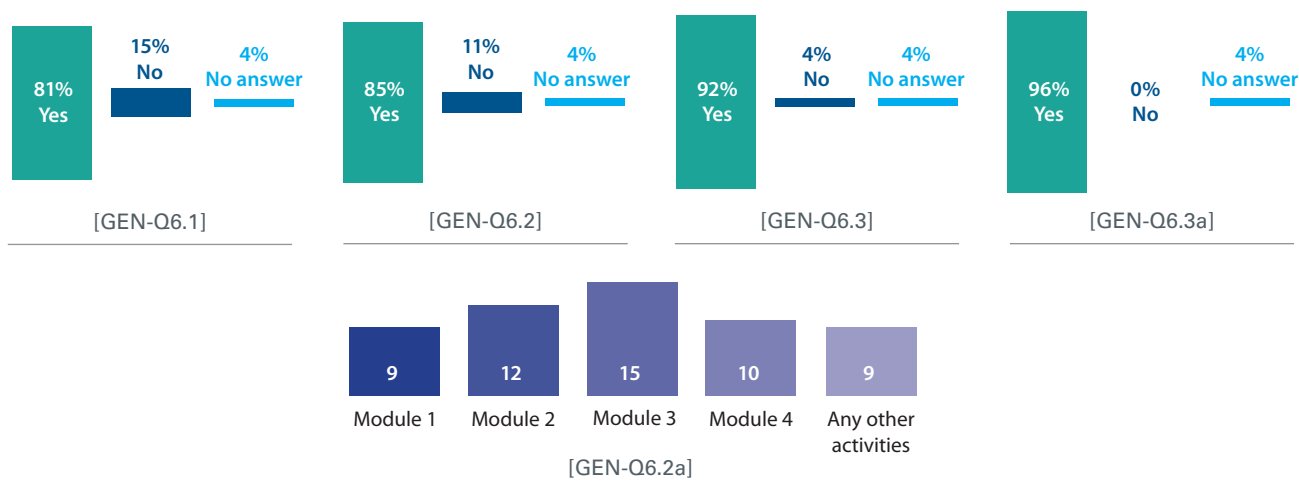
5) Capacity and resources

- [GEN-Q5.1] Has your country identified baseline resources required for recovery operations in general (i.e. not specific to any area)? *(Yes/No + details box)*
- [GEN-Q5.2] In relation to this INEX-6 scenario, are there sufficient resources and trained personnel to carry out recovery operations in below listed modules? *(Multiple choice: Health impact; Food safety; Remediation and decontamination; Waste management; "You don't have enough resources")*
- [GEN-Q5.2a] Based on your selection of Q5.2: Please provide a brief overview of the resources and skills you maintain for recovery from nuclear or radiological emergencies.
- [GEN-Q5.2b] If Q5.2 is Option 5: Please identify the types of skills/personnel you might need.
- [GEN-Q5.3] Please identify whether your country has mechanism for increasing capacity to ensure sufficient resources are available to conduct recovery operations? *(Multiple choice: Health impact; Food safety; Remediation and decontamination; Waste management)*
- [GEN-Q5.3a] Based on your selection Q5.3: Please describe the arrangements for increasing capacity.



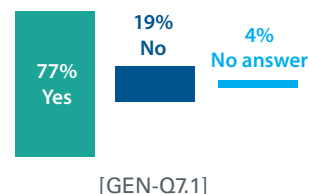
6) International co-ordination

- [GEN-Q6.1] Do you have any mutual aid agreements with nearby countries and regions (i.e. bilateral, Memory of Understandings)? *(Yes/No + details box)*
- [GEN-Q6.1a] If Y to Q6.1: Are these agreements exercised and if so how often?
- [GEN-Q6.2] Would you consider requesting international assistance via IAEA's Ranet for recovery operations? *(Yes/No + details box)*
- [GEN-Q6.2a] If Y to Q6.2: In this scenario, what assistance would you request? *(Multiple choice: Health impact; Food safety; Remediation and decontamination; Waste management; Any other activities)*
- [GEN-Q6.3] Do you have a system in place to exchange relevant information with the international community? *(Yes/No + details box)*
- [GEN-Q6.3a] If Y to Q6.3: Do you use the IAEA system? *(Yes/No + details box)*
- [GEN-Q6.3a-1] If N to Q6.3a: How is information exchanged?



7) Reference levels

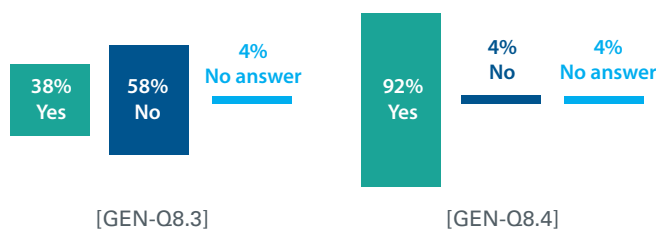
- [GEN-Q7.1] Did you set a reference level for the recovery phase? *(Yes/No)*
- [GEN-Q7.1a] If Y to Q7.1: What was the value of the reference level in Sv?
- [GEN-Q7.2] What factors did you consider when setting/modifying the reference level in relation to the scenario?



8) Stakeholder engagement

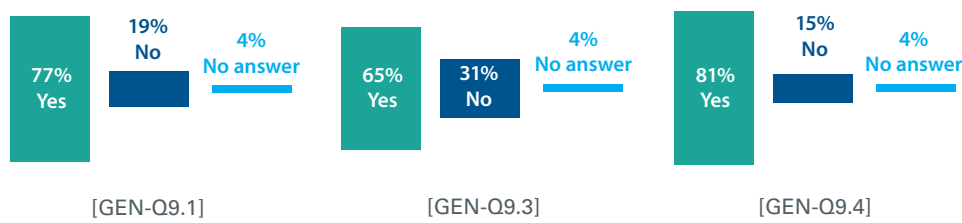
- [GEN-Q8.1] How would you engage with stakeholders and business to establish acceptable outcomes of the recovery phase?
- [GEN-Q8.2] What mechanism do you use to engage the stakeholders in decision-making and maintain (or rebuild) trust in social structures through empowering communities? Who is responsible for this engagement?
- [GEN-Q8.3] In this exercise, did you use a 'co-expertise process' or similar stakeholder engagement approach to include the affected communities in decision-making for each of the modules? *(Yes/No + details box)*
- [GEN-Q8.3a] If Y to Q8.3: How would you co-ordinate and communicate with local stakeholders?

