Journal of
Radiation Protection and Research 2023;48(3):107–116
https://doi.org/10.14407/jrpr.2023.00136

pISSN 2508-1888 | eISSN 2466-2461

The Identification, Diagnosis, Prospective, and Action (IDPA) Method for Facilitating Dialogue between Stakeholders: Application to the Radiological Protection Domain

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ABSTRACT

This article reviews the experience of applying the Identification, Diagnosis, Prospective, and Action (IDPA) facilitating method as a means of promoting practices of dialogue between stakeholders in the radiological protection field. After presenting the characteristics of the IDPA method and its ability to promote active listening, participation, and dialogue among stakeholders facing complex situations, as well as the procedural aspects associated with its practical implementation, the article describes three examples of the application of the method in the field of radiological protection. The first one presents how the IDPA method supported a debate among decision-makers, authorities, experts, professionals, and representatives of non-governmental organizations about how to engage stakeholders in radiological protection. The second example presents how the IDPA method was used in a series of dialogue meetings to explore the challenges of the post-nuclear accident situation resulting from the Fukushima Daiichi Nuclear Power Plant accident. The third one presents the application of the method in the context of a training course organized by Nagasaki University in the affected area close to the damaged plant. Experience has shown that the IDPA method makes it possible to develop responses to problems posed in very different contexts and, in many cases, to find compromises regarding their solutions. The IDPA method has the merit of allowing each of the participants to better understand the situation they are faced with, even if such a positive result is not always achieved.

Keywords: Radiological Protection, Stakeholder Involvement, Facilitating Method, Dialogue, Nuclear Accidents

Review

Received April 11, 2023
Revision July 6, 2023
Accepted August 16, 2023

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Introduction

Research on risk governance over the past 20 years has consistently highlighted the importance of citizen participation and public involvement in risk management. This involvement is all the more necessary when the risk situations are complex and involve many stakeholders [1]. In the field of radiological risk, experts and professionals are often confronted with situations in which stakeholders and members of the public involved have only a very limited knowledge of radiation, are worried about their supposed effects, and are rather suspicious of institutions and the people in charge of managing these situations. The management of situations resulting from a nuclear accident

is paradigmatic from this point of view, and the experience of the Chernobyl and Fukushima accidents has shown the importance of promoting and facilitating dialogue between all stakeholders to manage the risk [2–4].

In order to facilitate dialogue among experts, stakeholders, regulators, and the general public, various approaches and instruments have gradually developed, such as advisory committees, citizen panels, public forums, and consensus conferences, etc. The place given to dialogue with stakeholders varies from one method to another. Some approaches are based primarily on the sharing of information and knowledge and others on the sharing of values, cooperation, and community building [5]. The latter are more appropriate for problem-solving and conflict-resolution situations, such as after a nuclear accident.

This article presents the Identification, Diagnosis, Prospective, and Action (IDPA) dialogue method developed in France to facilitate the mobilization of actors confronted with complex situations presenting or not risks, essentially in the field of ecology and the environment. In any group of people confronted with complex and risky situations and gathered for some discussion, participants experience fragmentation, alienation, and the conflicts that exist in a society that are just waiting to rise. Collision of opposite views gives rise to negative reactions and emotions. The IDPA method is designed to help stakeholders express their views about the situation at stake, confront them, and then search for a shared understanding of the key problems characterizing the situation.

Given the virtual absence of references to this method, the authors of the article, who have a long experience of implementing the IDPA method in the field of radiation protection, particularly in relation to Chernobyl and Fukushima accidents, wished to make an introductory review to disseminate it to experts and professionals in the field.

The first part of the article introduces readers to the characteristics of the IDPA method and the procedural aspects associated with its practical implementation. The second part describes two examples of the application of the method in the field of radiological protection, with a section describing the application of the method in the context of an educational program delivered by Nagasaki University to train future professionals in the field of radiation disasters management to the practice of dialogue with stakeholders.

