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Paper:

Public Reaction to Disaster Reconstruction Policy: Case Studies of the Fukushima and Chernobyl Nuclear Accidents

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This study analyzes survey responses of those affected by the Chernobyl and Fukushima nuclear power plant accidents, evaluating issues such as recovery, compensation policy, decontamination, welfare, and overall government response. We apply an ordinal logit model to the issues of compensation, decontamination, and repatriation. We found that the people of Bryansk Oblast and those with ongoing health problems were more likely to support continued compensation and victim support programs. Another key finding was the perceived inadequacy of the Japanese government's reconstruction policy for Fukushima. Monitoring and forestry safety measures were considered insufficient, and agricultural safety measures were particularly disappointing for those with children. More generally, there was support for planting rapeseed as a biofuel and for opening up the site as a tourist spot. Mega-solar farms or nature reserves were also seen as feasible alternatives to agricultural activities. Those who continued to see nuclear energy as a viable energy source supported the construction of waste treatment and storage facilities. Among the Chernobyl respondents, some supported a return to agricultural land use, citing scientific reports suggesting it was safe. Many said that there should be further investment in scientific research in the area. Fukushima respondents viewed social welfare provision and improved information for victims and residents as important issues. A key lesson for the Japanese government from the Chernobyl experience is the legal regime that was established there, clearly defining the affected areas and people and clarifying the measures required.

Keywords: nuclear disaster area, reconstruction policy, Chernobyl nuclear power plant, TEPCO Fukushima Daiichi Nuclear Power Plant, ordered logistic regression analysis

1. Introduction

The accident at the Tokyo Electric Power Company's (TEPCO) Daiichi Nuclear Power Plant (NPP) in Fukushima caused a series of releases of radioactive substances, including a meltdown of the reactor core, which occurred at the plant as a result of the tsunami caused by the Great East Japan Earthquake on March 11, 2011. The Fukushima and Chernobyl nuclear power plant accidents are the only two to be classified as Level 7 (severe) accidents on the International Nuclear Event Scale (INES).[1] With concentrations of Caesium-137 (^{137}Cs) of 1,480 kBq/m^2 or more, Ukraine, Belarus, Russia, and Japan are the only countries in the world to have experienced such extreme levels of radioactive contamination from a nuclear accident. The Chernobyl accident in particular affected many countries in the wider region and, as a result, generated a great deal of research in these areas.

Several studies have been published on radioactive contamination and decontamination around the Chernobyl nuclear power plant.[2] Mould [5], after outlining the causes and fate of the victims, evacuees, and liquidators (those who participated in the initial clean-up of the accident) of the Chernobyl accident, as well as their medical care, described the effects of radiation from ^{131}I (Iodine-131) and ^{137}Cs on the human body. Roed and Anderson [6] reported that radiation in cities contaminated by the fallout was almost entirely from ^{137}Cs in a survey conducted among the Commonwealth of Independent States (CIS) member countries immediately after the accident. They found that continued decontamination efforts of contaminated sites in Russia and Ukraine resulted in the removal of up to 75% of ^{137}Cs after seven years. Roed et al. [7] also confirmed that decontamination of the inside and outside of houses in the Novo Bobovichi district (Russia) resulted in a significant decrease in radiation levels.[3]

1. The International Nuclear and Radiological Event Scale (INES) [1] is used for the evaluation of nuclear accidents and failures and was developed by the IAEA [2] and the Organization for Economic Cooperation and Development (OECD) [3].
2. Papers with a high number of citations on Google Scholar [4] will be discussed.
3. Another example is the Chernobyl-Chubu Association, which helped Chernobyl not only spearhead the decontamination of the soil by cultivat-

Several studies have on the physiological impact of the Chernobyl accident have also been published. Dubrova et al. [9] examined germline mutations in children born in the highly contaminated Mogilev area (Belarus) after the accident and found that mutations occurred twice as frequently as they did in the control area. The mutation rate was consistent with the fluctuating levels of surface ^{137}Cs contamination. Bandazhevsky [10] measured the internal radiation exposure (^{137}Cs) of rural residents and children in the Gomel region (Belarus) and found that the mutation was also caused by non-radioactive substances such as heavy metals released from industrial and agricultural activities. High levels of ^{137}Cs were found to accumulate not only in the endocrine glands – especially the thyroid gland, adrenal glands, and pancreas – but also in the heart, thymus, and spleen. Bandazhevskaya et al. [11] examined the causal relationship between food intake and ^{137}Cs among children in southern Belarus and found that the frequency of heart disease and hypertension was significantly higher in those with a high intake of ^{137}Cs than in those with a low intake of ^{137}Cs.[4] After the Chernobyl nuclear power plant accident, although a great deal of research has been published in prominent journals, most of them have focused on the decontamination of contaminated sites and their effects on human health.

Several other studies have been published on the Fukushima Daiichi NPP accident. After the accident, a thyroid ultrasonography program was run in Fukushima Prefecture and the prevalence of thyroid cancer was found to be very high. Katanoda et al. [13] compared the national estimates of thyroid cancer incidence (2001–2010) with those of Fukushima for residents aged 20 years or younger, suggesting the possibility of over diagnosis. On the other hand, Tsuda et al. [14] stated that thyroid cancer was over diagnosed among children and adolescents within four years after the nuclear accident in Fukushima Prefecture based on ultrasound thyroid examinations of all residents under 18 years of age, which cannot be explained by a rapid increase in medical examinations alone. Although there is extensive literature on the effects of the Chernobyl nuclear accident on the human body, many of the issues regarding the physical effects of the Fukushima accident are still being debated and have been inconclusive.

Modern technology has led to some new areas of research. Several studies have examined the use of robotics in exploring the Fukushima accident site [15], and the lessons learned as a result [16]. On the other hand, Chernobyl has led to research into the natural absorbents of ^{137}Cs [17] and absorbents for contaminated water [18], which have been extended in Japan, with research on how ^{134}Cs and ^{137}Cs can be removed from radioactive wood ash and waste ash using water alone [19–21]. Sakai et al. [22] reported that the bioaccumulation of ^{134}Cs and ^{137}Cs by tadpoles in decontaminated paddy fields was one-fifth that of non-decontaminated paddy fields. Yasutaka and Naito [23] estimated that the total cost of decontaminating Fukushima would exceed 16 trillion yen and that reducing the amount of decontaminated waste and soil would help reduce storage costs. As this brief overview suggests, just like Chernobyl, Fukushima has resulted in a great deal of research.

In order to help the victims and other residents of the affected areas of Chernobyl, the Chernobyl Law was enacted in February 1991 in both Ukraine and the Republic of Belarus and, in April of the same year, in the Republic of Russia. This is a full-scale disaster victim protection law that promises wide-ranging and long-term compensation [24]. Despite Ukraine declaring independence from the Soviet Union in August 1991, and the collapse of the Soviet Union at the end of the year, the law remained in force in three independent countries. Even though glasnost opened up civil society in the former Soviet Union after the Chernobyl accident, it was still far from an era in which citizens could openly complain about social problems [25]. In large part because of this, many early studies of the Chernobyl accident have focused on decontamination and its effects on the human body, and not on how citizens evaluated social issues or on the reconstruction of the affected countries.

In contrast, Yamakawa and Seto [26] discussed the basic issues of reconstruction assistance, residents' living conditions, the reconstruction process, the impact of the disaster on industry, and overseas trends in disaster management education. Yokemoto [27] examined compensation policy and future challenges. Omatsu [28] argued that although laws have been enacted in Japan since March 2011 in response to the accident, there is no law that clearly defines the affected areas or the victims and those eligible for compensation and assistance. This failure to define the main beneficiaries and stakeholders will clearly have an impact on the effectiveness of government policies. With the exception of a report compiled by the Japanese Reconstruction Agency on residents' evaluation of reconstruction policies, there have been no studies that have directly sought to determine, and subsequently statistically analyzed, the opinions of those affected by the disaster.

This study attempts to address this shortcoming by statistically comparing survey responses from citizens in the four affected countries on the topics of compensation and reparations, decontamination, reconstruction policy, and general government policy. There is a huge contrast in reconstruction policy between Fukushima and Chernobyl, as the approach in Chernobyl was mainly to abandon the area and relocate the residents. The initial objective was to minimize the damage caused by the accident and provide medical and financial aid, as stipulated by the Chernobyl legislation. In contrast, from the start, the Fukushima reconstruction policy assumed that residents will return to their homes sooner rather than later. As Omatsu [29] points out, the narrative is clearly different between Japan and the Chernobyl countries, despite the similarities in the nature of the disasters and the resulting radiation. More-

ing rapeseed on abandoned land in Narodychi (Belarus) but also produce biodiesel fuel from rapeseed oil [8].

4. Others, such as Bartoov et al. [12], conclude that when rescue workers at the scene of a nuclear accident are exposed to radiation, sperm motility is reduced and fertility is impaired seven years after radiation exposure.

over, the policy of "disaster recovery" is somewhat unique to Japanese culture [29]. As a web-based survey, a wide ranging set of questions could be asked, covering different issues, such as the government's immediate response, medical compensation, decontamination, and land use-related issues. Examining the Chernobyl-affected countries at a national or municipal level, there may be no reconstruction policies, but if considered at the level of the individual, understanding perceptions of issues such as relocation and repatriation, and income and medical compensation, are key to helping improve the lives of those affected.