- [GEN-Q8.3b] If Y to Q8.3: Which organisations/stakeholders did you include?
- [GEN-Q8.4] In addressing this scenario, was there integration/co-ordination between radiological and non-radiological specialists in decision-making for each of the modules? *(Yes/No + details box)*
- [GEN-Q8.4a] If Y to Q8.4: Please describe how this best was achieved.



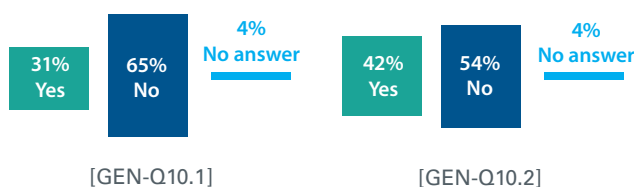
9) Public communication

- [GEN-Q9.1] Is there a lead organisation/department responsible for public communication at each level of government (i.e., national, local)? *(Yes/No)*
- [GEN-Q9.1a] If Y to Q9.1: Please indicate the lead organisation.
- [GEN-Q9.2] How are public communications co-ordinated between levels of government for both domestic and international audiences?
- [GEN-Q9.3] Do you have designated spokesperson(s) for communicating with the public following a radiological/nuclear emergency? *(Yes/No + details box)*
- [GEN-Q9.4] Do you have plans or guidance on communicating with the public? *(Yes/No + details box)*
- [GEN-Q9.4a] If Y to Q9.4: Can you provide a link to this guidance?



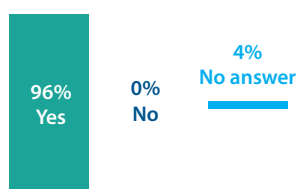
10) Education and training

- [GEN-Q10.1] Do you provide training courses relating to the recovery phase of nuclear and radiological emergencies for officials involved? *(Yes/No + details box)*
- [GEN-Q10.2] Do you have a communication strategy to inform people on how best to protect themselves in the recovery phase (e.g. self-help actions)? *(Yes/No + details box)*
- [GEN-Q10.2a] If Y to Q10.2: Please describe or provide links or publications.
- [GEN-Q10.3] What method(s) do you use for public education on ionising radiation and nuclear or radiological emergencies?

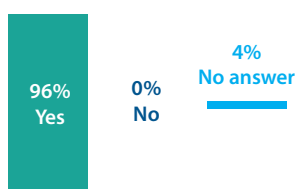


11) Exercise scenario and format

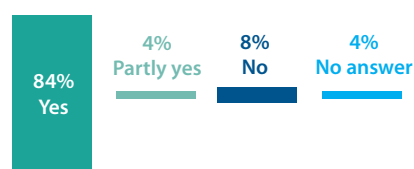
- [GEN-Q11.1] Were the exercise materials provided by the NEA sufficient for the purposes of national exercise planning? *(Yes/No + details box)*
- [GEN-Q11.2] Were the pre-exercise briefings hosted by the NEA sufficient for your planning needs? *(Yes/No + details box)*
- [GEN-Q11.3] Was the exercise scenario effective in enabling your country to explore and discuss the recovery topics (e.g. sufficiently generic, realistic, adequate level of detail)? *(Yes/No + details box)*
- [GEN-Q11.4] Were the slide packs an effective format for facilitating the exercise play? *(Yes/No)*
- [GEN-Q11.5] What could be improved in the delivery of Tabletop Exercise modules in the future?
- [GEN-Q11.6] Was the exercise timeframe sufficient to complete all modules? Was the time allotted for each module sufficient? *(Yes/No + details box)*
- [GEN-Q11.7] Would you look to re-use the INEX-6 materials to repeat the exercise for new staff in the future? *(Yes/No)*
- [GEN-Q11.8] What other recovery topics would you like to see covered in future INEX-6 modules?
- [GEN-Q11.9] From your perspective, what were the most significant accomplishments of INEX-6?
- [GEN-Q11.10] What other comments or suggestions do you have that should be considered for the planning and conduct of future INEX exercises?



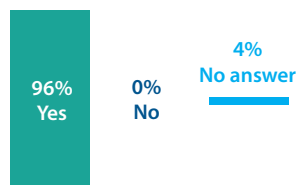
[GEN-Q11.1]



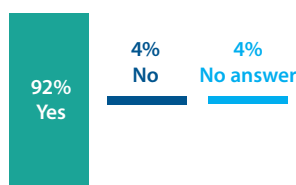
[GEN-Q11.2]



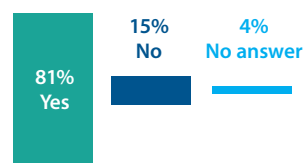
[GEN-Q11.3]



[GEN-Q11.4]



[GEN-Q11.6]

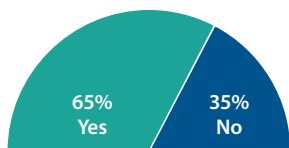


[GEN-Q11.7]

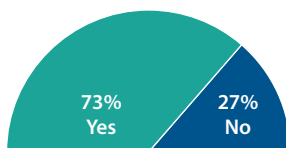
Module 1: Long-term Health Impacts

Theme 1 - Health status

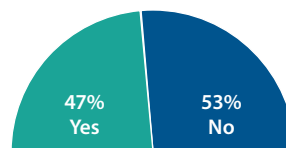
- [Q1.1] Does your country have a national dosimetry programme? Please indicate more details on your option. (Not mandatory)
- [Q1.1a] If Yes to Q1.1: In the exercise scenario, would your country have enough resources to monitor the exposed population? Please indicate more details on your option. (Not mandatory)
- [Q1.2] Does your country have a dosimetry programme for highly exposed individuals? Please indicate more details on your option. (Not mandatory)
- [Q1.2a] If Yes to Q1.2: In the exercise scenario, would your country have enough resources to monitor number of individuals who received high doses? Please indicate more details on your option. (Not mandatory)
- [Q1.3] Does your country have a dedicated database to register and track dosimetry results of the affected population? Please indicate more details on your option. (Not mandatory)
- [Q1.3a] If Yes to Q1.3: How does this database function, who runs the database, does it include non-radiation workers, what data is needed to populate the database?
- [Q1.4] Do you have arrangements for long-term health monitoring of the affected population? Please indicate more details on your option. (Not mandatory)
- [Q1.4a] If Yes to Q1.4: Who is responsible for these arrangements? Please indicate more details on your option. (Not mandatory)
- [Q1.5] What were the key health indicators to be monitored for the exposed population?
- [Q1.6] What specialised medical indicators were identified for highly exposed individuals (>100 mSv)?
- (M1-1): Quantitative Responses & Figures