Presentation of the IDPA Method

1. Background and Objective

The IDPA method was designed to facilitate dialogue between stakeholders concerned with complex or conflicting situations. Professor Ollagnon [6] from the Paris Institute of Technology for Life, Food and Environmental Sciences created this method, which was part of the so-called 'patrimonial audit' approach in the 1980s. Also called 'strategic facilitation,' this approach was created to respond to the management of emerging environmental issues faced by the public authorities in France at the time, such as the pollution of the groundwater table in Alsace in the east of the country or the reintroduction of bears in the Pyrenees mountains in the south of the country. Later, the approach was applied in many land use planning situations for which many stakeholders were involved with very different, even opposing, views on the solutions to be brought to resolve the conflicts raised by these situations [7].

The aim of the IDPA method is to gather the expertise of many actors, where everybody is considered an expert with his/her own knowledge. It then determined the conditions and means by which the issue at stake could be supported by all actors concerned. The IDPA method is a procedure of active listening [8] to the various participants concerned with the same question (i.e., stakeholders). The basis of this approach is the idea that actors who directly experience a problem can make a crucial contribution to understanding what is at stake in that problem and to solving it effectively. Unlike traditional survey methods, the primary purpose of the IDPA method is not to collect opinions or measure attitudes but to build strategic thinking. The participants are not placed in the passive posture of subjects from whom one tries to extract information and opinions, but in the active role of experts on the problem they are confronted with.

2. Procedural Aspects of Implementing the Method

The IDPA method has been developed in order to facilitate the dialogue between stakeholders concerning complex or conflicting situations [9]. The method is generally used in ad hoc meetings with all the affected stakeholders to seek convergence of their views on the situation at stake, but it is also possible, in case it is difficult to arrange meetings for practical reasons, to audit separately each of the stakeholders affected by the situation and then by successive iterations to summarize the opinions. In such cases, the process is, of course,

https://doi.org/10.14407/jrpr.2023.00136

much longer and less effective because of the absence of direct exchanges between stakeholders. Moreover, the method can also be used within a group to share their views on a situation, a problem, or a question. In such a context, the method is focused on mutual listening and brainstorming.

The actors of the IDPA approach are chosen, depending on the situation at stake, according to their strategic positioning, i.e., their ability to influence this situation, their categorical representativeness (experts, authorities, professionals, managers, trade unions, non-governmental organizations [NGOs]) and a few speakers are chosen at random to represent only themselves. The number of stakeholders involved is defined not only according to the complexity of the situation analyzed but also in terms of the resources and time available.

The method is implemented with the help of a facilitator, assisted by one or several rapporteurs. To begin the process, the participants/stakeholders agree on a strategic question concerning the situation or the topic they wish to explore together. Concretely, the practice is for the facilitator to propose a topic based on the issue at stake and for the participants to validate or nuance it, which in turn is negotiated with the facilitator. The wording of the strategic question is crucial, as it serves as a basis for the reflection that will be carried out during the session. The strategic question must be clear and, at the same time, remain sufficiently open so as not to guide the responses of the participants.

To respond to the strategic question, the IDPA method, also known as the IDPA grid, includes four registers to guide the whole process of receiving and summarizing the opinions from all participants of a given session. If the situation is particularly complex, it may be more effective to break down each step by examining in turn questions that allow examining the stakes of the situation in more detail. Table 1 below recalls the four stages and their objectives, as well as questions that the facilitator can suggest, each of which gives rise to two rounds to answer them. In this case, it is advisable to plan time, and such an approach generally requires that the exercise take place over 4 days.

Each step is made up of two rounds during which the floor is given to each participant to express her/his view on the questions related to the step in the first round and to react to the comments made by others in the second step. Each step is summarized by a rapporteur and is followed by a general discussion with all the participants.

To ensure a fair and constructive dialogue, participants must follow procedural rules. During each round, each participant is invited to express her/his view after the other within a limited time equal for all participants. No interruptions by other participants and no discussions are allowed during the rounds.