In this paper, we attempt to focus on victim compensation and land use in contaminated areas, and suggest a direction for reconstruction in Fukushima that would have widespread support among those most affected.

Section 2 describes the survey design, target area, data collection and comparison procedures, and the methods used to analyze the data.

In Section 3, we examine respondents' experiences with evacuation, the handling of the nuclear power plant accident, health hazards, and reconstruction and rehabilitation of the affected area. In light of this, we examine their evaluation of their respective government's policy and response in handling the accident and subsequent decontamination and reconstruction efforts.

In Section 4, we statistically examine participants' opinions on compensation, government decontamination, and reconstruction efforts – using their experiences and personal attributes as independent factors – and the impact of these factors on their evaluation and experience of the policies and efforts. We then apply models for each country to measure the impact of government policy on their lives.

Section 5 summarizes the opinions of the participants and the direction of reconstruction in each region.

2. Research Methodology

2.1. Structure of This Paper

In this section, we describe the hypotheses to be tested, the regions to be surveyed, the data collection method, the comparison method, and the ordinal logit model we applied.

2.1.1. Hypotheses

This paper examines four hypotheses.

First, we examine the null hypothesis H_0: "There is no difference between how respondents from each country view compensation, decontamination, and repatriation" and the alternative hypothesis H_1: "Respondents from each country view compensation, decontamination, and repatriation differently."

Second, we examine the null hypothesis H_0: "There is no difference between how respondents from each country view reconstruction policies to overcome the damage caused by the nuclear accident" and the alternative hypothesis H_1: "Respondents from each country view reconstruction policies differently."

Third, we examine the null hypothesis H_0: "There is no difference among respondents from the four countries in their approval or disapproval of reconstruction plans for the area contaminated by radioactive materials" and the alternative hypothesis H_1: "There is a difference among respondents from the four countries in their approval or disapproval of the reconstruction plan."

Fourth, we examine the null hypothesis H_0: "There is no difference among respondents from the four countries in their attitudes toward the government's response to the nuclear accident" and the alternative hypothesis H_1: "There is a difference among respondents from the four countries in their attitudes toward the government's response to the nuclear accident."

2.1.2. Survey Areas

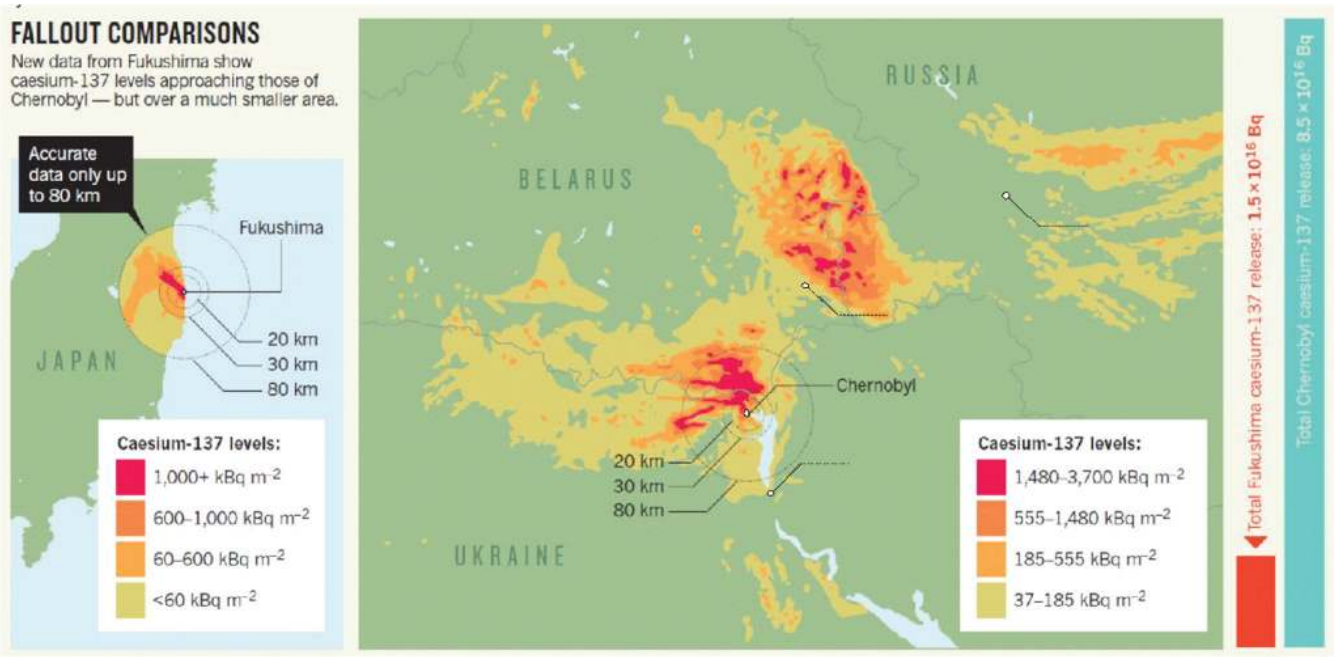
Figure 1 depicts the areas in Fukushima and Chernobyl affected by the nuclear accidents. The figure shows the contamination status of ^{137}Cs and its contamination range. The contamination levels of ^{137}Cs are slightly different because Fukushima is in the range of 60–1,000 kBq/m^2, whereas Kiev, Gomel, and Bryansk provinces are in the range of 37–3,700 kBq/m^2; however, the circles cover an equal area. The right side of the figure shows that the amount of ^{137}Cs released in the Fukushima Daiichi NPP accident was 1.5×10^{16} Bq and that in the Chernobyl NPP accident was 8.5×10^{16} Bq [30]. A simple calculation $(8.5/1.5)$ reveals the amount of ^{137}Cs released in the Chernobyl accident to be 5.67 times higher than that released in the Fukushima Daiichi accident.

As indicated by the contaminated areas in **Fig. 1**, the study area covers four regions: Kiev Oblast in Ukraine, Gomel Oblast in Belarus, Bryansk Oblast in Russia, and Fukushima Prefecture in Japan. In this study, the four most polluted regions of the four countries were included, although the level of radiation in Bryansk Oblast was slightly lower, in order to allow a comparison with areas with higher levels of radiation.

2.1.3. Collection Method

A questionnaire was compiled and distributed using SurveyMonkey, which distributed it to their local panels. This "Survey on Evaluation of Policy and Direction of Reconstruction after the Nuclear Accident" was conducted in Russian in Ukraine, Belarus, and Russia and in Japanese in Japan. It sought responses to four main questions on (1) compensation, decontamination, and repatriation; (2) reconstruction policies in the immediate area, (3) reconstruction policies in wider contaminated areas, and (4) overall government response to the accident.

In Kiev, Gomel, Bryansk, and Fukushima, there were 107, 120, 104, and 212 respondents, respectively. However, the completion rate was 93.5%: there were 100 (93.5%), 100 (83.3%), 101 (95.8%), and 203 (95.8%) fully completed surveys in Kiev, Gomel, Bryansk, and



Source: Directly comparing Fukushima to Chernobyl (http://blogs.nature.com/news/files/2012/02/Fukushima-Chernobyl-large.jpg).
Note: Contamination levels shown in the map are as of 1996 for the Chernobyl nuclear accident and as of 2011 for the Fukushima Daiichi nuclear accident.

Fig. 1. The areas in Fukushima and Chernobyl affected by the nuclear accidents.

Fukushima, respectively. The surveys were conducted between August 11 and 13, 2020, in Japan time, for Kiev and Bryansk, August 11 and 14, 2020 for Fukushima, and August 11 and 20, 2020, for Gomel. The survey took longer to be completed in Gomel and had a lower completion rate probably due to the large-scale protests following the Belarusian presidential election on August 9. A larger number of people were surveyed in Fukushima to provide a comparable sample size between the two sites.

Although the quota method was applied to obtain a representative sample of the population in the surveyed areas to cover age, gender, and other factors – as this is a largely self-selecting internet survey – the majority of respondents were in their 20s to 40s and had higher levels of education than did the general population. This introduces biases that unavoidably limit the scope of the survey.

2.1.4. Comparison Methodology

Respondents were asked about their experience of evacuation, participation in the clean-up process, health conditions, and repatriation/relocation experience. Next, they were asked their opinion on issues regarding reconstruction, land use and the cultivation of rapeseed, and their attitude towards the contaminated area after the accident.

Appendix A depicts the statistical differences in attitudes toward compensation, decontamination, repatriation, and welfare support; Appendix B depicts the statistical differences in the preferences for reconstruction; and Appendix C depicts the statistical differences in attitudes toward government responses to the disaster and government policy on reconstruction.

2.2. Analysis Methodology

2.2.1. Analysis of Compensation, Decontamination, and Repatriation

This section explains the calculation method used for the ordinal logit model.

The dependent variables used for the ordinal logit model are responses to issues of compensation, decontamination, return/relocation, and financial support. The responses were rated on a five-point Likert scale: disagree = 1, somewhat disagree = 2, unsure/undecided = 3, somewhat agree = 4, and agree = 5.