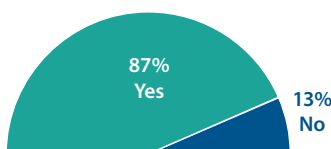
[M1-Q1.1]



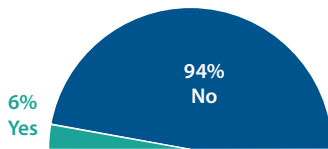
[M1-Q1.1(a)]



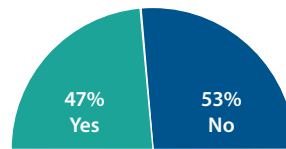
[M1-Q1.2]



[M1-Q1.2(a)]



[M1-Q1.3]

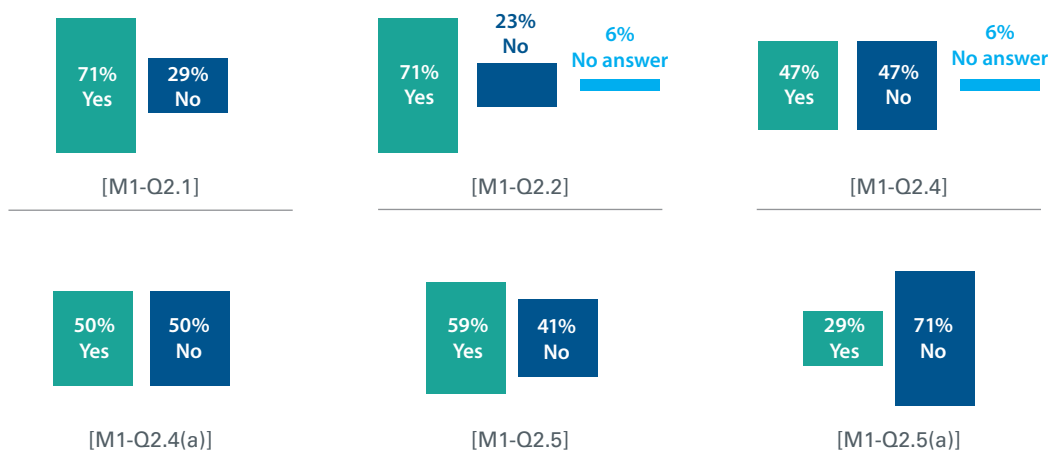


[M1-Q1.4]

Theme 2 - Medical follow-up and the health care system

The following questions in this section were part of the survey:

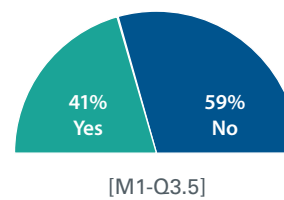
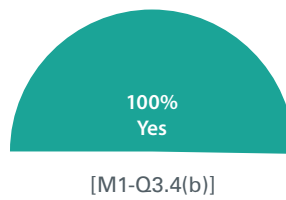
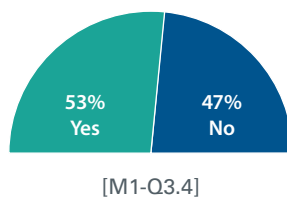
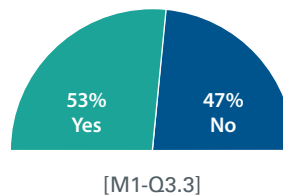
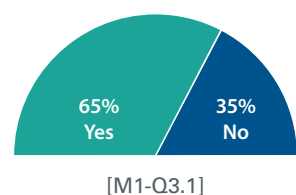
- [Q2.1] Are there dedicated medical centres/hospitals with radiation expertise? Please indicate more details on your option. *(Not mandatory)*
- [Q2.1a] If No to Q2.1: Where would exposed individuals received long-term health monitoring?
- [Q2.2] In this scenario, will your country's present health care system be able to support the long-term health care of exposed individuals? Please indicate more details on your option. *(Not mandatory)*
- [Q2.2a] If No to Q2.2: What challenges were identified during the exercise?
- [Q2.3] Does your country have a long-term recovery strategy to address long-term health monitoring and care? Please indicate more details on your option. *(Not mandatory)*
- [Q2.3a] If Yes to Q2.3: Please provide a link to this document.
- [Q2.4] In relation to this scenario, does your country have enough trained medical professionals to carry out the treatment and screening of the affected population? Please indicate more details on your option. *(Not mandatory)*
- [Q2.4a] If No to Q2.4: Do you have a strategic plan to be able to train up the staff or provide surge capacity to ensure trained personnel are available for medical follow up? Please indicate more details on your option. *(Not mandatory)*
- [Q2.5] In relation to this scenario, does your country have enough facilities to carry out the treatment and screening of the affected population? Please indicate more details on your option. *(Not mandatory)*
- [Q2.5a] If No to Q2.5: Do you have a strategic plan to be able to surge capacity to increase facilities for medical follow up? Please indicate more details on your option. *(Not mandatory)*
- [Q2.5a-1] If Yes to Q2.5a: Please provide a link to this plan.



Theme 3 - Mental Health and Psychosocial Support (MHPSS)

The following questions in this section were part in the survey:

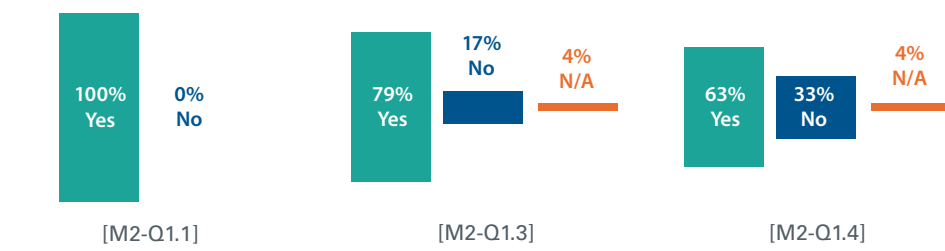
- [Q3.1] Does your country have a strategy to provide mental health and psychosocial support for evacuees and their communities? Please indicate more details on your option. *(Not mandatory)*
- [Q3.1a] If Yes to Q3.1: Please provide a link to this document.
- [Q3.2] Which organisation(s) would be responsible for co-ordinating MHPSS programmes for evacuees?
- [Q3.3] Is there co-ordination between radiation and non-radiation specialists to support affected communities? Please indicate more details on your option. *(Not mandatory)*
- [Q3.3a] If Yes to Q3.3: Please provide a link to this document.
- [Q3.4] Does your country have prepared communication strategy on MHPSS for engagement with the community for the long term? Please indicate more details on your option. *(Not mandatory)*
- [Q3.4a] If Yes to Q3.4: What are the key elements (or objectives) of the communication strategy that would be used in recovery?
- [Q3.4b] If Yes to Q3.4: Would these campaigns/guidance be used during recovery from a nuclear or radiological emergency? Please indicate more details on your option. *(Not mandatory)*
- [Q3.4b-1] If Yes to Q3.4b: Please provide a link to any publication.
- [Q3.5] Does your country have any pre-prepared public advice on MHPSS in recovery? Please indicate more details on your option. *(Not mandatory)*
- [Q3.5a] If Yes to Q3.5: Please provide a link to published documents.
- [Q3.6] Which organisation(s) leads mental health promotion campaigns, and are they part of your nuclear emergency response structure?