The meeting place should allow participants to sit so that they can all see each other when they are speaking. The complete traceability of speeches is ensured while respecting the anonymity of the participants. In its most elaborated version to deal with complex and conflicting situations, the process may last 5 full days, which spans over a period of 1 to 2 months:

Table 1. The Four Steps of the IDPA Method Together with Their Objectives and the Possible Detailed Questions

Step 1: Identification of the situation and the problems	Step 2: Diagnostic of the actions to manage the problem	Step 3: Prospective on the evolution of the current situation	Step 4: Actions proposed to respond to the problem
The objective is for the participants to characterizes the situation, i.e., to make an inventory of the challenges/problems at stake. Who are the stakeholders involved? What "dimensions" are concerned? What are the challenges? What is the basic problem (if there is one) that, if solved, would move forward in resolving all of the other problems?	The objective is for the participants to think about all the actions that have been or are currently implemented to address the situation, and to see how these actions respond or not to the problems identified in the first step. What are the specific roles of the identified stakeholders? What is your assessment of these roles? How do the stakeholders act together? How does the stakeholders can influence the situation? Do the actions taken make it possible to solve the basic problem (See first step)?	The objective is for the participants to project themselves into the future to consider how the situation could evolve by considering possible scenarios: negative, positive and most likely. What are the negative and positive possible scenarios? What are the challenges, threats and advantages related to the process? What are the factors that could lead to a negative scenario? What could threaten the occurrence of the positive scenario?	The objective is for the participant to propose actions to be implemented to improve the situation, i.e., actions that could favour the positive scenario. Among all the possible actions, are there any that have priority? What are the conditions and the means for success? What do you think is the best organization between stakeholders to act? What are the qualities required for the process to be effective? What is your personal measure of success?

IDPA, Identification, Diagnosis, Prospective, and Action.

1 day to introduce the method and develop the strategic question with the stakeholders and one per step. Shorter versions, depending on the subject and the number of stakeholders, are also feasible: 4 half days at a few days of intervals or even 1 full day divided into four sessions.

Finally, it is also possible to use a simplified IDPA approach in thematic meetings attended by a group. To reduce the implementation time of the process to a few hours, it is possible to combine the steps: either two by two (identification and diagnostic; prospective and action), or all four. Even when reduced, the process, which consists of giving the floor to each participant in turn in the first round, then in the second round, asking each participant to react to the comments made in the first round, proves to be a very effective approach to drawing the main lessons from a meeting. It allows participants to freely express their points of view, to better listen to each other, to draw together general conclusions, and when appropriate, to draw perspectives.

The Applications of the IDPA Method in the Field of Radiological Protection

Several applications of the IDPA method have already been implemented in relation to the problems of radiological risk management in Europe in the past, in particular, to answer questions relating to the implementation of the radiological protection system, but unfortunately have not been documented in the professional literature. It is nevertheless possible to cite the application of the method in Norway within the framework of the 'European approach to nuclear and radiological emergency management and rehabilitation strategies (EURANOS)' project on post-nuclear accident preparedness [10]. The examples of applications that follow have also not been the subject of scientific publications, and this is what partly motivated the authors to prepare this article.

Table 2. The Result of the Identification and Diagnostic Steps of the Salamanca Workshop IDPA Session

Public trust and confidence
Reducing the gap between experts and stakeholders
Representative democracy
Information and education
Participation of society
Neutrality of expertise
Difficulty at present to built compromises
Lack of communication between experts and stakeholders
Difficulty for the experts to be understood
Misuse (abuse) of the stakeholders involvement concept
Hidden agenda?
Rigidity of the current decision making process
Negative role of media
……

IDPA, Identification, Diagnosis, Prospective, and Action.

1. The Salamanca Workshop

One of the examples of the application of the IDPA facilitating method was the workshop on "Processes and tools for stakeholder engagement in radiological protection." This workshop was organized in Salamanca (Spain) by the Spanish, French, and United Kingdom Societies of Radiological Protection in November 2005. This workshop took place in the context of an era marked by the growing role of public participation in environmental decision-making [11]. It brought together political decision-makers, representatives of authorities, experts, radiation protection professionals, operators, and representatives of NGOs involved in the field of protection against environmental risks. The IDPA process followed a half day devoted to a series of presentations by various stakeholders on the issue of stakeholder engagement in radiological protection by radiological protection professionals and

Table 3. The Result of the Prospective Step of the Salamanca Workshop IDPA Session

Negative scenario
Gap between experts and stakeholders cannot be reduced
Lack of resources to support stakeholder engagement
Blockages on new activities
Positive scenario
Confidence is improving
Pluralism and co-expertise is developing
Stakeholder engagement is on the agenda of policy makers
A participant's statement: "Without stakeholder engagement it will be worth than with stakeholder engagement"

IDPA, Identification, Diagnosis, Prospective, and Action.