The independent variables include evacuation experience, involvement in the clean-up process, return experience, and eight personal characteristics. These were set up as dummy variables for gender (male = 1, female = 0), area (Fukushima = 1, non-Fukushima = 0; Kiev = 1, non-Kiev = 0; Gomel = 1, non-Gomel = 0; and Bryansk = 1, non-Bryansk = 0); occupation (agricultural/fisheries = 1, other = 0), clean-up experience; evacuation experience; personal or family experience of health problems; and presence of children (yes = 1, no = 0). Income was also set up as a series of dummy variables (quartile 1 = 1, other = 0, and so on). Income quartiles were calculated using the QUARTILE function in Excel.

In addition, three continuous variables were introduced: age, number of household members, and education (academic background). For age, we calculated the average value of each age bracket (e.g., if the respondent falls into the 40–50 age bracket, the average age is 45) and introduced this as a discrete variable. Education was also introduced as a discrete variable scored from 1 for junior

high school to 6 for graduate school (doctorate).[5]

The areas affected by the Chernobyl disaster were divided into zones depending on the degree of contamination. First, there was the immediate area around the accident that required immediate and absolute evacuation and resettlement. A further zone that required mandatory resettlement was then imposed. Residents were given various financial entitlements and incentives to resettle; in particular, households with pregnant women and children were offered medical support, recreation facilities, and other preferential treatment [25, 31]. In contrast, Japanese authorities made no such categorization of the affected area. This paper examines land use options, such as constructing mega solar facilities or waste treatment facilities. Originally, it was intended to take zoning into account,[6] but given the sample sizes and the movement of residents, issues such as multicollinearity arose, making statistical analysis along these lines problematic.[7] Therefore, we did not use zone location as an issue; instead, we applied the respondents' experience of evacuation and repatriation as independent variables.

2.2.2. Analysis of Government Reconstruction Policies

Next, we use ordinal logit to model responses to the reconstruction policy and government response to the accident as the dependent variables. The response variables were standard five-point Likert scale options. The explanatory variables were experience of evacuation, participation in the cleaning up process, health damage, and repatriation experience, as well as personal attributes.

The calculations carried out in Section 2.2.1, and 2.2.2, were performed by pooling the four countries. Separate calculations were performed for each country. However, it is necessary to make multiple analyses of the comparative differences between each country in Part 3 and make cross-regional comparisons between Fukushima and Chernobyl. We decided to combine the data to perform an ordinal logit analysis. Although there are time and geographic differences between the two accident sites, there are enough common explanatory variables to suggest that the model can statistically analyze the thoughts of the respondents.

2.2.3. Analysis and Marginal Effects of Rehabilitation and Reconstruction Options

We used an ordinal logit model on preferences for the rehabilitation and reconstruction of the contaminated area as the dependent variables. As explanatory variables, in addition to the above variables, we included respondents' thoughts on the contaminated area. In modelling the use of rapeseed as a soil decontaminant, we also added responses to a set of questions on the use of rapeseed, using the AIC to choose the best-fitting model.

2.2.4. Analysis of Marginal Effects of Government Responses

Finally, we modelled the marginal effects on questions about policy and government responses as the dependent variables. The objective variables were divided into five categories: Fukushima ($n = 203$), Chernobyl ($n = 301$; the three Chernobyl regions combined), Kiev ($n = 100$), Gomel ($n = 100$), and Bryansk ($n = 101$). The Likert scale responses were as follows: dissatisfied = 1, somewhat dissatisfied = 2, unsure = 3, somewhat satisfied = 4, and satisfied = 5.

In estimating the ordinal logit models, the responses were combined when the differences were not statistically significant or when the number of respondents was small. Using AIC and likelihood ratios, only the best estimation results have been presented. Each explanatory variable was estimated using the backward selection method until the optimal estimation results were obtained, removing explanatory variables above the 20% significance level and leaving only variables that were significant at the 1–10% significance level.

In **Tables 1** to **5**, cut denotes a threshold variable and corresponds to $\Pr(y = 1) = \Pr(\beta x < \text{cut1})$, $\Pr(y = 2) = \Pr(\text{cut1} < \beta x < \text{cut2})$, and so on ($y$ is the category of the dependent variable, x is the explanatory variable, and β is the parameter).

3. Results

This section presents the results of the web-based surveys.

3.1. Sample Attributes

Table 9 lists the personal attributes of survey participants. In the four countries, 50.6% of the respondents were male and 49.4% were female, with more females (66.0% and 52.5%, respectively) in Gomel and Bryansk provinces. In addition, 41.9% of the respondents had children or grandchildren under 12 years of age in the household, with more respondents in Fukushima having no children (76.8%). The average monthly income per household across all regions was JPY 416,000. The average monthly income per household in Fukushima was JPY 416,000, UAH 12,330 (JPY 47,231) in Kiev, BYN 634 (JPY 25,554) in Gomel, and RUB 32,822 (JPY 46,321) in Bryansk. The majority of respondents across all the regions were general office workers (15.7%) and engineers/professionals (8.7%), but there were also many retirees in Fukushima (14.3%), self-employed people in Kiev (16.0%), and civil servants in Gomel and Bryansk (10.0% and 10.9%, respectively). Given that the

5. Although education can be disaggregated into high school graduates, junior college graduates, college graduates, and postgraduate dummies, in this calculation, we introduced a discrete variable as a proxy for years of education.
6. Respondents from Gomel and Kiev are likely to think of the exclusion zone, whereas those from Bryansk are more likely to think of the third or fourth category of zones.
7. In Belarus, 16.0% of respondents said they had lived in a contaminated area [32]. The most affected region, Gomel, accounted for 45.37% of the contaminated land [33]. Because the numbers for Kiev and Bryansk are much smaller, dividing up the residents by zones would leave us with a very limited sample.

Table 1. Factors influencing respondents' position on different issues ($n = 504$).

Variables	Liquidator compensation		Reimbursement of medical expenses		Decontamination of environment		Decontaminate land in order to return it to economic use		Cancellation of evacuation orders		Continuation of financial support after repatriation		Continued financial support for victims		Compensation for farmers	
	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.
Fukushima	−1.403	0.263***	−0.853	0.209***	−0.611	0.226***	−1.174	0.269***			−2.269	0.257***	−2.518	0.279***	−2.114	0.244***
Gomel					−0.438	0.241*	−0.942	0.293***	−1.140	0.223***	−0.474	0.317			−1.045	0.290***
Kiev							−0.838	0.297***			−0.623	0.307**	−0.948	0.324***	−1.089	0.291***
Repatriation			0.644	0.367*												
Worked as liquidator	1.239	0.812									−1.041	0.415**			−0.730	0.415*
Suffered health issues	0.914	0.291***	0.938	0.274***	0.419	0.207*					0.938	0.217***	1.058	0.260***	0.656	0.209***
Male	−0.459	0.236*							0.552	0.180***						
Children present	0.338	0.251														
Family size	−0.115	0.070														
Age	0.017	0.008**			0.019	0.006***	0.015	0.006**	0.017	0.006***			0.010	0.007		
Education	0.162	0.093*	0.207	0.079***												
Tier II income					0.502	0.217**									0.283	0.202
Tier III income	0.364	0.262	0.395	0.250	0.531	0.216**	0.332	0.199*								
Tier IV income	0.739	0.275***	0.370	0.253							−0.467	0.197**				
cut1	3.410	0.426***	2.865	0.343***	1.379	0.278***	3.039	0.346***	0.038	0.235	3.190	0.260***	3.078	0.296***	2.932	0.235***
cut2	2.409	0.360***	2.374	0.304***			1.909	0.312***								
cut3	1.438	0.350***	1.278	0.262***	0.535	0.261**	1.268	0.305***	−0.772	0.233***	2.145	0.238***	2.230	0.278***	2.119	0.218***
cut4	0.318	0.360	0.047	0.276	−0.554	0.267**	0.371	0.303	−2.076	0.252***	1.038	0.232***	1.155	0.280***	0.974	0.217***
Likelihood ratio	825.0***		849.9***		1092.4***		1242.2***		1309.1***		1053.6***		888.4***		1133.3***	
AIC	853.0		869.9		1110.4		1260.2		1321.1		1071.6		902.4		1151.3	
χ^2	115.1		80.6		31.6		25.8		64.1		175.2		183.2		111.4	
Pseudo R^2	0.122		0.087		0.028		0.020		0.047		0.143		0.171		0.089	

Note: 1) ***, **, and * indicate statistical significance at 1%, 5%, and 10% respectively (also applies to **Tables 2** to **5**). 2) cut represent threshold values, from cut1 as "somewhat disagree," to cut4 as "agree." 3) The responses "somewhat disagree" and "disagree" were combined in to make a 3 response model due to the AIC modelling for these items. 4) In addition to the individual attributes, experience of evacuation, working as a liquidator, health damage, and repatriation, were applied as explanatory variables (see **Table 6**). Using the Backward Selection method to determine a significance level of 1 to 10%, only the most optimum variables were applied (see **Table 2**). 5) p-values and marginal effect data are omitted due to space limitations (also applies to **Table 2**).

