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Risk Communication: Specific Challenges in the Late Phase of Nuclear Emergencies in Beneficiary Engagement Lessons from CHARP and the Fukushima- Daiichi Accident from a Humanitarian Actor

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Fukushima Global Communication Programme

This working paper series shares research produced as part of the Fukushima Global Communication (FGC) Programme, a research initiative of the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS). The FGC Programme applies a human security approach to examine impacts of the Great East Japan Earthquake, tsunami and nuclear accident of 11 March, 2011 on people and society, and the challenges of the recovery process in Fukushima. It also focuses on issues of risk and information provision, aiming to improve understanding of how the threat of radiation is perceived, and the specific challenges of risk communication related to nuclear energy.

This working paper is an output of the FGC research workshop “Understanding and Communicating Risks Post Fukushima”, held in Tokyo on 12–13 November 2015. The workshop brought together international experts to explore the specific challenges of understanding and discussing risks related to nuclear accidents, and identify appropriate and effective forms of risk communication.

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ABSTRACT

Since the nuclear disasters of Three Mile Island, Chernobyl and Fukushima the Red Cross movement recognises the specific challenges related to the humanitarian consequences from nuclear disasters and their long term effects on the population. The complexity of the issue of radiation protection linked with the aim to assure the National Societies' duty of care for staff and volunteers but also the special requirements that need to be taken into account for operating in conditions with potential contamination has led in the movement to the development of new tools and guidelines, which are based on the experiences from the 23 year Chernobyl Humanitarian Assistance and Rehabilitation Programme (CHARP) and from the recent activities in the emergency relief and recovery efforts in Fukushima.

In all discussions around the best way to structure the International Federation of Red Cross and Red Crescent Societies' (IFRC) response and recovery programmes, participatory-communication approaches like the Beneficiary Communication and Engagement Methodology that we use on a regular basis played a vital role in strengthening the resilience and empower the communities to help themselves.

Beneficiary communication and engagement is the pillar that underlies the success of all other recovery measures. Engaging with communities in a meaningful dialogue and creating a space for their feedback are priorities in the prevention and response efforts. Establishing processes to engage with communities through established communication channels allows people to voice their understanding of the issues (e.g. risks related to food) and provide feedback, while building trust and encouraging community driven solutions. In addition, sharing accurate and up-to date information and knowledge (from national and international experts) can literally save lives.

In order to be able to convene specific messages about challenges which the public are facing in the recovery from the Fukushima nuclear accident, we have recognised several factors which the Red Cross has to fulfil for a successful engagement as a trusted community-based organisation:

- Perceived competence
- Perceived motivation
- Perceived value similarity
- Trust
- Evaluation of risk management

With these factors combined with the aim to develop community self-help mechanisms, a community engagement and consultation mechanism should allow for:

- understanding the community complexity,
- recognising community capabilities and needs,
- fostering relationship with community leaders,
- building and maintaining partnerships, and
- empowering local actions.

Living in a contaminated environment is a complex situation touching all dimensions of the affected people's daily lives and generating a lot of questions and concerns. Exposures are driven by individual behaviours and the socio-economic situation of the population and the community. A direct engagement with the

population in the day-to-day management of the situation is viable and also necessary to break the vicious circle of exclusion and loss of control. With our programmes, we aim at developing a sustainable improvement of the living conditions of the affected population through direct involvement with the local stakeholders.

抄録

スリーマイル島、チェルノブイリ、福島原子力災害以降、赤十字は、原子力災害の人的影響と住民に対するその長期的な影響に関する具体的な課題を認識してきた。放射線被ばく防止という課題の複雑さ、そして各国のスタッフやボランティアに配慮する責任及び放射能汚染の可能性のある状況下での活動に関連した特殊条件を踏まえて、赤十字は新たなツールとガイドラインを整備した。これらは23年間に及びチェルノブイリ人道支援プログラム (CHARP) と近年の福島における緊急救援および復興支援活動の経験に基づくものである。

赤十字の災害対応・復興支援プログラムを構築する最善の方法を巡るあらゆる議論において、強靱性と地域社会の自助能力の強化に重要な役割を果たしたのは、通常我々が用いている受益者 (ベネフィシヤリ) コミュニケーション方法論のような参加型コミュニケーションアプローチである。