Table 4. The Result of the Prospective Step of the Salamanca Workshop IDPA Session

To provide long term support and commitment to the stakeholder engagement process
To train the radiation protection community to use the stakeholder involvement process
To diffuse the existing experience with stakeholders
To develop a code of conduct and a methodology on stakeholder engagement
To facilitate the access of stakeholders to the reality of the problems
To structure and regulate the stakeholder involvement process at the national and European levels

IDPA, Identification, Diagnosis, Prospective, and Action.

https://doi.org/10.14407/jrpr.2023.00136

representatives of radiological protection authorities. The strategic question was as follows: "What are the processes and tools needed for stakeholders' engagement in radiological protection?" Tables 2–4 present the main findings in the synthetic form output of the 'IDPA' session. Only three steps (1 and 2 combined, 3 and 4), given the time constraint.

In the summary of the expressed opinions, the need for education and training became one of the most important and repetitive points. At the conclusion of the workshop, the dissemination of the experience and the development of a code of conduct on stakeholder engagement were proposed. Therefore, after the Salamanca workshop, a few European radiological protection societies worked together to prepare a document to guide radiological protection professionals in engaging with stakeholders. This document entitled "IRPA guiding principles for radiation protection professionals on stakeholder engagement" was adopted by radiological protection societies from all over the world at the International Radiation Protection Association (IRPA 12) Congress in Buenos Aires in October 2008 [12].

2. The Fukushima Dialogues

The experience of the Chernobyl accident has shown that an effective dialogue between experts, authorities, and affected people is a condition for the latter to become actively involved in the recovery process and to gradually regain control of the situation they are facing. To be successful, such dialogue requires that some experts and authorities who master radiological risk make a long-term commitment to respond to the questions and concerns of those affected.

This experience led a few International Commission on Radiological Protection (ICRP) members to organize a dialogue meeting in Fukushima in November 2011 to discuss among all interested parties the challenges of the long-term rehabilitation of living conditions in the affected territories following the Fukushima Daiichi Nuclear Power Plant (FDNPP). At the end of the meeting, the participants adopted a declaration calling for the continuation of the dialogue [13, 14]. So far, 24 dialogue meetings have been held in a dozen of the municipalities of the Fukushima Prefecture [15], with the particularity of using the IDPA method for part of their conduct (Fig. 1).

Given the special conditions in which these meetings take place, a simplified and adapted version of the IDPA method was used. The participation of local stakeholders, as well as Japanese and foreign experts, and guests from Belarus and Norway to share their experience of the Chernobyl accident imposed simultaneous Japanese/English translation. To ensure full transparency of the exchanges, the meetings were open to observers, the media, and video recording. In order to accommodate these various constraints, and in particular the presence of an audience of several dozen observers, the organizers of the dialogues adopted an original scenography to ensure the smooth running of the IDPA part of the dialogues (Fig. 2).

An experienced facilitator and rapporteur ensured fairness and transparency in the implementation of the method. It is to be noted that the credibility of the facilitator and the rapporteurs generally plays a crucial role in constructive discussion, especially after a turbulent situation with complex and controversial issues, such as a post-nuclear accident. Ten to 15 stakeholders selected from the meeting participants were

Fig. 1. The Identification, Diagnosis, Prospective, and Action (IDPA) method implemented during the 12th International Commission on Radiological Protection dialogue meeting in Date City in September 2015.