Table 2. Factors influencing respondents' position on reconstruction policies ($n = 504$).

Variables	Social welfare		Medical provision		Care facilities		Monitoring of radiation		Agricultural safety measures	
	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.
Fukushima	−3.231	0.236***	−3.694	0.269***	−4.184	0.358***	−2.991	0.238***	−2.316	0.199***
Evacuation							0.406	0.283		
Repatriation							−0.998	0.351***		
Worked as liquidator			0.928	0.652						
Suffered health issues	0.585	0.243**	0.728	0.275***	0.705	0.299**	0.885	0.268***	0.382	0.206*
Male							−0.350	0.205*		
Children present					0.443	0.24*			−0.380	0.189**
Education							0.220	0.085**		
Tier II income	0.602	0.27**	0.339	0.245	0.631	0.261**	0.820	0.288***		
Tier III income	0.732	0.272***	0.616	0.256**	0.757	0.268***	0.861	0.296***	0.405	0.210*
Tier IV income	0.480	0.266*					0.799	0.298***	0.538	0.209**
cut1	3.607	0.263***	4.384	0.290***	4.203	0.400***	2.562	0.292***	2.767	0.204***
cut2	2.155	0.232***	2.875	0.260***	2.492	0.39***	1.474	0.272***	1.668	0.176***
cut3	0.704	0.227***	1.299	0.224***	1.079	0.302***	−0.087	0.291	0.253	0.174
Likelihood ratio	906.7***		813.5***		761.7***		877.5***		1129.1***	
AIC	922.7		829.5		777.7		901.5		1145.1	
χ^2	304.8		355.4		419.1		327.7		187.5	
Pseudo R^2	0.252		0.304		0.355		0.272		0.142	

Variables	Forestry safety measures		Contamination inspection system		Management of restricted areas		Infrastructure improvements		Education & Information	
	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.
Fukushima	−3.215	0.262***	−2.261	0.228***	−1.910	0.193***	−3.081	0.228***	−3.284	0.239***
Evacuation			−0.469	0.247*						
Repatriation	−0.700	0.291**	0.494	0.323						
Suffered health issues	0.955	0.261***	0.448	0.214**					0.506	0.222**
Family size					−0.078	0.052				
Age			0.011	0.006*	0.008	0.005	0.011	0.006*		
Tier II income			0.676	0.253***			0.615	0.253**		
Tier III income	0.373	0.240	0.872	0.251***			0.842	0.249***		
Tier IV income	0.459	0.238*	0.741	0.255***			0.79	0.253***		
cut1	3.508	0.287***	1.870	0.242***	2.448	0.264***	2.539	0.243***	3.509	0.238***
cut2	2.033	0.260***	0.83	0.221***	1.415	0.247***	1.264	0.216***	1.971	0.20***
cut3	0.883	0.225***	−0.529	0.236**	0.156	0.254	−0.132	0.229	0.796	0.171***
Likelihood ratio	882.4***		1090.0***		1236.3***		1038.9***		963.1***	
AIC	898.4		1112.0		1248.3		1054.9		973.1	
χ^2	329.0		192.4		109.8		253.1		313.6	
Pseudo R^2	0.272		0.150		0.082		0.196		0.246	

Note: 1) cut indicates threshold values from cut1 "unsure" to cut3 "agree." 2) For all the models, the values for "somewhat disagree" and "disagree" were combined in order to minimize the AIC.

survey is about land contamination, we also sought to determine participants' agricultural work experience (except for "Dacha"). However, as the survey required access and knowledge of the Internet, mostly associated with urban dwellers, agricultural workers only accounted for 2.5% of respondents from Fukushima, 5.0% from Kiev, 1.0% from Bryansk, and none from Gomel. The average age of the respondents was 40.8 years, with many in the age groups of 30–39 years (30.0%), 40–49 years (23.8%), 20–29 years (19.4%), and 50–59 years (12.1%). Fukushima respondents are, on average, older (46.9 years old). The year of the survey (2020) was the 34th anniversary of the Chernobyl disaster, so the first generation born after it are now in their early to mid-30s. The 30–39 age group is the largest group in the Chernobyl areas (40.0% in Kiev, 38.0% in Gomel, and 27.7% in Bryansk). Age was used as an independent variable in the models. Higher age groups, with greater direct knowledge of the accident, tended to result in a positive coefficient, whereas younger, less knowledgeable age groups tended to result in a negative coefficient.

3.2. Experiences of Evacuation, Cleanup, Health Damage, and Repatriation

Table 6 depicts the respondents' experiences of evacuation, work in the cleanup of the accident (liquidator), health damage, and return to the area. First, 24.0% of the respondents in the four regions had been evacuated due to the nuclear accident. The difference between Kiev and Gomel (19.0%) and between Kiev and Bryansk (24.1%)

Table 3. Approval and disapproval for approaches to reconstruction and rehabiliation: correlations and marginal effects ($n = 504$).

Variables (1)	Rapeseed as a soil decontaminant			Disagree		Somewhat disagree		Unsure		Somewhat agree		Agree	
	Coeff	S.E.	*p-value*	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Fukushima	-0.700	0.189	0.000 ***	0.029	0.010 ***	0.066	0.019 ***	0.052	0.015 ***	0.014	0.009 *	-0.161	0.042 ***
Suffered health issues	0.445	0.175	0.011 **	-0.016	0.007 **	-0.039	0.016 **	-0.034	0.014 **	-0.017	0.009 *	0.106	0.042 **
Danger of radioactive hotspots	-0.552	0.235	0.019 **	0.025	0.013 *	0.055	0.026 **	0.041	0.017 **	0.004	0.008	-0.124	0.050 **
Rapeseed fields for tourism	0.522	0.192	0.006 ***	-0.018	0.007 ***	-0.044	0.016 ***	-0.039	0.015 ***	-0.025	0.013 *	0.126	0.047 ***
Rapeseed waste as a biogas	0.841	0.201	0.000 ***	-0.027	0.007 ***	-0.068	0.016 ***	-0.062	0.015 ***	-0.047	0.018 **	0.204	0.049 ***
cut1	-3.062	0.259		Likelihood	-682.0 ***								
cut2	-1.584	0.186		AIC	1382.1								
cut3	-0.769	0.171		χ^2	37.85								
cut4	0.611	0.169		pseudo R^2	0.027								
Variables (2)	Rehabiliation through tourism			Disagree		Somewhat disagree		Unsure		Somewhat agree		Agree	
	Coeff	S.E.	*p-value*	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Gomel	-0.599	0.213	0.005 ***	0.075	0.030 **	0.064	0.022 ***	0.007	0.005	-0.047	0.019 **	-0.099	0.032 ***
Family size	0.149	0.059	0.011 **	-0.016	0.007 **	-0.017	0.007 **	-0.004	0.002 *	0.010	0.004 **	0.027	0.011 **
Tragedy must not be forgotten	0.390	0.191	0.041 **	-0.046	0.024 *	-0.043	0.021 **	-0.008	0.004 *	0.028	0.015 *	0.068	0.032 **
Area should be used as a tourist spot	1.944	0.332	0.000 ***	-0.122	0.016 ***	-0.170	0.023 ***	-0.118	0.024 ***	-0.030	0.031	0.440	0.074 ***
Danger of radioactive hotspots	-0.750	0.198	0.000 ***	0.086	0.024 ***	0.081	0.022 ***	0.017	0.007 **	-0.051	0.015 ***	-0.133	0.034 ***
Tragedy should not be commercialized	-0.668	0.231	0.004 ***	0.084	0.034 **	0.071	0.023 ***	0.007	0.006	-0.052	0.021 **	-0.110	0.034 ***
Refuse to eat crops grown in the area	-0.832	0.211	0.000 ***	0.098	0.027 ***	0.089	0.023 ***	0.016	0.007 **	-0.059	0.017 ***	-0.144	0.035 ***
Decontaminated land not to be used for agriculture	-0.560	0.219	0.011 **	0.068	0.029 **	0.061	0.023 **	0.009	0.005 *	-0.042	0.019 **	-0.095	0.035 ***
cut1	-2.070	0.268		Likelihood	-723.5 ***								
cut2	-0.835	0.247		AIC	1470.9								
cut3	-0.023	0.241		χ^2	152.0								
cut4	1.024	0.248		pseudo R^2	0.095								
Variables (2)	Megasolar farm			Disagree		Somewhat disagree		Unsure		Somewhat agree		Agree	
	Coeff	S.E.	*p-value*	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Kiev	0.457	0.224	0.041 **	-0.023	0.010 **	-0.031	0.014 **	-0.042	0.021 **	-0.009	0.011	0.105	0.053 **
Evacuation experience	0.530	0.207	0.010 **	-0.027	0.010 ***	-0.036	0.013 ***	-0.048	0.019 **	-0.010	0.011	0.121	0.049 **
Male	0.866	0.173	0.000 ***	-0.050	0.012 ***	-0.063	0.014 ***	-0.076	0.017 ***	0.001	0.011	0.188	0.037 ***
Children present	0.378	0.176	0.032 **	-0.021	0.010 **	-0.027	0.013 **	-0.034	0.016 **	-0.001	0.005	0.084	0.039 **
Tragedy must not be forgotten	0.576	0.193	0.003 ***	-0.037	0.014 **	-0.045	0.017 ***	-0.050	0.017 ***	0.011	0.010	0.120	0.038 ***
Refuse to consume meat products	1.401	0.431	0.001 ***	-0.072	0.023 ***	-0.092	0.028 ***	-0.119	0.034 ***	-0.031	0.023	0.314	0.095 **
Establish a robotics industry in the area	0.577	0.234	0.014 **	-0.028	0.010 ***	-0.038	0.014 ***	-0.052	0.021 **	-0.016	0.015	0.133	0.056 **
Danger of radioactive hotspots	-0.684	0.188	0.000 ***	0.041	0.013 ***	0.051	0.015 ***	0.060	0.017 ***	-0.006	0.009	-0.147	0.039 ***
Build renewable energy facilities	1.085	0.206	0.000 ***	-0.051	0.011 ***	-0.068	0.013 ***	-0.095	0.019 ***	-0.036	0.019 *	0.251	0.048 ***
Refuse to consume dairy products	-1.587	0.423	0.000 ***	0.113	0.040 ***	0.124	0.036 ***	0.120	0.025 ***	-0.041	0.025	-0.315	0.074 ***
cut1	-2.070	0.268		Likelihood	-685.6 ***								
cut2	-0.835	0.247		AIC	1399.1								
cut3	-0.023	0.241		χ^2	117.5								
cut4	1.024	0.248		pseudo R^2	0.079								