受益者コミュニケーションと住民参加は、その他すべての復興策の成功の柱である。意義ある対話への地域社会の関与を促し、フィードバックを得る機会を創出することは、防災・災害後の対応の取組みにおける優先事項である。コミュニケーション・ルートを定め、地域社会が関与するプロセスを確立することで、住民がどのように問題 (食品に関するリスクなど) を理解しているのかを伝え、フィードバックを与えることができるとともに、信頼を構築し、地域社会主導の解決策を促すことができる。さらに、文字通り人命を守ることができる正確かつ最新の情報や知識を (国内外の専門家) と共有することができる。

福島の復興段階の課題に関するメッセージを人々に伝えるために、地域社会の信頼に根差した団体である赤十字が尽力すべき側面として我々は以下を認識している。

- 能力に関する認知
- 動機に関する認知
- 価値相似に関する認知
- 信頼
- リスク管理評価

これらの側面を踏まえつつ地域社会に自助メカニズムを発展させるために必要な地域社会関与・対話メカニズムとは、以下を実現するものである。

- 地域社会の複雑性の理解
- 地域社会の能力とニーズの認識
- 地域社会のリーダーとの関係の構築
- パートナーシップの構築・維持
- 現地の活動の強化

放射線に汚染された環境に居住するということは、日常生活のあらゆる側面に関わる複雑な状況であり、被災住民は多くの疑問と懸念を抱くことになる。被ばくは、個人の行動と住民および地域社会の社会経済的状况に左右される。こうした課題への日々の対応において、住民に直接的に働きかけることは不可欠であり、住民の締め出しと関係・状況コントロールの喪失という悪循環を断ち切るためにも必要である。我々のプログラムは、現地関係者との直接関与を通じて、被災住民の居住環境を持続的に改善することを目指している。

Introduction

"A Red Cross worker armed with counselling skills, a Geiger counter and appropriate publicity material could do much to help the population affected by the Chernobyl disaster come to terms with their new situation..." League of Red Cross Societies (LRCS) /IFRC Chernobyl Assessment Report, February 1990

"We were not at all aware of the possible damage at the nuclear power plant, and we started the treatment of tsunami survivors. But, soon after our arrival, we heard the news of the explosion, so that we had to pack up and change the location of our medical relief activities. Survivors said to us 'You are going to leave us!' reproachfully. My heart was close to breaking with a mixture of guilt and fear that I wanted to evacuate from the radiation danger."

Ms. Watanabe, a nurse from the Fukushima Red Cross Hospital, faced this agonising situation because at the time of the triple disaster in March 2011, the Japanese Red Cross Society (JRCS) neither had appropriate equipment, nor clear guidelines for their medical teams on how to operate under the condition of radiation risks due to a nuclear accident.

The Red Cross Red Crescent Movement, with its 190 National Societies and millions of volunteers, is often on the front line of disasters, and provide humanitarian interventions as a local community-based organisation when international relief organisation move on. However, if a disaster includes nuclear and radiological incidents, are we ready to protect our staff and volunteers, let alone to support the victims? What are the specific roles Red Cross staff and volunteers can play in the recovery process? As a community-based organisation with its core activities of strengthening resilience of communities, reducing risks through community engagement and engaging volunteer and youth participation, each National Society has a specific role in all stages of a disaster from preparedness, response and recovery. But what exactly should National Societies do to provide auxiliary support to the governments' efforts in the follow-up and recovery phase of a nuclear emergency?

The nuclear disasters of Three Mile Island, Chernobyl and Fukushima have made the Red Cross movement recognise the humanitarian consequences of these events and their long-term effects on people, especially the vulnerable segments of the affected population, needs to be addressed in a more comprehensive way.

Discussion

When looking at the specific challenges of understanding and communicating risks in the late phase of a nuclear emergency, we have to recognise several different actors:

Beneficiaries: This include the affected people who have evacuated and resettled, those who live in temporary hous-

ing for evacuees and plan to return to their original settlements, as well as communities which host affected people (temporary or long term) in the affected prefecture or in other prefectures.