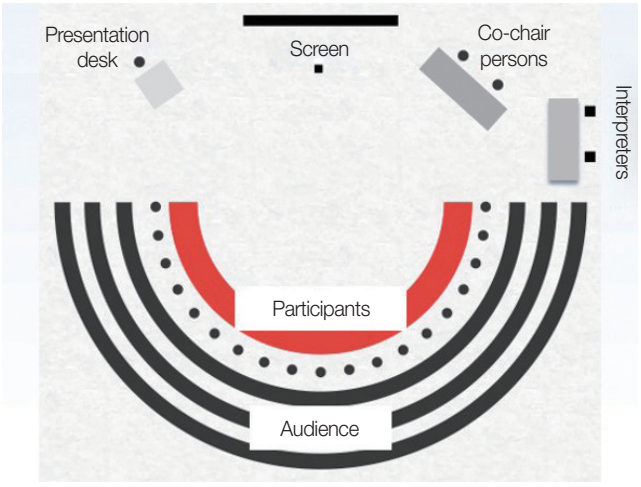

Fig. 2. The scenography of the dialogue meetings.

invited to take part in the IDPA process, with the remaining participants being observers of the process. The presence of observers and the recording of the dialogues were an assurance of their transparency, but the fact that the participants could express themselves under an outside gaze removed the anonymity of the process normally required. This situation did not seem to bother the smooth running of the method.

Over time, the meetings went from 2 days inside with one IDPA session per half day to a single day inside, the other being devoted to field visits. Given the time constraint, all four steps were combined. All the IDPA sessions took place in a fluid and efficient way, and they gave rise to rich testimonies that will be a precious legacy of the people of Fukushima for improving preparedness and supporting affected people in case of a nuclear accident in the future.

With contributions from the IDPA method, the dialogue meeting made a significant contribution to the understanding of the issues of the post-accident situation in Fukushima. They allowed us to better understand the difficult dilemma of whether affected people should stay or leave, return or not in the affected areas, as well as the societal consequences of the accident, including the discrimination against people, products, and areas. The crucial role of measurements of radiation levels and individual exposures to communicate and involve people in the recovery process was emphasized regularly, as was the importance of respecting ethical values in the development of the recovery process.

The lessons of the dialogue meetings have been largely incorporated into the ICRP recommendations on the protection of people and the environment in the event of a large nuclear accident [16].

3. The Training of Future Professionals

Following the FDNPP accident, the Division of Disaster and Radiation Medical Sciences was established by Nagasaki University and Fukushima Medical University in 2016 as a joint master's course program with the aim of training future specialists capable, among others, of intervening and supporting the management of the recovery process after a nuclear disaster [17]. The IDPA method is taught as a part of courses on radiation risk management and communication.

The experience of the Chernobyl and Fukushima accidents has in fact shown that it is feasible and effective to involve stakeholders in the recovery process after a nuclear disaster in order to give them the means to become autonomous in controlling their exposure and in making informed decisions about their protection. In order to acquire this experience, future experts and professionals must, beyond mastering the assessment and management of radiological risks, strengthen their theoretical and practical skills concerning two-way communication, stakeholder participation, and the establishment of trust [5, 18].

Master's students first discovered the IDPA method through the courses they received at Nagasaki University. At the end of the latter, a 1-day IDPA exercise is organized after the advanced courses in risk management and risk communication. The objective of this exercise was above all to familiarize the participants with the process and the rules of the method. The strategic question: 'What are the conditions and means for a successful recovery process after a nuclear accident or a radiological event?' was an opportunity for each student to compare his/her understanding of the issues that characterize the management of post-nuclear accident situations with that of his classmates. Having no practical experience with a nuclear accident, the exercise was a bit formal. However, it raised awareness of the importance of listening to others, of respecting their words, and also of the power of appealing to each person's different points of view. The fact that each participant was invited to speak also allowed more reserved students to express themselves freely and to discover that they too have a lot to say.

Following this first contact with the IDPA method, the students had the opportunity a few months later to participate in a second exercise as part of the practical training course organized by Nagasaki University in the affected areas near the FDNPP. During this practical training in the field, the students had a direct experience with the Fukushima situation

Fig. 3. The Identification, Diagnosis, Prospective, and Action (IDPA) session during the closing session of the October 2019 training course in the village of Kawauchi, Fukushima Prefecture, Japan.

https://doi.org/10.14407/jrpr.2023.00136

through a series of lectures by local experts and professionals, technical visits, meetings with local authorities, experts and professionals, and meetings with local residents [19]. The IDPA session intervenes during the summary session closing the 1-week training course. Fig. 3 presents a view of the participants of the IDPA session closing the 2019 training course. Because of the time limit, the session lasted only half a day. The following paragraphs present the results of the IDPA session held during the summary session of the November 2022 training course held at the Great East Japan Earthquake and Nuclear Disaster Memorial Museum in Futaba close to the FDNPP.