Module 2: Food Safety

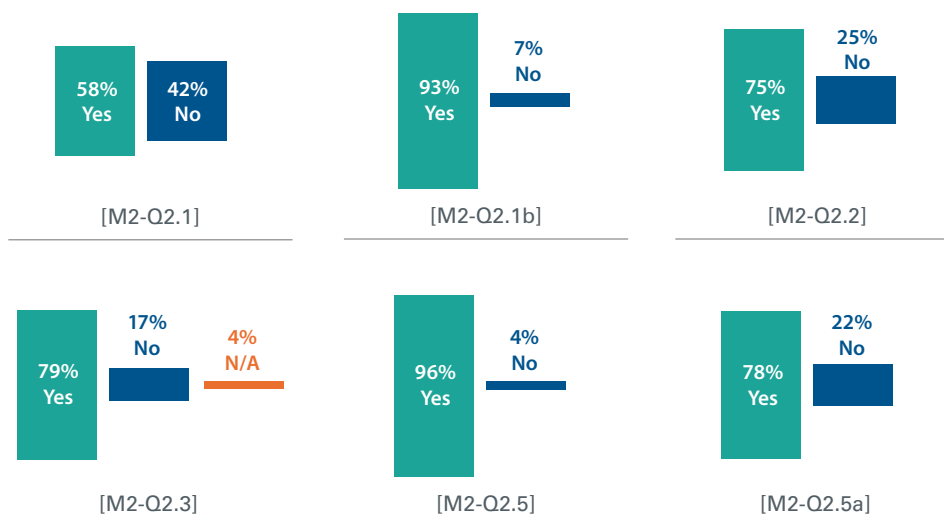
Theme 1 - Regulatory and policy framework

- [M2-Q1.1] Does your country have a legal basis for implementing restrictions on consumption, delivery, or production of contaminated food impacted by the radiological accident? *(Yes/No)*
- [M2-Q1.1a] If Y to Q1.1: Please provide details.
- [M2-Q1.2] What criteria did you apply in this scenario to evaluate food safety and the need for modifying/lifting restrictions? Please provide values.
- [M2-Q1.3] Were the criteria that you applied in this scenario the same as your default national criteria? *(Yes/No + details box)*
- [M2-Q1.3a] If N to Q1.3: Why did you select different criteria?
- [M2-Q1.4] Do you have procedures in place to supply the community with alternative foods in long-term? *(Yes/No + details box)*
- [M2-Q1.4a] If Y to Q1.4: Please describe the procedures.
- [M2-Q1.5] Please describe the strategy/process for maintaining the trust of the population, and businesses, in the measures taken to ensure the safety of food supplies.



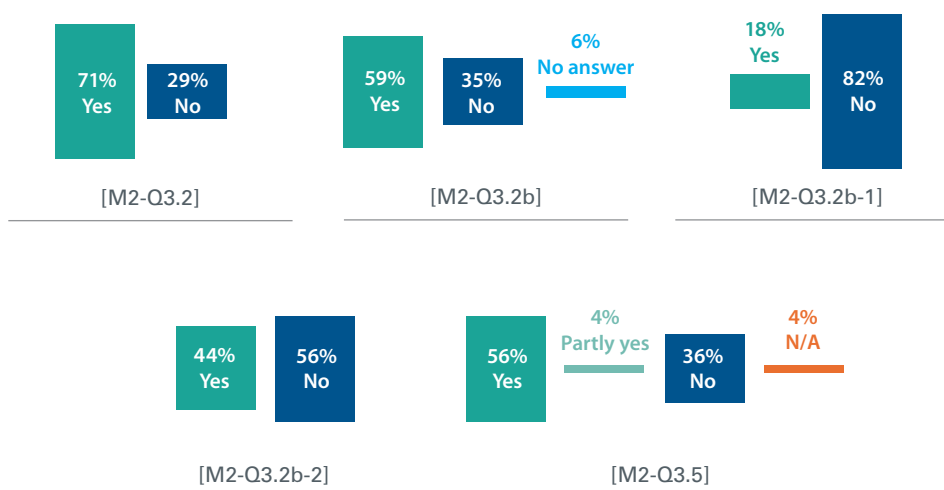
Theme 2 - Quality assurance

- [M2-Q2.1] Does your country have a long-term food safety strategy following a nuclear or radiological emergency? *(Yes/No + details box)*
- [M2-Q2.1a] If Y to Q2.1: Please provide a link to this document.
- [M2-Q2.1b] If Y to Q2.1: Is this strategy co-ordinated as part of your nuclear emergency response structure? *(Yes/No + details box)*
- [M2-Q2.2] Does your country have sufficient resources (equipment and personnel) to implement the monitoring and screening of food products based on the scale of contamination in this scenario? *(Yes/No + details box)*
- [M2-Q2.3] Would your country's regulator allow food producers and retailers to implement their own independent food screening programmes? *(Yes/No)*
- [M2-Q2.3a] If Y to Q2.3: What is the plan to conduct verification of the monitoring and screening programmes?
- [M2-Q2.4] If individuals and businesses conduct their own independent food screenings with its own criteria, how will you ensure public confidence and co-ordinated/consistent messaging if the results differ from those of government organisations?
- [M2-Q2.5] Do you have an organisation to conduct long-term food monitoring? *(Yes/No + details box)*
- [M2-Q2.5a] If Y to Q2.5: Do you have a process to expand monitoring resources? *(Yes/No + details box)*