Authorities: This include administrative authorities at national, regional, prefectural or community levels. A main issue is a loss of public trust and confidence in the authorities. Once public trust and confidence are lost, how should authorities rebuild them? How should authorities recapture the leadership to address challenges of recovery?

Organisations: Non-governmental institutions, agencies and other groups involved in recovery activities, such as IFRC, are in this category. Key questions include: how should organisations communicate internally about long-term risks and challenges? What services should they provide? What are the coordination mechanisms? How do they handle domestic-level issues? How challenges and lessons learnt should be discussed at the international level? How should they shape accountability towards "stakeholders" in their communication?

To have a comprehensive stakeholder approach in the recovery phase, understanding and engagement of all parties is needed. In addition to the three actors mentioned above, it is vital to look also at the roles of private sector involved in providing supervision and/or operating nuclear facilities. The roles of media, both traditional and "new" social media, should also be reviewed. Domestic and international technical experts play a key role in providing relevant scientifically sound information.

Participatory communication approaches

IFRC uses the Risk Communication and Beneficiary Engagement Methodology on a regular basis to strengthen disaster resilience and empower individuals and communities to help themselves.

The Beneficiary Communication and Engagement is a pillar that underlies successes of recovery measures. Engaging with communities through promoting meaningful dialogues and creating a space for their feedback are priorities in the prevention and response efforts. Establishing a mechanism to engage with communities through established communication channels allows people to voice their understanding of the issue (e.g. risks related to food) and receive feedback from experts. Sharing accurate and up-to-date information and knowledge (from national and international experts) can literally save lives.

Beneficiary communication supports the process of transparency and accountability between the service provider (in our case National Societies and IFRC) and various stakeholders, especially the beneficiaries.

Risk communication addresses the factor of what is an

acceptable risk and shall enable the individual to make an informed decision for their self-help. However, in order to make an informed decision, the affected beneficiaries have to be able to consider acceptable choices for decisions. The provision of these (acceptable) choices and options strongly links to the capacities of relevant authorities and service providers.

From our vast experiences from all kind of disasters, a wide range of beneficiary communication approaches are employed across different phases of the IFRC programming. Communication methods include high tech solutions, as well as the use of time-tested media, such as radio. Traditional methods of communication, such as community-notice boards and face-to-face meetings, are often utilised in a regular programming.

Experiences from Chernobyl

Following the initial immediate response activities through the Alliance of Soviet Red Cross from 1886 to 1989, IFRC started in 1990 the Chernobyl Humanitarian Assistance and Rehabilitation Programme (CHARP). It was 4 years after the nuclear disaster from April 1986, which would be comparable to a timeframe of the situation today in 2015 in Fukushima.

“The unprecedented nature and scale of the Chernobyl accident obliged the ... authorities to respond to a situation that had not been planned for and was not expected. Thus, many early actions had to be improvised...” International Advisory Committee (IAC), 1991.

The first IFRC Assessment report from external experts suggested to focus on (1) providing the affected population with accurate information on the level of radioactive contamination using portable radiation monitoring equipment, (2) counselling to help alleviate the psychological problems, (3) supplying medical institutions with medical equipment, and (4) encouraging scientific cooperation. In 1991-1993, CHARP focused on (1) monitoring of radioactive contamination of food, environment and individuals, using Mobile Diagnostic Laboratories (MDL) to reach remote rural areas with limited access to medical assistance, and (2) providing beneficiaries with accurate on-the-spot information on the level of radioactive contamination and protective measures to take.

Despite all the efforts of the Commonwealth of Independent States (CIS) authorities to implement an adopted strategy, the radiological situation gradually worsened, partly due to the economic crisis following the breakdown of the Soviet-Union. But the main reason was that the efforts failed to take into account the complexity of the situation created by the long-lasting contamination.

In the mid-90s several surveys showed that:

- inhabitants of the contaminated territories were not possible because of the contamination;
- the affected population generally felt a loss of control of daily lives, helplessness, exclusion and abandonment;
- there was a growing concern about potential health consequences of staying in the contaminated areas, especially on children; and
- the public confidence in experts and authorities was almost lost completely.