The following paragraphs present the results of the IDPA session held during the summary session of the November 2022 training course. Given the time constraints, the IDPA session was reduced to 2 hours and simplified as much as possible by grouping the 'identification and diagnostic' steps as well as the 'prospective and actions' steps. The nine participating students had a total speaking time of 10 minutes and the rapporteur had 15 minutes to draw up the summary of the session and 5 minutes to present the results. Despite these very strong constraints, the exercise went off without a hitch. Table 5 presents the basic elements of the exercise, and Table 6 presents the results.

It is obvious from reading the results that none of the students could have achieved such a synthesis in 2 hours of reflection and that the IDPA method was a powerful tool for promoting collective intelligence. As with each exercise, one or two participants expressed points of view that shed light in a synthetic and relevant way on the question under discussion. During the exercise, a student said: "Radiation is less of a concern but cannot be dismissed. It must always remain in the background," which perfectly summed up the situation he had been faced with but also one of the main challenges of radiation protection for the years to come. However, another student said: "Thanks to what I learned during the IDPA exercise, I can now deliver my message more clearly," which also perfectly illuminates the dynamics of the method.

Table 5. The Characteristics of the IDPA Session Performed during the Cloisng Session of the November 2022 Training Course in Futaba, Fukushima Prefecture

The strategic question (imposed): What are the present challenges in the Hamadori region affected by the FDNPP accident?
Only two steps:
Identification and diagnostic to characterise the issues at stake (first round: 3 minutes for each speaker; second round: 2 minutes)
Prospective and actions to respond to the identified challenges (first round: 3 minutes for each speaker; second round: 2 minutes)

IDPA, Identification, Diagnosis, Prospective, and Action; FDNPP, Fukushima Daiichi Nuclear Power Plant.

Discussion

The examples presented above show that the IDPA method can be implemented in very different contexts and meet various objectives. They also show that the process itself is very flexible and can be adapted, in particular, according to

Table 6. The Results of the IDPA Session Performed during the Cloisng Session of the November 2022 Training Course in Futaba, Fukushima Prefecture

Identification and diagnostic	Prospective and actions
Lack of trust	Involve and work with stakeholders
Lack of promoting and sharing experiences	Attract new researchers to find new solutions
Lack of working places	Promote the positive aspects of the prefecture
Lack of medical treatment and health care professionals	Envisage new urban planning
Stigmatization and discrimination	Promote education and training of the young generation
Lack of understanding in radiation	Increase the financial support
Lack of job opportunities	Building medical facilities
Over protection of children by mothers	Attract new companies
Restrictions of children life	Attract more new people from outside Fukushima
Problem of preservation of culture	Use social media to promote good results what has already been done
Fake information	Fight fake news
Problem of public transportation	Create the environment where people can enjoy their daily lives
Lack of cultural initiatives	Memorializing the events
Gap between generation related to culture	Improve science to response to the challenges
Risk communication driven by convincing people to return	Build friendly cities and villages for young and early people to enjoy their daily lives
Psychological stress	Create the opportunity for young students to see the reality of Fukukushima

IDPA, Identification, Diagnosis, Prospective, and Action.

time constraints. If originally it was applied to respect the formalism proposed by its designers concerning the practical material provisions for its implementation, it quickly became clear that the essence of the method resided in the procedural rules allowing the dynamics of the deployment of speech between the stakeholders. The fact that each participant can express themselves without being interrupted and with the same speaking time as the others, and also that he/she is put in an active listening position, are two powerful levers for everyone to be able to deepen or qualify his/her own thinking, or even change his/her point of view. Experience has shown that the process of speech exchanges allowed by the IDPA method, on the one hand, facilitated the release of speech and also an introspective approach among the participants. This finding has led some process analysts to suggest that dialogue seminars organized around the IDPA method can be better understood using the metaphor of therapy [20]. Beyond their obvious cathartic effect, as in therapy, the dialogues helped to "empower" the participants mainly in the sense of facing decisions about their future.