Note: 1) In addition to personal attributes, various items from **Table 6** were introduced and modeled onto **Tables 7** and **8** and, using the Backward Selection method, the best model has been presented, with only those variables having a statistical significance of 1 to 10%, resulting in a model with the lowest AIC. 2) In addition to personal attributes, responses from **Tables 3** and **6** were added to the model and, using the Backward Selection method, the best model has been presented, with significance levels of 1 to 10%. 3) *p*-values have been omitted due to space limitations (also applies to **Table 5**).

was significant at the 10% level. Those from Kiev, where the Chernobyl nuclear power plant is located, were more likely to have been evacuated.

Second, 4.6% of the respondents had been engaged in cleaning up the accident site, with no statistical difference among the four regions.

Furthermore, 39.1% of the respondents in the four regions had health problems resulting from nuclear accidents. The results indicate that the difference between Fukushima and Kiev (−49.7%), between Fukushima and Gomel (−49.7%), and between Fukushima and Bryansk (−45.1%) is significant at the 1% level of significance.

The Chernobyl authorities forced residents to evacuate from the area but, unlike in Fukushima, there was no immediate policy objective of ensuring their return to their homes. However, after receiving compensation and other financial benefits, several self-settlers left the areas they were resettled to and returned to the exclusion area against the orders of the authorities. In contrast, decontamination in Fukushima has been carried out in anticipation of ensuring the return of residents to the area as before. Despite these differences, only 13.9% of all respondents said they had returned, and there was no statistical difference between the four countries. According to the Fukushima Evacuee Intention Survey [34], the percentage of respondents who answered positively when asked about their intention to return to the area fell from 19.8% in 2015 to 15.4% in 2016. Although the reporting of intention and actual return rate are not directly comparable, there is clearly a waning interest among evacuees to return to Fukushima.

Table 4. Approval and disapproval for approaches to reconstruction and rehabiliation: correlations and marginal effects ($n = 504$).

Variables	Nature reserve			Disagree		Somewhat disagree		Unsure		Somewhat agree		Agree	
	Coeff	S.E.	*p-value*	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Fukushima	-0.712	0.196	0.000 ***	0.043	0.014 ***	0.066	0.019 ***	0.060	0.017 ***	-0.010	0.008	-0.159	0.042 ***
Kiev	0.546	0.254	0.031 **	-0.027	0.011 **	-0.045	0.019 **	-0.051	0.024 **	-0.007	0.010	0.130	0.062 **
Liquator	0.904	0.454	0.047 **	-0.036	0.013 ***	-0.064	0.025 **	-0.084	0.040 **	-0.036	0.036	0.221	0.111 **
Male	0.557	0.171	0.001 ***	-0.032	0.011 ***	-0.050	0.016 ***	-0.049	0.016 ***	0.004	0.006	0.127	0.039 ***
Unscientific to refuse to eat produce from area	-0.494	0.232	0.033 **	0.032	0.018 *	0.048	0.024 **	0.040	0.017 **	-0.013	0.011	-0.107	0.047 **
Refuse to eat crops grown in the area	-0.427	0.192	0.026 **	0.025	0.012 **	0.039	0.018 **	0.037	0.017 **	-0.005	0.006	-0.096	0.043 **
Area should be used as a tourist spot	0.977	0.330	0.003 ***	-0.040	0.011 ***	-0.070	0.019 ***	-0.091	0.030 ***	-0.037	0.026	0.238	0.080 ***
Build renewable energy facilities	0.786	0.199	0.000 ***	-0.038	0.010 ***	-0.064	0.016 ***	-0.072	0.019 ***	-0.012	0.010	0.186	0.048 ***
Do not disturb the areas reclaimed by fauna and flora	0.570	0.270	0.035 **	-0.027	0.011 **	-0.046	0.020 **	-0.053	0.026 **	-0.010	0.012	0.136	0.066 **
cut1	-2.467	0.242		Likelihood	-706.8 ***								
cut2	-1.243	0.205		AIC	1439.7								
cut3	-0.198	0.197		χ^2	90.80								
cut4	0.870	0.199		pseudo R^2	0.060								
Variables	Waste treatment and storage facilities			Disagree		Somewhat disagree		Unsure		Somewhat agree		Agree	
	Coeff	S.E.	*p-value*	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Fukushima	-1.107	0.244	0.000 ***	0.133	0.033 ***	0.088	0.020 ***	0.047	0.012 ***	-0.060	0.018 ***	-0.208	0.044 ***
Gomel	-0.640	0.270	0.018 **	0.081	0.039 **	0.053	0.022 **	0.025	0.008 ***	-0.043	0.024 *	-0.116	0.044 ***
Kiev	-1.335	0.281	0.000 ***	0.195	0.052 ***	0.099	0.019 ***	0.028	0.010 ***	-0.106	0.030 ***	-0.215	0.036 ***
Evacuation experience	0.513	0.199	0.010 **	-0.051	0.018 ***	-0.041	0.016 **	-0.030	0.013 **	0.014	0.006 **	0.108	0.044 **
Refuse to consume dairy products	-0.635	0.217	0.003 ***	0.074	0.027 ***	0.052	0.019 ***	0.030	0.010 ***	-0.034	0.015 **	-0.122	0.040 ***
Decontaminated land not to be used for agriculture	-0.554	0.216	0.010 **	0.067	0.029 **	0.046	0.018 **	0.024	0.009 ***	-0.033	0.017 **	-0.104	0.038 ***
Build decontamination and storage facilities	1.727	0.226	0.000 ***	-0.135	0.017 ***	-0.118	0.017 ***	-0.104	0.018 ***	-0.030	0.022	0.388	0.051 ***
Area should be used as a tourist spot	-0.696	0.295	0.018 **	0.094	0.048 **	0.056	0.023 **	0.022	0.006 ***	-0.053	0.030 *	-0.120	0.043 ***
cut1	-2.748	0.259		Likelihood	-724.3 ***								
cut2	-1.848	0.242		AIC	1472.6								
cut3	-1.093	0.233		χ^2	117.00								
cut4	0.175	0.227		pseudo R^2	0.075								
Variables	Cultivation of crops			Disagree		Somewhat disagree		Unsure		Somewhat agree		Agree	
	Coeff	S.E.	*p-value*	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Male	0.383	0.166	0.021 **	-0.044	0.020 **	-0.046	0.020 **	-0.002	0.004	0.039	0.017 **	0.053	0.023 **
Restore farmland to its pre-accident state	0.517	0.197	0.009 ***	-0.055	0.019 ***	-0.063	0.025 **	-0.009	0.007	0.048	0.017 ***	0.078	0.032 **
Even if decontaminated, the land should not be used for agriculture	-1.382	0.221	0.000 ***	0.201	0.039 ***	0.130	0.021 ***	-0.033	0.015 **	-0.140	0.024 ***	-0.158	0.023 ***
Decontaminate the area and return it to active economic use	0.586	0.192	0.002 ***	-0.062	0.019 ***	-0.071	0.024 ***	-0.010	0.008	0.054	0.017 ***	0.089	0.032 ***
Refuse to eat crops grown in the area	-1.006	0.199	0.000 ***	0.127	0.028 ***	0.112	0.023 ***	-0.006	0.009	-0.101	0.022 ***	-0.131	0.025 ***
Unscientific to refuse to eat produce from area	0.755	0.233	0.001 ***	-0.073	0.019 ***	-0.092	0.028 ***	-0.021	0.013	0.062	0.016 ***	0.123	0.044 ***
cut1	-2.022	0.190		Likelihood	-728.3 ***								
cut2	-0.625	0.161		AIC	1476.5								
cut3	0.240	0.158		χ^2	160.4								
cut4	1.455	0.173		pseudo R^2	0.099								
Variables	Livestock and diary farming			Disagree		Somewhat disagree		Unsure		Somewhat agree		Agree	
	Coeff	S.E.	*p-value*	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Even if decontaminated, the land should not be used for agriculture	-1.401	0.227	0.000 ***	0.179	0.037 ***	0.155	0.024 ***	-0.034	0.016 **	-0.137	0.024 ***	-0.163	0.024 ***
Unscientific to refuse to eat produce from area	0.980	0.240	0.000 ***	-0.076	0.016 ***	-0.130	0.031 ***	-0.033	0.017 **	0.070	0.014 ***	0.170	0.049 ***
Decontaminate the area and return it to active economic use	0.530	0.191	0.006 ***	-0.048	0.016 ***	-0.073	0.026 ***	-0.008	0.007	0.048	0.016 ***	0.081	0.032 **
Restore farmland to its pre-accident state	0.458	0.198	0.021 **	-0.042	0.017 **	-0.063	0.028 **	-0.007	0.007	0.042	0.017 **	0.070	0.033 **
Refuse to consume dairy products	-1.091	0.201	0.000 ***	0.122	0.027 ***	0.137	0.026 ***	-0.010	0.010	-0.106	0.021 ***	-0.143	0.026 ***
cut1	-2.438	0.181		Likelihood	-728.8 ***								
cut2	-0.844	0.136		AIC	1475.6								
cut3	0.038	0.130		χ^2	152.4								
cut4	1.212	0.145		pseudo R^2	0.095								