A shared dilemma among most of the affected people was the overarching question if they should continue to stay in the affected territories or to leave.

With an increase of Thyroid gland pathologies, the activities of the National Red Cross Societies from Belarus, Ukraine and Russia focused more on Thyroid gland screening in rural areas. All programme activities provided beneficiaries with information materials about the consequences of radioactive contamination and recommendations on healthy life-style in the affected areas. By alleviating stress and anxiety caused by fear of radiation and socio-economic changes, all programme components contributed to improving psychological well-being of the affected populations. Conclusions from a recently performed external review state that CHARP produced substantial impact on health and psychological well-being of programme beneficiaries. Hundreds of thousands of people in remote rural areas received information of the levels of radioactive contamination and advice on avoiding radiation exposure and decontaminating food. The timely diagnosis and treatment of thyroid gland pathologies improved patients' quality of life and saved hundreds of lives; thousands of people benefitted from psychological support provided by trained Red Cross staff, nurses and volunteers.

It should be well understood that the activities of the National Societies of Russia, Ukraine and Belarus in the programme were set up as an auxiliary assistance to the authorities and focused therefore on vulnerable population in remote rural areas, performed by mobile diagnostic laboratories. Health services were provided in close collaboration with the Ministries of Public Health, along with providing relevant information about risks of radiation and enabling beneficiaries to learn self-help measures in their daily lives.

How does this experience translate to IFRC activities in the rehabilitation efforts of affected communities in Fukushima?

We are currently facing challenges of whether and how the evacuated people can return to their old communities. The Red Cross is working with the affected people through an

integrated approach and not solely by providing services for them. A successful transition is also about the ability of individuals and communities to rebound in a manner that sustains their physical, emotional, social and economic well-being. Building disaster resilience of communities is one of the pillars of IFRC recovery activities. Therefore, emergency/recovery management should promote active participation and involvement of the affected local communities and other relevant parties. Such participatory approach not only increases the quality and societal acceptance of the planned arrangements in the preparedness stage, but also enhances the communities' resilience to nuclear and radiological emergencies. The approach contributes to increased credibility and public trust in the arrangements, and also helps to achieve consensus with the affected people regarding the conditions for the termination of an emergency and for new long-term measures and solutions. Such stakeholder engagement may need to continue for a long time. Hence, it needs to be embedded in activities of respective communities.

From our experiences, in particular, engagement and consultation mechanisms should be already developed at the preparedness stage. They should allow for:

- understanding the community complexity,
- recognising community capabilities and needs,
- fostering relationship with community leaders,
- building and maintaining partnerships, and
- empowering local actions.

As part of the consultation mechanism, the following should be agreed:

- consultation objectives,
- who the targeted interested parties are,
- what the applicable legal and regulatory requirements are,
- time frames for consultation,
- relevant documents to be published or otherwise made publicly available,
- ways in which the interested parties may comment, directly or through representative consultative bodies on relevant documents,
- public meetings, formal hearings and other appropriate means of consultation,
- arrangements to review and assess the result of the consultation, and
- provisions to consider the result in the decision making processes.

In Fukushima, similar to Chernobyl/CHARP, a community's self-help program is an integral element of our overall programmatic strategy throughout the various phases of a nuclear or radiological emergency. It is particularly important for a severe emergency where substantial radioactive

release is involved. Stakeholder's involvement include special instructions and advice on avoiding contaminated locally produced foods, reducing extended outdoor exposure or exposure to the contaminated environment. Further education is needed if the community engages in voluntary actions such as monitoring environment or food items. Our experience shows that it is of great importance to include youth as agents of change in these programmes and have communication and education programmes specifically tailored to them.

The International Commission on Radiological Protection (ICRP) shapes their recommendations 103 and 111 around the need to protect human health by managing and controlling exposures to ionising radiation so that deterministic effects are prevented with the desire to reduce harm and to preserve good. The major implication of that recommendation is that some finite risk, however small, must be assumed and a level of protection established based on what is deemed acceptable.

What is an acceptable risk and how is it communicated? When does somebody feel "safe"?