By participating in the IDPA process, each actor has the opportunity to not only better understand the reality in which he is confronted but also to better understand how the other participants feel and experience this reality. As the stages and rounds progress, a broader vision of the problems and opportunities at stake is thus gradually built up, and each stakeholder can thus find a new room for maneuver. This common vision, due to the diversity of the participating stakeholders, finally reflects fairly faithfully the real situation as it is experienced by each of them. This dynamic process can also be seen as a process where issues that have remained at the level of the individual are shared and socialized by the community. In other words, the sharing of different perspectives by different stakeholders in one place makes it possible to clarify the structure of the issues they are facing. By understanding where one's own problems are positioned within the overall structure, it becomes possible to take what used to be an individual problem as a shared problem at the social level. Only then can one clearly see the direction in which the participants are heading and find concrete and realistic measures to solve problems. Sharing issues with other stakeholders is directly linked to finding a direction to take for each of the individuals.

As one author very involved in the organization of the dialogues but also a keen observer of the process wrote: "What I found remarkable was that the format (of the IDPA method; author's note) allowed people some leeway to express themselves; they could falter, hesitate, take pause to control themselves, think carefully before uttering words, change their opinion upon listening to others, sometimes even taking back what they initially said—as they spoke. This almost introspective process did not lead to a clear-cut conclusion. But people somehow found out that they had a better grip of where they were and which direction to go" [21].

The various experiences of the application of the IDPA method in which the authors of the article have participated have also revealed that the latter is all the more effective when the participants are authentic stakeholders in the problem or the situation that makes the object of the process. Thus, as long as the students of the master of Nagasaki have not been confronted with the reality of the post-accident situation of Fukushima by having seen with their own eyes the consequences of the accident and having heard the testimonies of people confronted with the recovery process, they had a lot of difficulty talking about the issues of the latter. The application of the method within the framework of the lectures received at the university essentially allowed them to acquire the procedure of the method through the restitution of what they had learned, but did not really allow them to grasp the dynamics at work with stakeholders confronted with a real problem, as was the case in the Fukushima dialogues.

Of course, it must be kept in mind that the IDPA method is an approach that relies on the ability of participants to convey not only their feelings but also their understanding of the situations for which they are mobilized and the values they hold. From this point of view, each participant brings to the exercise his/her own perception of the situation and analysis of it, taking into account his/her experience and intellectual baggage. In addition, only the views of the participants in the discussion contribute to the output of an IDPA session, and depending on the way the participants are selected, there may be a risk of missing some important views. This is why the selection of participants, especially in conflicting situations, must be done with great care.

From a purely scientific perspective, these aspects can be seen as a source of bias limiting the method. However, from a pragmatic and strategic perspective, the diversity of sentiments, points of view, interpretations, and values that are shared, debated, and evaluated together is an assurance, however fragile, that the analyses and eventually the solutions developed as a result of the process reflect a thoughtful balance and a form of practical wisdom [22].

https://doi.org/10.14407/jrpr.2023.00136

Conclusion

In the field of radiation protection, professionals are often confronted with complex situations both in terms of technical dimensions and human and relational dimensions. The IDPA approach has shown its effectiveness in promoting exchanges between stakeholders of different forms of intelligence (universalists and pragmatics), which make it possible to apprehend these situations. Based on active and in-depth listening to each of the participants and the meeting of the points of view of the parties concerned, the IDPA approach allows, when it is completed, to develop responses to the problems raised and, in the best case, to find compromises that are shared by all the stakeholders. The IDPA method has the merit of allowing each of the participants to better understand the situation they are facing, even if such a positive outcome is not always achieved.

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

Acknowledgements

We would like to thank all the radiological protection colleagues who acted as rapporteurs in the various IDPA exercises mentioned in the article, particularly Thierry Schneider, Jean-Francois Lecomte, Ted Lazo and Palina Kot as well as all the participants to the Fukushima Dialogue and the Nagasaki Training Courses.

Ethical Statement

No ethical approval was requested.

Author Contribution

Supervision: Lochard J. Project administration: Lochard J. Validation: Kai M. Writing - original draft: Lochard J. Writing - review & editing: Lochard J, Thu Zar W, Kai M, Ando R. Approval of final manuscript: all authors.

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