3.3. Attitudes Toward Compensation, Decontamination, Repatriation, and Financial Support

Table 10 shows the participants' attitudes toward compensation, decontamination, repatriation, and continuation of financial support after returning to the area. First, 87.5% of the respondents answered "agree" or "somewhat agree" (70.4% and 17.1%, respectively) when asked whether medical expenses incurred due to the

Table 5. Satisfaction with government actions: correlations and marginal effects ($n = 504$).

Variables	Fukushima (n=203)			Dissatisfied		Somewhat dissatisfied		Unsure		Somewhat satisfied		Satisfied	
	Coeff	S.E.	*p-value*	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Liquidator	2.911	0.957	0.002 ***	-0.255	0.037 ***	-0.292	0.065 ***	-0.045	0.122	0.368	0.078 ***	0.224	0.172
Children	-0.208	0.100	0.038 **	0.040	0.019 **	0.009	0.006	-0.027	0.013 **	-0.019	0.009 **	-0.004	0.002
Age	-0.022	0.009	0.015 **	0.004	0.002 **	0.001	0.001	-0.003	0.001 **	-0.002	0.001 **	0.000	0.000 *
Adopting international standards of measurement	0.714	0.296	0.016 **	-0.129	0.051 **	-0.042	0.026	0.086	0.035 **	0.071	0.034 **	0.015	0.009
Financial support for victims	-0.928	0.282	0.001 ***	0.185	0.057 ***	0.027	0.019	-0.116	0.037 ***	-0.080	0.026 ***	-0.016	0.008 **
Education & information	-1.565	0.332	0.000 ***	0.328	0.072 ***	0.004	0.031	-0.187	0.041 ***	-0.121	0.028 ***	-0.024	0.011 **
Management of restricted areas	0.757	0.302	0.012 **	-0.139	0.053 ***	-0.042	0.025 *	0.092	0.036 **	0.074	0.034 **	0.015	0.009 *
cut1	-2.970	0.587		Likelihood	-264.6 ***								
cut2	-1.456	0.555		AIC	551.3								
cut3	0.024	0.554		χ^2	53.20								
cut4	2.060	0.672		pseudo R^2	0.091								
Variables	Chernobyl (n=301)			Disagree		Somewhat disagree		Unsure		Somewhat agree		Agree	
	Coeff	S.E.	*p-value*	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Suffered health issues	-0.706	0.215	0.001 ***	0.073	0.023 ***	0.102	0.033 ***	-0.017	0.007 **	-0.097	0.031 ***	-0.060	0.021 ***
Increase and consolidate funding for scientific research	-0.659	0.219	0.003 ***	0.075	0.027 ***	0.087	0.029 ***	-0.021	0.010 **	-0.091	0.030 ***	-0.050	0.017 ***
cut1	-2.642	0.249		Likelihood	-433.9 ***								
cut2	-0.563	0.189		AIC	879.8								
cut3	0.048	0.185		χ^2	20.7								
cut4	1.671	0.231		pseudo R^2	0.023								
Variables	Kiev (n=100)			Disagree		Somewhat disagree		Unsure		Somewhat agree		Agree	
	Coeff	S.E.	*p-value*	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Continue observation of victims with health problems	-1.004	0.403	0.013 **	0.121	0.048 **	0.119	0.058 **	-0.035	0.019 *	-0.146	0.062 **	-0.059	0.031 *
Continue restoring land to economic usefulness	0.828	0.410	0.044 **	-0.104	0.052 **	-0.094	0.053 *	0.032	0.019 *	0.120	0.062 *	0.045	0.028
Increase and consolidate funding for scientific research	-1.144	0.414	0.006 ***	0.150	0.057 ***	0.117	0.052 **	-0.045	0.023 **	-0.161	0.061 ***	-0.061	0.029 **
cut1	-2.531	0.434		Likelihood	-135.6 ***								
cut2	-0.384	0.349		AIC	285.2								
cut3	0.191	0.343		χ^2	15.8								
cut4	2.045	0.454		pseudo R^2	0.055								
Variables	Gomel (n=100)			Disagree		Somewhat disagree		Unsure		Somewhat agree		Agree	
	Coeff	S.E.	*p-value*	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Increase and consolidate funding for scientific research	-0.806	0.403	0.045 **	0.117	0.065 *	0.078	0.038 **	-0.027	0.020	-0.112	0.056 **	-0.056	0.028 **
cut1	-1.950	0.317		Likelihood	-146.9 **								
cut2	-0.119	0.234		AIC	303.8								
cut3	0.448	0.237		χ^2	4.1								
cut4	2.134	0.360		pseudo R^2	0.014								
Variables	Bryansk (n=101)			Disagree		Somewhat disagree		Unsure		Somewhat agree		Agree	
	Coeff	S.E.	*p-value*	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.	dy/dx	S.E.
Suffered health issues	-1.881	0.404	0.000 ***	0.079	0.032 **	0.347	0.072 ***	-0.006	0.029	-0.232	0.059 ***	-0.188	0.054 ***
cut1	-4.144	0.533		Likelihood	-134.4 ***								
cut2	-1.323	0.324		AIC	278.8								
cut3	-0.472	0.293		χ^2	23.8								
cut4	1.198	0.331		pseudo R^2	0.081								

Note: In addition to individual attributes, responses from **Table 7** on issues on welfare and reconstruction. The Backward Selection method to obtain the best fit with variables that achieve a statistical significance of 1 to 10%.

accident should be compensated. In addition, 86.1% agreed (71.4% and 14.7% answering "agree" or "somewhat agree," respectively) that those who helped in the clean-up process (liquidators) should be properly compensated. Next, 78.4% of the respondents (62.7% and 15.7% answering "somewhat agree" or "agree," respectively) thought that financial aid should be continued after repatriation. Support for compensation and financial aid for victims of the accidents was very high across the four regions.

Of the respondents, 79.4% agreed (57.9% "agree" and 21.4% "somewhat agree") that "forests and fields polluted with radioactive materials should be decontaminated." In addition, 74.8% agreed (55.8% "agree" and 19.0% "somewhat agree") that "polluted land should be decontaminated so that it can be put to economic use."

Table 6. Experience of evacuation, participation in the clean up, and repatriation ($n = 504$) and comparative ratios.

Item	Response / Question	No experience	Don't recall	All region	Had experience				Comparison ratios (with experience					
					By region				Fukushima &			Kiev &		Gomel &
		All regions	All regions		Fukushima	Kiev	Gomel	Bryansk	Kiev	Gomel	Bryansk	Gomel	Bryansk	Bryansk
Evacuation Experience	Were you evacuated from the area?	28.4%	13.9%	24.0%	27.1%	36.0%	18.0%	11.9%	-8.9%	9.1%	15.2%	18.0% *	24.1% *	6.1%
		143	70	121	55	36	18	12						
Liquidator	Did you participate in cleaning up the accident?	83.5%	11.9%	4.6%	2.5%	10.0%	4.0%	4.0%	-7.5%	-1.5%	-1.5%	6.0%	6.0%	0.0%
		421	60	23	5	10	4	4						
Health	Did you or anybody close to you suffer any health problems due to the accident?	51.2%	10.1%	39.1%	10.3%	60.0%	60.0%	55.4%	-49.7% ***	-49.7% ***	-45.1% ***	0.0%	4.6%	4.6%
		258	51	197	21	60	60	56						
Repatriation	Have you ever returned to live in the area of the accident?	71.4%	14.7%	13.9%	12.3%	18.0%	14.0%	12.9%	-5.7%	-1.7%	-0.6%	4.0%	5.1%	8.6%
		360	74	70	25	18	14	13						

Note: 1) Those who moved into the area after the accident or are "foreigners" are classed as having no experience. 2) Those who have relatives or friends who have suffered health damage or died from the incident are included. 3) Those who express an intention to return to the area but have not yet done so are classed as no experience. 4) "Don't recall" includes "I don't know" and "I was not born yet." 5) *** and * indicate that the average difference is statistically significant at the 1% and 10% levels.