How can risks and hazards, which are systematically produced as a part of daily lives and further increase of the use of technology, be prevented, minimised or channelled? The challenges of risk assessment include that it is not an objective, purely scientific process. When dealing with issues of high uncertainty the boundary between facts and values frequently gets blurred. Cultural factors influence how people evaluate, compare and balance different kinds of risks. There are a number of scientific explanations what specific levels of hazards are "safe." However, each person has her/his own perception of what is "safe". Individual perceptions about safety directly connect to their recognition of a hazard.

For the current situation in Fukushima, residents will have to address risks based on hazard type, exposure and vulnerability. In other words, risk evaluation should be made by assessing (1) the significance of radioactive contamination as well as its likelihood to harm people, (2) what amount of exposure the people will be exposed to, and (3) to what degree the people will be vulnerable to long-term effects. In a more complex vision of risks, it all depends on people's perception of risk and their balancing of different kinds of risk. The risks cannot be calculable. Socio-cultural, political and institutional factors affect the way risks are understood and assessed by different collectives or individual members of the public.

These are the main challenges when communicating about risks of radiation and possible return to earlier settlements. In a forward looking approach, people need to understand the unpredictable. Is it sufficient to explain the effects of

radiation and the principles of radiation protection? Who is a trusted information source for the affected people? Is expertise provided better by technical experts, scientists or somebody from a given community, such as Red Cross nurses or medical doctors? Expertise is not a genuine feature of a person or a system, but something that gets acquired/attributed in a specific setting. What people take into consideration is based upon their experience and judgment of the credibility and trustworthiness of institutions (and their spokespersons) which claim to be in charge and their own knowledge and experience.

How citizens experience risk and communicate risk issues should never be understood as a purely intellectual process. Citizens' risk perceptions are not so much thinking about people's capacities to grasp technical/scientific details at stake, but much more about understanding how they understand risks.

JRCS has established a Memorandum of Understanding with Fukushima prefecture to focus its recovery efforts on specific municipalities and communities. In an attempt to address the above mentioned challenges, JRCS staff and nurses frequently engage with the population in Fukushima, taking a role of "interpreters". On the one hand, the public is worried about radiation and the current situation. Therefore, a proper provision of facts is necessary. Using "translating" materials developed by risk experts (scientists/technical experts), information is provided in multi-directional dialogues in consideration of the beneficiaries' level of understanding.

In sum, there are several factors which contribute to conveying specific messages to the public about challenges in the recovery phase of the Fukushima nuclear disaster:

- Perceived competence (expert, capable, specialised)
- Perceived motivation (dedicated, diligent, enthusiastic)
- Perceived value similarity (seeing in the same way, having the same feeling, placing emphasis on the same value)
- Trust (trustworthy, reliable, dependable)
- Evaluation of risk management (increasing social safety, removing the risk from the people, preventing disaster, building resilience of communities)

The Red Cross movement is however using as well the expertise from specialised experts in several areas. They train professional community workers, medical staff, nurses, etc. They also bring practical responses to the affected individuals and communities addressing their concerns, needs and expectations. In collaboration with the staff of JRCS, they help communities to regain their autonomy, that is to say their ability to make informed decisions given the prevailing circumstances and aim to restore social trust in the affected areas.

As a practical example from Fukushima, JRCS is providing basic information about radiation protection in their "salon activities". These activities are also used as a platform for social integration, by getting affected people together and enabling them to self-help. A staff member from the JRCS Iwate Chapter raised a concern some time ago in a meeting: "Recently, there are less people coming to JRCS information and communication (salon) activities and Red Cross Health Classes. Should we take this as a good sign or as an issue for consideration?" Mr. Osawa from the Japanese Red Cross Maebashi Hospital answered this question based on his experience of the health assistance program: "Personally, I am taking it as a very good sign, because I think it shows that people who actively join other classes in their community are having more communication with people in their community. Meanwhile, there are quite a lot of people who can't participate in such community activities. This remains an issue on how we should encourage these people to join our information-communication (salon) activities."

The exchange of knowledge and expertise about radiation protection and challenges in risk communication from Fukushima is however not limited to Fukushima prefecture. JRCS staff from other regions in the country are also engaged in the seminars and use the opportunity to understand the situation in Fukushima, which may also be relevant in their prefecture.