Theme 3 - Trade and consumer confidence

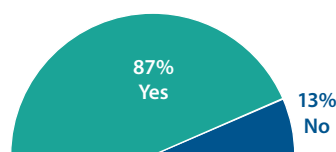
- [M2-Q3.1] When exporting food products outside a country, do you apply the domestic criteria or the CODEX criteria? (*Domestic / CODEX + details box*)
- [M2-Q3.2] Does your country have its own domestic standards? (*Yes/No + details box*)
- [M2-Q3.2a] If Y to Q3.2: Please provide a link to this document.
- [M2-Q3.2b] If Y to Q3.2: Are they stricter than CODEX standards? (*Yes/No + details box*)
- [M2-Q3.2b-1] If Y to Q3.2b: Would the import of food products that pass the CODEX standard but not the domestic be allowed? (*Yes/No + details box*)
- [M2-Q3.2b-2] If N to Q3.2b: Would the export of food products that pass the CODEX standard but not the domestic be allowed? (*Yes/No + details box*)
- [M2-Q3.3] What should be the role of international standards in relation to domestic food safety standards?
- [M2-Q3.4] What are the criteria in place to lift food restrictions for both consumption and distribution?
- [M2-Q3.5] Does your country have a compensation scheme/procedures to support the food industry in the event of food restrictions? (*Yes/No*)
- [M2-Q3.5a] If Y to Q3.5: Please provide details of your compensation scheme/procedures.
- [M2-Q3.6] How would food industry compensation programmes be terminated after the restrictions are lifted?
- [M2-Q3.7] How will you reassure the population and businesses on food safety after restrictions have been lifted?



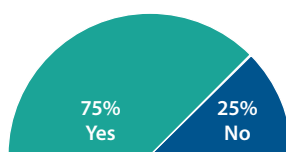
Module 3 – Remediation and Decontamination

Theme 1 - Regulatory and policy framework

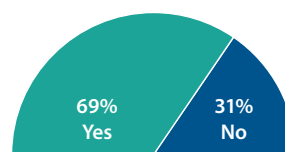
- [M3-Q1.1] Does your country have a regulatory, policy, or legislative framework addressing the long-term management of contaminated areas in post-accident situations? *(Yes/No + details box)*
- [M3-Q1.1a] If Y to Q1.1: Please provide a link to this document.
- [M3-Q1.2] Is the policy framework addressing remediation and decontamination integrated with your nuclear emergency response structure? *(Yes/No + details box)*
- [M3-Q1.3] Is there a regulatory or policy framework that applies to conducting remedial actions in or on private property? *(Yes/No + details box)*
- [M3-Q1.4] Does your country have a strategy for prioritising areas for remediation and decontamination? *(Yes/No)*
- [M3-Q1.4a] If Y to Q1.4: Please provide link to the public document.
- [M3-Q1.5] Is there a lead organisation responsible for remediation and decontamination activities? *(Yes/No + details box)*
- [M3-Q1.5a] If Y to Q1.5: Who is the lead organisation?
- [M3-Q1.6] What are the other organisations involved in delivery in remediation and decontamination activities?



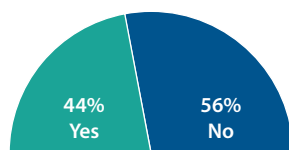
[M3-Q1.1]



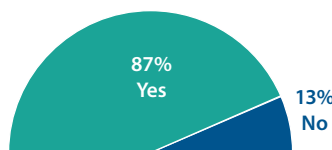
[M3-Q1.2]



[M3-Q1.3]



[M3-Q1.4]



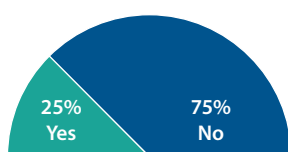
[M3-Q1.5]

Theme 2 - Identification of remediation goals and remedial actions

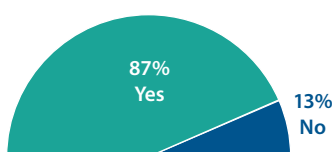
- [M3-Q2.1] Do you have a remediation strategy? *(Yes/No)*
- [M3-Q2.1a] If Y to Q2.1: Please provide a link to this document.
- [M3-Q2.1b] If N to Q2.1: Did you design one remediation strategy in the exercise?
- [M3-Q2.2] Did the strategy used in the exercise address the following considerations? *(Multiple choice: Suitability; Applicability by radionuclides; Constraints; Effectiveness; Waste management considerations; Site specific considerations; Stakeholders acceptance)*
- [M3-Q2.3] Which area(s) of your national remediation strategy require improvement?

Theme 3 - Implementation of remedial actions

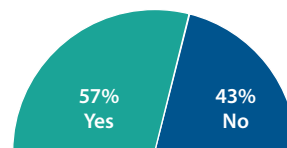
- [M3-Q3.1] What do you consider to be the top priorities for remediation and decontamination based on the scenario? (+ details box)
- [M3-Q3.2] Do you have operational plans to conduct remediation and decontamination activities? (Yes/No)
- [M3-Q3.2a] If Y to Q3.2: Please provide link to these public documents.
- [M3-Q3.3] Do you have organisations available to conduct remediation and decontamination activities? (Yes/No + details box)
- [M3-Q3.3a] If Y to Q3.3: Are there sufficient resources (personnel, equipment) to implement the remediation actions and strategy in this scenario? (Yes/No + details box)
- [M3-Q3.3a-1] If N to Q3.3a: Do you have other domestic mechanisms to engage additional resources? (Yes/No + details box)
- [M3-Q3.3a-2] If N to Q3.3a: Would you request international assistance? (Yes/No + details box)
- [M3-Q3.4] Does your remediation and decontamination strategy include environmental monitoring to assess the effectiveness of the remediation? (Yes/No + details box)
- [M3-Q3.5] Is there a lead organisation identified to manage ongoing environmental monitoring following remediation and decontamination? (Yes/No + details box)
- [M3-Q3.5a] If Y to Q3.5: Which organisation?
- [M3-Q3.6] Based on this scenario, does your country have sufficient resources (personnel, equipment) to implement an environmental monitoring program to assess effectiveness of remediation? (Yes/No + details box)
- [M3-Q3.6a] If N to Q3.6: Do you have other domestic mechanisms to engage additional resources? (Yes/No + details box)
- [M3-Q3.6a-1] If N to Q3.6a: Would you request international assistance? (Yes/No + details box)



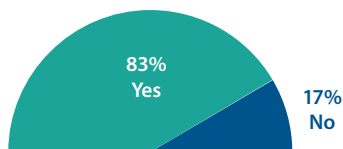
[M3-Q3.2]



[M3-Q3.3]



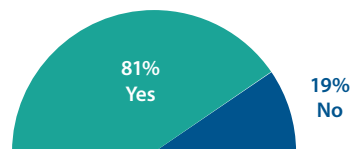
[M3-Q3.3a]



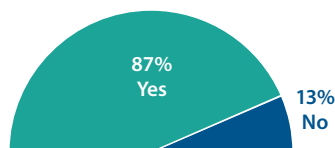
[M3-Q3.3a-1]