Table 7. Use of rapeseed and decontaminated land (multiple responses) and cross region comparison.

Item	All regions	By region				Comparison ratios					
						Fukushima &			Kiev &		Gomel &
		Fukushima	Kiev	Gomel	Bryansk	Kiev	Gomel	Bryansk	Gomel	Bryansk	Bryansk
Rapeseed is only for decontamination	39.3%	36.5%	36.0%	45.0%	42.6%	0.5%	-8.5%	-6.1%	-9.0%	-6.6%	2.4%
	198	74	36	45	43						
Rapeseed oil is not to be used for food or food processing	35.7%	29.6%	42.0%	44.0%	33.7%	-12.4%	-14.4% *	-4.1%	-9.0%	8.3%	10.3%
	180	60	42	44	34						
Rapeseed oil can be used as a fuel supplement or as a biofuel	33.1%	41.4%	27.0%	31.0%	24.8%	14.4%	10.4%	16.6% *	-4.0%	2.2%	6.2%
	167	84	27	31	25						
Rapeseed plant waste can be used for generating biogas	25.8%	34.5%	27.0%	16.0%	16.8%	7.5%	18.5% *	17.7% *	11.0%	10.2%	-0.8%
	130	70	27	16	17						
The rapeseed fields can be used as a tourist area	25.6%	32.5%	26.0%	16.0%	20.8%	6.5%	16.5% *	11.7%	10.0%	5.2%	-4.8%
	129	66	26	16	21						
Rapeseed by-product can be used as a fertilizer	15.3%	21.2%	7.0%	8.0%	18.8%	14.2%	13.2%	2.4%	-1.0%	-11.8%	-10.8%
	77	43	7	8	19						
Rapeseed by-product can be used as livestock feed	10.1%	12.8%	9.0%	5.0%	10.9%	3.8%	7.8%	1.9%	4.0%	-1.9%	-5.9%
	51	26	9	5	11						
Other	2.2%	0.5%	3.0%	6.0%	1.0%	—	—	—	—	—	—
	11	1	3	6	1						

Decontamination was also highly supported in all the four regions.

Moreover, 70.4% of the respondents (51.8% "agree" and 18.7% "somewhat agree") believed that it was necessary to "continue financial aid after the evacuation order is lifted" and 71.4% (49.4% "agree" and 22.0% "somewhat agree") felt it was necessary to continue paying compensation to farmers affected by the nuclear accident. Finally, only 50.2% of the respondents (23.2% "agree" and 27.0% "somewhat agree") thought that the evacuation order should be lifted when the radiation level in the contaminated area decreases. On the other hand, 32.3% (18.7% "somewhat disagree" and 13.7% "disagree") were opposed, allowing repatriation.

3.4. Cross-Regional Comparison of Responses on Compensation, Decontamination, Repatriation, and Financial Support

The results of cross-regional comparisons of responses to questions on compensation, decontamination, repatriation, and continuing financial support are given in Appendix A.

From the table, we can see that comparisons of "medical expenses," "liquidator compensation," "continuation of financial support after evacuation," "financial support for victims," and "compensation for farmers" indicate that Chernobyl victims were more likely than Fukushima victims to support compensation, statistically significant at the 1% level.

On the issues of "decontamination of environment" and "decontamination of land for economic use," the differences between Fukushima and Bryansk (0.382 and 0.426, respectively) were significant at the 5% level. Among the Chernobyl-affected regions, participants from Bryansk

Table 8. Respondents thoughts on the contaminated area (multiple responses) and cross region comparison.

Item	All regions	By region				Comparison ratios					
						Fukushima &			Kiev &		Gomel &
		Fukushima	Kiev	Gomel	Bryansk	Kiev	Gomel	Bryansk	Gomel	Bryansk	Bryansk
The tragedy must not be forgotten / the dangers of nuclear power must be stressed	71.8%	60.6%	71.0%	86.0%	81.2%	-10.4% *	-25.4% ***	-20.6% ***	-15.0% **	-10.2% *	4.8%
	362	123	71	86	82						
There is still a danger as there are high radiation hotspots near the plant	42.9%	32.5%	49.0%	49.0%	51.5%	-16.5% **	-16.5% **	-19.0% **	0.0%	-2.5%	-2.5%
	216	66	49	49	52						
I do not want to eat crops grown in the contaminated area	38.9%	20.2%	48.0%	56.0%	50.5%	-27.8% ***	-35.8% ***	-30.3% ***	-8.0%	-2.5%	5.5%
	196	41	48	56	51						
I do not want to consume milk or dairy products from the contaminated area	37.7%	17.7%	47.0%	56.0%	50.5%	-29.3% ***	-38.3% ***	-32.8% ***	-9.0%	-3.5%	5.5%
	190	36	47	56	51						
I do not want to eat meat products from the contaminated area	37.7%	15.8%	50.0%	57.0%	50.5%	-34.2% ***	-41.2% ***	-34.7% ***	-7.0%	-0.5%	6.5%
	190	32	50	57	51						
The emotional scars of the victims have not healed	29.2%	31.5%	31.0%	24.0%	27.7%	0.5%	7.5%	3.8%	7.0%	3.3%	-3.7%
	147	64	31	24	28						
Decontaminate the area and return it to active economic use	27.8%	27.1%	30.0%	31.0%	23.8%	-2.9%	-3.9%	3.3%	-1.0%	6.2%	7.2%
	140	55	30	31	24						
Renewable energy facilities should be built in the site	27.2%	30.0%	31.0%	22.0%	22.8%	-1.0%	8.0%	7.3%	9.0%	8.2%	-0.8%
	137	61	31	22	23						
Even if decontaminated, the land should not be used for agriculture	27.0%	20.2%	31.0%	30.0%	33.7%	-10.8%	-9.8%	-13.5% *	1.0%	-2.7%	-3.7%
	136	41	31	30	34						
Farmland should be restored to its pre-accident state	26.0%	19.2%	24.0%	28.0%	39.6%	-4.8%	-8.8%	-20.4% **	-4.0%	-15.6%	-11.6%
	131	39	24	28	40						
People should not be made to go back / should not return / must not return	22.4%	12.8%	23.0%	32.0%	31.7%	-10.2%	-19.2% **	-18.9% **	-9.0%	-8.7%	0.3%
	113	26	23	32	32						
Economic activity should not be resumed even if decontamination is completed	22.0%	18.2%	21.0%	21.0%	31.7%	-2.8%	-2.8%	-13.5% *	0.0%	-10.7%	-10.7%
	111	37	21	21	32						
The tragedy and the human loss should not be exploited for financial gain / the area of the accident should not be commercialized	21.4%	14.3%	20.0%	30.0%	28.7%	-5.7%	-15.7% *	-14.4% *	-10.0%	-8.7%	1.3%
	108	29	20	30	29						
Radioactive waste processing and storage facilities should be built in the contaminated area	21.2%	15.8%	16.0%	24.0%	34.7%	-0.2%	-8.2%	-18.9% **	-8.0%	-18.7% *	-10.7%
	107	32	16	24	35						
A new city focussed on the robotics industry should be established in the area	17.3%	25.1%	12.0%	11.0%	12.9%	13.1%	14.1%	12.3%	1.0%	-0.9%	-1.9%
	87	51	12	11	13						
It is unscientific / bowing to unsubstantiated rumour to refuse to eat agricultural products from the decontaminated areas	16.5%	13.8%	23.0%	18.0%	13.9%	-9.2%	-4.2%	-0.1%	5.0%	9.1%	4.1%
	83	28	23	18	14						
Do not disturb the areas that have been reclaimed by the local fauna and flora	15.1%	5.9%	27.0%	17.0%	19.8%	-21.1% *	-11.1%	-13.9%	10.0%	7.2%	-2.8%
	76	12	27	17	20						
Restore the area to its pre-accident state	13.9%	18.2%	13.0%	5.0%	14.9%	5.2%	13.2%	3.4%	8.0%	-1.9%	-9.9%
	70	37	13	5	15						
I want to return to my home	9.1%	18.2%	5.0%	1.0%	3.0%	13.2%	17.2%	15.3%	4.0%	2.0%	-2.0%
	46	37	5	1	3						
The area should be used as a tourist site	8.9%	5.9%	12.0%	9.0%	11.9%	-6.1%	-3.1%	-6.0%	3.0%	0.1%	-2.9%
	45	12	12	9	12						
No thoughts in particular	1.2%	1.5%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%	0.0%	0.0%	0.0%
	6	3	1	1	1						
Other	0.8%	1.0%	0.0%	1.0%	1.0%	—	—	—	—	—	—
	4	2	0	1	1						

were more likely to approve of polluted areas being decontaminated.

The differences between Kiev and Bryansk (0.435 and 0.434, respectively) and between Gomel and Bryansk (0.505 and 0.404, respectively) for "decontamination of land for economic use" and "compensation for farmers" were also at the 5–10% level of significance. Among the Chernobyl-affected regions, more respondents in Bryansk believed agricultural land should be decontaminated and compensation should be paid to farmers.