What are the role and responsibility of authorities?

It is for them to establish programmes for continuous radiation monitoring, health surveillance, information and education of the population to allow the effective engagement of the affected population. Red Cross as auxiliary can support such measures but does not aim to replace activities which are in the mandate of authorities. For the population it is also important to have a pluralism of sources of measurement (public and private; local and national) to ensure the confidence of the population in the results. The current lack of trust into some institutions can be counter balanced through such measures. Also the establishment of places for dialogues is essential for the dissemination of information and the development of a common language between all involved stakeholders.

Conclusion and Policy Recommendations

Learning from experiences of post nuclear and radiological disasters a participatory approach shall be taken when internationally preparing for future disasters. Already during the preparedness stage, interested parties should be identified. They may include different bodies and organisations at all levels, local citizens, community leaders, farmers, business owners, environmental groups, etc. Special attention should be given to a diverse representation from

the recognised interested parties, including individuals with special needs and different ethnic and religious backgrounds.

All relevant interested parties should be involved in the preparedness stage to ensure a coordinated and comprehensive planning process, develop relationships, built trust, and contribute to enhancing the collaboration during a possible emergency phase and beyond, as necessary. A balanced and diverse representation of the interested parties will ensure credibility of the processes and may lead to more effective cooperation with relevant authorities, and ensure that trust is kept into the different stakeholders and also recovery efforts are reasonably considered in advance.

A meaningful and substantive integration of the public and other interested parties into the decision making process regarding the management and protective strategy options during the preparedness phase requires effective participatory communication methods and the ability to accommodate feedback in a timely fashion. The central principle for reciprocal engagement is a comprehensive communication effort that fosters a close partnership on the way towards recovery. This effort should include transparency, inclusiveness, shared accountability and measures of effectiveness.

Interested parties should be aware of the rationale for the management and protection strategy options as well as the consequences and limitations associated with the implementation of different protective actions and strategy (e.g. the restrictions of food, evacuation/relocation.) While many aspects can be considered well in advance of an emergency, the interested parties should be fully aware that emergency situations can be dynamic and that specific conditions which exist at the time of an emergency may require protection action or management options beyond what were previously discussed prior to the emergency.

Another key element that characterises the radiological situation in the affected areas is to decide about their future and the possibility to return. It is recognised that human consequences of the Fukushima nuclear accident are massive and will be lasting. Local communities are engaged in developing improvement projects and in assessing progress. Expertise and support must be available for local citizens. Individual monitoring (internal and external radiation exposure) and self-measurement of land and food are essential, and might require additional outside support. Any success depends on the combined action of authori-

ties, relevant organisations like the Red Cross National Societies and self-help actions implemented by the affected population.

For the recovery phase it is also important to acknowledge the policy recommendations based upon ICRP 111: All the knowledge, skills and resources provided shall enable citizens and communities to make informed and effective choices and to act wisely in situations involving exposure to ionising radiation. Since individual measurements with suitable devices is critical to ensure informed choices, the development of a practical approach to radiation protection is essential for individuals to restore their autonomy and ownership of decision in relation to a radiological situation and to regain a control of their own lives. It is critical to put the human at the centre of all recovery activities!

A specific lesson we have drawn from Chernobyl and Fukushima experiences is to think across generations and enable youth to play a vital part in self-help actions.

Recommendation for risk communication and the risk of communication

Consider the multiplicity of communication channels (e.g. new media) and models of knowledge acquisition. There is a clear shift in the understanding of the role of sciences and the management of uncertainty and non-knowledge.

Risk communication as care work

Risk communication is an interactive long-term process, not a short-term linear knowledge diffusion process. In a post-disaster situation, it is important to address the issues of responsibility, not only of accountability.

There are limits of techno-scientific knowledge

Be transparent about the limits of knowledge available and about the complexity of issues at stake. When communicating risks and hazards, people's values and experiential knowledge should also be discussed.

"Can we know the risks we face, now or in the future? No, we cannot: but yes, we must act as if we do" (Douglas/Wildavsky)

... but we also need to admit our limits of knowledge and uncertainty; consequently, we should respect perspectives, values and voices more than we usually are ready to accommodate.

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