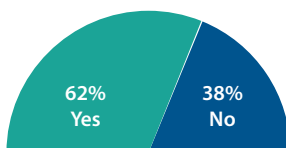
[M3-Q3.3a-2]



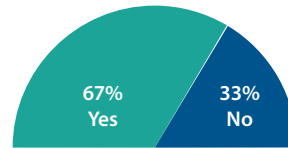
[M3-Q3.4]



[M3-Q3.5]



[M3-Q3.6]

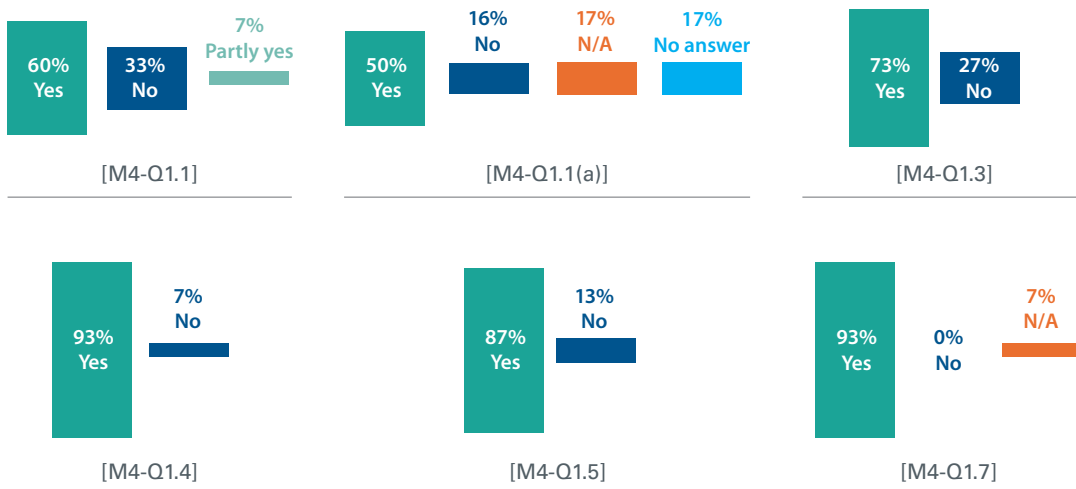


[M3-Q3.6a]

Module 4: Radioactive Waste Management

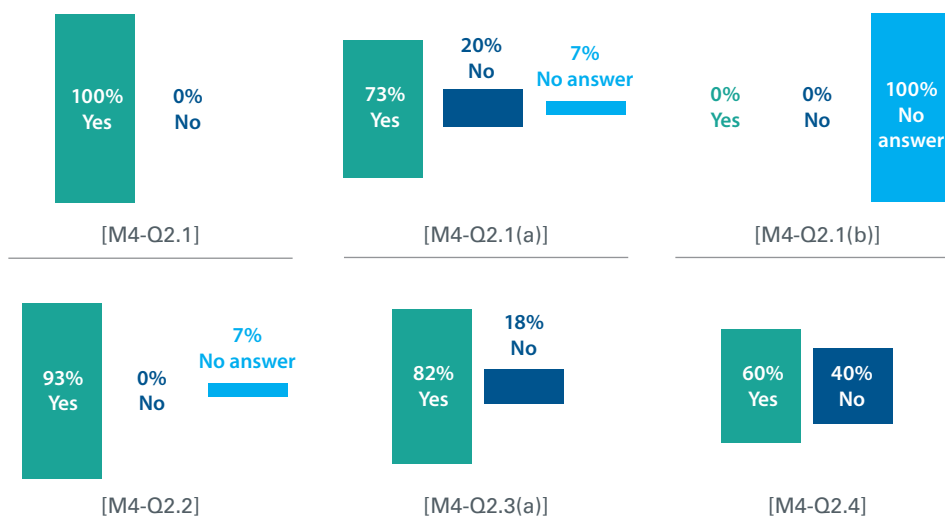
Theme 1 - Regulatory and policy framework

- [M4-Q1.1] Does your regulatory and policy framework for managing radioactive waste in routine, licensed, operations apply to radioactive waste generated in an emergency? *(Yes/No + details box)*
- [M4-Q1.1a] If N to Q1.1: Would you need to develop new legislation? *(Yes/No)*
- [M4-Q1.1a-1] If Y to Q1.1a: What areas of legislation do you think you may need to develop?
- [M4-Q1.2] In this exercise did you need to adapt the regulatory and policy framework to manage the large volumes of radioactive waste generated in the emergency? *(Yes/No + details box)*
- [M4-Q1.2a] If Y to Q1.2: What did you need to change?
- [M4-Q1.3] Does your country have a waste management strategy based on the regulatory and policy frameworks? *(Yes/No)*
- [M4-Q1.3a] If Y to Q1.3: Please provide link to the public document.
- [M4-Q1.4] Is there a lead organisation responsible for managing radioactive waste resulting from a nuclear or radiological emergency? *(Yes/No + details box)*
- [M4-Q1.4a] If Y to Q1.4: Who is the lead organisation?
- [M4-Q1.5] Do you have radiological criteria for the classification/categorisation of waste that would apply to radioactive waste generated in an emergency? *(Yes/No)*
- [M4-Q1.6] What are the waste classification based on (e.g. total activity, activity concentration, half-life, dose consequences)? *(+ details box)*
- [M4-Q1.7] Would the classification/categorisation criteria apply to the volumes of waste in this exercise? *(Yes/No)*
- [M4-Q1.7a] If N to Q1.7: How would you need to modify the radiological criteria? *(+ details box)*



Theme 2 - Transport of radioactive waste

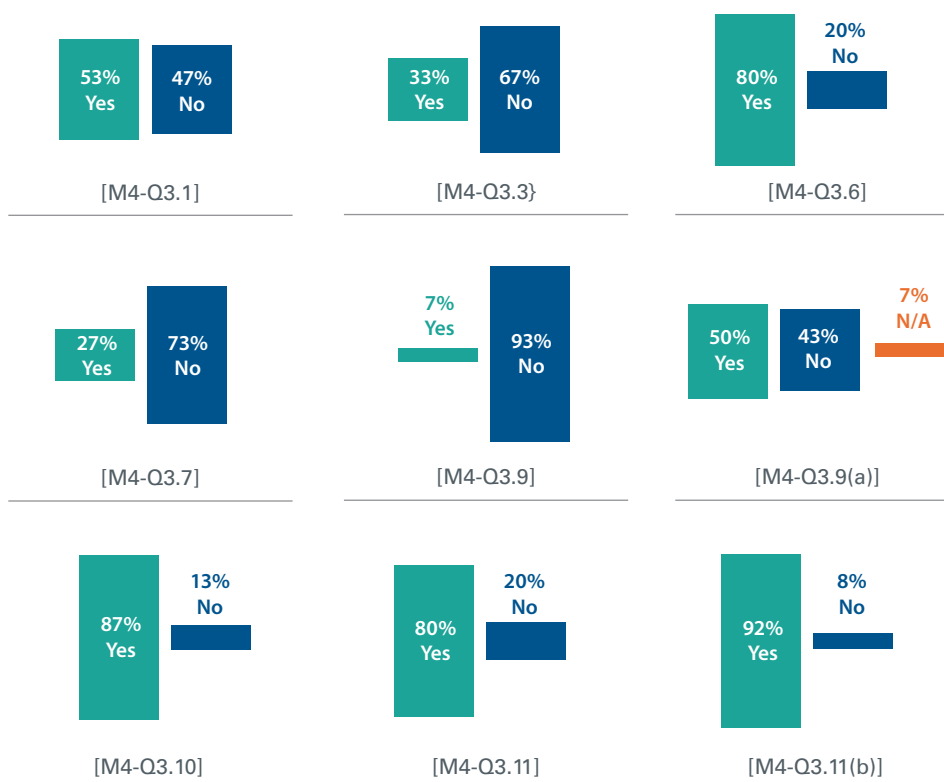
- [M4-Q2.1] Does your country have regulations for the transportation of radioactive waste? *(Yes/No + details box)*
- [M4-Q2.1a] If Y to Q2.1: Would these regulations apply for transporting radioactive waste generated in an emergency? *(Yes/No + details box)*
- [M4-Q2.1b] If N to Q2.1: Do you have a mechanism in place to authorise to transport all the radioactive waste from emergency? *(Yes/No + details box)*
- [M4-Q2.1b-1] If Y to Q2.1b: Please provide a link to this document.
- [M4-Q2.2] Will the IAEA regulations or equivalent for the safe transport of radioactive material be applied? *(Yes/No + details box)*
- [M4-Q2.3] Are there sufficient licensed resources available to transport the volumes of radioactive waste in this exercise to temporary storage locations? *(Yes/No + details box)*
- [M4-Q2.3a] If N to Q2.3: Do you have mechanisms to acquire additional domestic resources? *(Yes/No + details box)*
- [M4-Q2.4] If in this scenario, you required "increased capacity", do you have a process for ensuring these resources and certifying that they are qualified to transport radioactive waste? *(Yes/No + details box)*



Theme 3 - Temporary storage

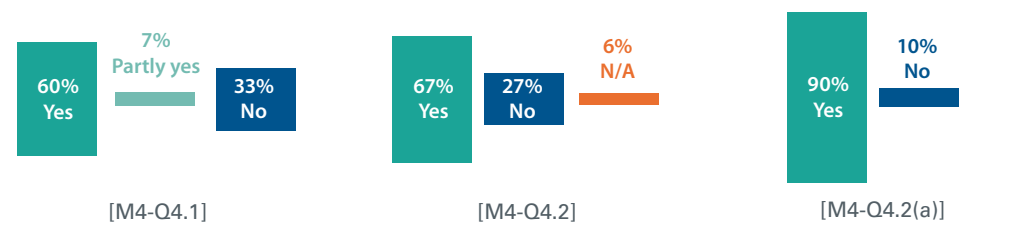
- [M4-Q3.1] Is there a strategy to select and authorise staging areas for this waste? *(Yes/No)*
- [M4-Q3.1a] If Y to Q3.1: What is the strategy?
- [M4-Q3.2] Does your regulatory framework for radioactive waste assign ownership for areas (public and private) contaminated with radioactive waste from an emergency? *(Yes/No)*
- [M4-Q3.2a] If Y to Q3.2: Who will own the locations?
- [M4-Q3.2b] If N to Q3.2: Who did you identify in the exercise as having ownership of these locations?
- [M4-Q3.3] Did you identify staging areas in this exercise? *(Yes/No)*
- [M4-Q3.4] What factors did you consider in selecting the staging areas? *(+ details box)*

- [M4-Q3.5] Are there sufficient existing locations that could be used as staging areas to address the volumes of waste in this scenario? *(Yes/No + details box)*
- [M4-Q3.6] Does a licence for the handling of radioactive waste need to be issued by the regulatory authority for the staging areas? *(Yes/No + details box)*
- [M4-Q3.6a] If Y to Q3.6: Who is the licensee?
- [M4-Q3.7] Is there a strategy to select and authorise temporary storage facilities for this waste? *(Yes/No)*
- [M4-Q3.7a] If Y to Q3.7: What is the strategy?
- [M4-Q3.8] What factors did you consider in selecting the temporary storage sites? *(+ details box)*
- [M4-Q3.9] Does your country have sufficient temporary storage facilities to manage the volumes of waste in this scenario? *(Yes/No)*
- [M4-Q3.9a] If N to Q3.9: Were you able to identify new temporary storage locations? *(Yes/No + details box)*
- [M4-Q3.10] Does a licence for the handling of radioactive waste need to be issued by the regulatory authority for these temporary storage sites? *(Yes/No + details box)*
- [M4-Q3.10a] If Y to Q3.10: Who is the licensee?
- [M4-Q3.11] Do you have regulatory standards or requirements for the processing and packaging of waste for temporary storage? *(Yes/No + details box)*
- [M4-Q3.11a] If Y to Q3.11: Please provide a link to the public information.
- [M4-Q3.11b] If Y to Q3.11: Would these regulatory standards or requirements apply to waste generated in an emergency? *(Yes/No + details box)*
- [M4-Q3.11b-1] If N to Q3.11b: What aspects of waste processing and packaging would be different in an emergency? *(+ details box)*



Theme 4 - Disposal routes

- [M4-Q4.1] Do you have a strategy to apply the waste hierarchy to manage the large volumes of radioactive waste generated in this scenario? *(Yes/No + details box)*
- [M4-Q4.1a] If Y to Q4.1: Please provide a link to this document.
- [M4-Q4.1b] If Y to Q4.1: What methods would you use to reduce, reuse, or recycle these materials?
- [M4-Q4.2] Does your long-term waste management strategy include the use of incineration facilities? *(Yes/No + details box)*
- [M4-Q4.2a] If Y to Q4.2: Are there standards or regulations that would apply to this disposal route? *(Yes/No + details box)*
- [M4-Q4.2a-1] If Y to Q4.2a: Please provide link to public information.



Appendix D. Workshop agenda and programme committee

This appendix includes the programme of the INEX-6 Workshop, held on 3-4 November 2025 in Fontenay-aux-Roses, France, as well as the composition of the Workshop Programme Committee. The workshop provided an opportunity for participants to discuss the main findings of the exercise, lessons identified, good practices and possible follow-up actions.

Workshop Programme Committee

- Sara DeCair, US Environmental Protection Agency (United States), Chair
- Marilyne Tombette, ASNR (France)
- Tristan Barr, Health Canada (Canada)
- Thierry Schneider, Centre d'étude sur l'Évaluation de la Protection dans le domaine Nucléaire (France)
- Kyuwon Choi, Korea Institute of Nuclear Safety (Korea)
- Kevin Kelleher, Environmental Protection Agency (Ireland)
- Grant Ingham, Office for Nuclear Regulation (United Kingdom)
- Paulo Alexandre Marques Nunes, Portuguese Environment Agency (APA) (Portugal)
- Gerry Knight, Department for Environment, Food & Rural Affairs (DEFRA) (United Kingdom)
- Paul Tossell, Food Standards Agency (FSA) (United Kingdom)
- Lucas Martiri, Nuclear Energy Agency (NEA)
- George Vardoulakis, Nuclear Energy Agency (NEA)
- Kerim Jaber, Nuclear Energy Agency (NEA)
- Mike Webley, Nuclear Energy Agency (NEA)

Workshop agenda

Day 1 – Monday, 3 November 2025

Introductory session: Welcome addresses

Opens the workshop, outlines aims and expected outputs and covers practical/logistical information.

Welcome addresses by the organisers

Nina Cromnier, NEA, Head of Division of Radiological Protection and Human Aspects of Nuclear Safety

Jean-Luc Lachaume, ASNR, Commissioner

Tristan Barr, Health Canada, WPNEM Vice-Chair

Session 1: Background and setting the scene

Frames why recovery planning matters, recalls lessons from the 2022 workshop, and the evolution of INEX exercises.

The importance of recovery planning — experience of Japan

Toshimitsu Homma, NRA Japan

Flashback to the 2022 “Preparedness for Post-Accident Recovery” workshop

Sara Decair, WPNEM Chair

Overview of the INEX series and INEX-6 objectives

Lucas Martiri, WPNEM Secretariat

Session 2: Implementation of INEX-6

Discussions on how INEX-6 was implemented by the countries and the key findings from the evaluation teams.

Panel dialogue - Exercising recovery: National experiences of INEX-6 implementation

Roundtable with selected countries

Overview of INEX-6 results across modules

Tristan Barr/Paulo Nunes, EGINEX-6

Plenary discussion on key outcomes and takeaways

Breakout round 1: Priorities & outcomes (what/why)

Small groups will discuss the results and agree on the top recovery-preparedness priorities, highlighting benchmarkable good practices and organisational/logistical aspects of recovery exercise planning (design, roles, logistics, evaluation). These outputs will feed into Day 2 action planning.

Presentation of results and discussion in plenary

Synthesis of the day and plan for day 2

Day 2 – Tuesday, 4 November 2025

Introduction and synthesis of the previous day

Session 3: INEX-6 report review and feedback

Walkthrough of the draft report and discussion on its improvement.

How the INEX-6 report was developed: Overview and key elements

NEA Secretariat

Feedback on the draft report

Plenary discussion with workshop participants

Bridge session: From emergency response to early recovery (transition considerations)

National experiences with transition-phase considerations and their extension into recovery

Grant Ingham, UK ONR / Céline Reuter, ASNR

Session 4: Reviewing efforts and defining the way forward

Thematic inputs (food safety, stakeholder engagement, legal aspects) and a review of international mechanisms and ongoing work, leading to the definition of concrete next steps and interfaces with international support.

Work of the Expert Group on Food Safety Framework (EGFSF)

Mike Webley, EGFSF Secretariat

Enhancing Recovery Preparedness: Legal Insights on Liability and Compensation

Elena de Boissieu, NEA

Contribution of experts after a nuclear disaster in Fukushima

Noboru Takamura, Nagasaki University

NEA Stakeholder Involvement activities

Tamara Yankovich, NEA

International support mechanisms

EC Union Civil Protection Mechanism

Diego Cadelli, European Commission

IAEA Response and Assistance Network (RANET)

Simina Lungu, International Atomic Energy Agency

Breakout round 2: Action planning (who/how/when)

Parallel groups to outline practical action items for 2026-2027 (actions, owners, indicative timing). Use SMART detail where possible; otherwise capture high-level tasks, needed guidance/tools and opportunities for joint work and training.

Plenary discussion

Presentation of breakout results and discussion in plenary

Synthesis of the workshop and wrap up

Agree on consolidated action list, confirm next steps and outline how inputs feed WPNEM/CRPPH work

End of workshop

NEA publications and information

The full **catalogue of publications** is available online at www.oecd-neo.org/pub.

In addition to basic information on the Agency and its work programme, the **NEA website** offers free downloads of hundreds of technical and policy-oriented reports.

An **NEA monthly electronic bulletin** is distributed free of charge to subscribers, providing updates of new results, events and publications. Sign up at <https://oe.cd/nea-sub>.

Visit us on **LinkedIn** at www.linkedin.com/company/oecd-nuclear-energy-agency or follow us on **X** (formerly known as **Twitter**) @OECD_NEA.

Experience from the Sixth International Nuclear Emergency Exercise (INEX-6): Long-term Recovery Planning and Management Following Radiological or Nuclear Emergencies

The Sixth International Nuclear Emergency Exercise (INEX-6) examined the challenges of long-term recovery following a radiological or nuclear emergency. Conducted in 2024, it enabled participating countries and economic areas to test recovery arrangements through a common scenario and modular tabletop exercises. Four thematic areas were addressed: Health Impacts, Food Safety, Remediation and Decontamination, and Radioactive Waste Management, alongside the cross-cutting issues of stakeholder engagement, public communication, international co-ordination and socio-economic considerations.

This report presents the exercise methodology and the consolidated results from the exercises and evaluation questionnaires, as well as the outcomes of the international evaluation workshop. It identifies common strengths, recurring gaps, good practices and priorities for further work. INEX-6 found that many participants have important foundations for recovery preparedness, including legal and organisational frameworks, designated responsibilities and baseline capabilities. However, these foundations are not yet consistently translated into operational arrangements. The findings highlight the need for clearer governance and transition arrangements, sustained capabilities, recovery-specific communication, stakeholder engagement, realistic exercising and practical tools that account for logistical constraints, public confidence and long-term implementation.