Finally, regarding the issue of allowing repatriation, the highest value was found in Fukushima (3.704), and there was a significant difference between the mean values of Kiev (3.050), Gomel (2.420), and Bryansk (3.228) at the 1–5% level of significance. The difference between Kiev and Bryansk (0.630) and between Gomel and Bryansk (0.808) was also significant at the 1% level. Among the Chernobyl-affected regions, Gomel, which has the lowest income level, was more opposed to repatriation than other regions.

3.5. Attitudes Toward Reconstruction Policy and Government Responses

Table 12 depicts the participants' responses to questions about the reconstruction policy and government responses to the nuclear accident. The majority of respondents (56.3%) agreed that their government's "provision of medical care" (mean of 4.131) was sufficient.

Similarly, the majority of the respondents agreed that government provision is sufficient for "social welfare"

Table 9. Sample attributes ($n = 504$).

Personal Attributes		All regions		Fukushima		Kiev		Gomel		Bryansk	
		$n = 504$		$n = 203$		$n = 100$		$n = 100$		$n = 101$	
		freq.	%	freq.	%	freq.	%	freq.	%	freq.	%
Sex	Male	255	50.6%	121	59.6%	52	52.0%	34	34.0%	48	47.5%
	Female	249	49.4%	82	40.4%	48	48.0%	66	66.0%	53	52.5%
Age	Under 19	19	3.8%	3	1.5%	2	2.0%	5	5.0%	9	8.9%
	20–29	98	19.4%	26	12.8%	20	20.0%	25	25.0%	27	26.7%
	30–39	151	30.0%	45	22.2%	40	40.0%	38	38.0%	28	27.7%
	40–49	120	23.8%	48	23.6%	28	28.0%	20	20.0%	24	23.8%
	50–59	61	12.1%	36	17.7%	7	7.0%	7	7.0%	11	10.9%
	60–69	35	6.9%	26	12.8%	2	2.0%	5	5.0%	2	2.0%
	Over 70	20	4.0%	19	9.4%	1	1.0%	0	0.0%	0	0.0%
	Average/SD	40.8	14.1	46.9	15.4	37.8	10.5	36.4	11.7	35.7	12.2
Children	Present	211	41.9%	47	23.2%	56	56.0%	53	53.0%	55	54.5%
	Not present	293	58.1%	156	76.8%	44	44.0%	47	47.0%	46	45.5%
Education	Junior high	12	2.4%	10	4.9%	0	0.0%	1	1.0%	1	1.0%
	Senior high	111	22.0%	85	41.9%	4	4.0%	12	12.0%	10	9.9%
	College	115	22.8%	38	18.7%	18	18.0%	27	27.0%	32	31.7%
	Undergraduate	204	40.5%	64	31.5%	49	49.0%	48	48.0%	43	42.6%
	Graduate	52	10.3%	4	2.0%	24	24.0%	11	11.0%	13	12.9%
	Post-graduate	10	2.0%	2	1.0%	5	5.0%	1	1.0%	2	2.0%
Occupation	Office worker	79	15.7%	33	16.3%	17	17.0%	20	20.0%	9	8.9%
	Public employee	29	5.8%	5	2.5%	3	3.0%	10	10.0%	11	10.9%
	Factory worker	33	6.5%	13	6.4%	3	3.0%	8	8.0%	9	8.9%
	Engineer	44	8.7%	8	3.9%	15	15.0%	8	8.0%	13	12.9%
	Self-employed	39	7.7%	13	6.4%	16	16.0%	4	4.0%	6	5.9%
	Agriculture/fisheries	11	2.2%	5	2.5%	5	5.0%	0	0.0%	1	1.0%
	Homemaker	38	7.5%	22	10.8%	5	5.0%	5	5.0%	6	5.9%
	Student	22	4.4%	7	3.4%	3	3.0%	3	3.0%	9	8.9%
	Medical personnel	23	4.6%	10	4.9%	3	3.0%	7	7.0%	3	3.0%
	Student	31	6.2%	5	2.5%	10	10.0%	7	7.0%	9	8.9%
	Transportation	11	2.2%	4	2.0%	5	5.0%	1	1.0%	1	1.0%
	Social worker	9	1.8%	7	3.4%	0	0.0%	0	0.0%	2	2.0%
	Retired	43	8.5%	29	14.3%	3	3.0%	6	6.0%	5	5.0%
	Unemployed	26	5.2%	5	2.5%	9	9.0%	7	7.0%	5	5.0%
	Medical leave	25	5.0%	7	3.4%	2	2.0%	9	9.0%	7	6.9%
	Service industry	35	6.9%	18	8.9%	7	7.0%	5	5.0%	5	5.0%
	Other	24	4.8%	12	5.9%	0	0.0%	5	5.0%	7	6.9%
Family size Average/SD		3.222	1.461	2.793	1.370	3.760	1.505	3.350	1.417	3.426	1.410
Household income (currency)		All regions (JPY)		Fukushima (JPY)		Kiev (UAH)		Gomel (BYN)		Bryansk (RUB)	
Average income/SD (local currency)		191,383	299,156	416,256	369,004	12,330	7,816	634	461	32,822	29,141
Average income/SD (yen)						47,231	29,939	25,554	18,577	46,321	41,127

(53.2%, mean: 4.054), "monitoring of radiation" (53.6%, 4.038), "care facilities" (55.4%, 3.998), and "forestry safety measures" (53.2%, 3.954).

On the issues of the "contamination inspection system" (a mean of 3.927), "infrastructure improvements" (3.883), and "agricultural safety measures" (3.847), the governments scored over 40% approval (46.2%, 46.0%, and 42.5% agreeing, respectively, and 22.4%, 19.6%, and 23.6% somewhat agreeing).

Furthermore, 47.2% agreed, and 14.3% somewhat agreed (a combined total of 61.5%) on the adequacy of "education and information" (mean: 3.810). Regarding the management of restricted areas, less than 40% agreed that the government had performed adequately (38.5%, mean: 3.754).

Finally, as to whether the respondents were satisfied with "the government's response after the nuclear accident," many were "somewhat satisfied" (19.6%), but most were "somewhat dissatisfied" (35.5%) and "dissatisfied" (19.6%).

3.6. Cross-Regional Comparison of Reconstruction Policy and Government Responses

We performed multiple comparisons of the reconstruction policy (Appendix B) and found a significant difference between the means of the Fukushima and Chernobyl areas at the 1% level of significance. However, there was no statistically significant difference between the

Table 10. Compensation, decontamination, cancellation of evacuation orders, and continuance of financial support ($n = 504$).

Item	Question \ Response	Agree	Somewhat agree	Unsure	Somewhat disagree	Disagree	Average SD
Liquidator compensation	Do you agree that those involved in the clean-up after the accident shoud be properly compensated?	71.4%	14.7%	7.7%	3.8%	2.4%	4.490
		360	74	39	19	12	0.958
Medical expenses	Do you agree that those suffering physical and mental illness due to the accident should have their medical costs fully compensated?	70.4%	17.1%	7.7%	1.8%	3.0%	4.502
		355	86	39	9	15	0.933
Decontamination of environment	Do you agree the fields and forests polluted by the accident should be fully decontaminated?	57.9%	21.4%	10.3%	5.4%	5.0%	4.220
		292	108	52	27	25	1.139
Decontaminate land for economic use	Do you agree that polluted land should be decontaminated for economic use?	55.8%	19.0%	9.9%	9.7%	5.6%	4.097
		281	96	50	49	28	1.241
Cancellation of evacuation orders	Do you agree the evacuation order should be lifted once the radiation fall below a certain level?	23.2%	27.0%	17.5%	13.7%	18.7%	3.224
		117	136	88	69	94	1.427
Continuation of financial support after evacuation	Do you agree that financial support should continue after the evacuation orders have been lifted?	51.8%	18.7%	14.3%	9.3%	6.0%	4.010
		261	94	72	47	30	1.254
Financial support for victims	Do you agree that financial support for victims of the accident should be continued?	62.7%	15.7%	9.7%	8.1%	3.8%	4.254
		316	79	49	41	19	1.152
Compensation for farmers	Do you agree that conpensation for farmers affected by the accident should be continued?	49.4%	22.0%	12.3%	9.3%	6.9%	3.976
		249	111	62	47	35	1.272

Note: The average given is that of the 5-level Likert scale (also applies to **Tables 8** and **11**).

Chernobyl areas. In other words, the people of Fukushima saw the reconstruction policy to be less effective than did their counterparts in Chernobyl.

3.7. Cross-Regional Comparison of Responses to Welfare and Rehabilitation Issues

Respondents were asked to select topics that they found to be of importance on welfare and rehabilitation issues. **Table 11** summarizes the responses and depicts a cross-regional comparison.

Continued monitoring of the health of the victims is the most important issue for most respondents (57.5%), followed by guaranteed social welfare (52.8%) and monitoring of the affected areas with radiation exceeding 1 mSv per year (51.6%). There was a statistically significant difference between Fukushima and the other regions on all three of these issues (Kiev: -23.2%, -14.1%, and -29.5%; Gomel: -16.2%, -23.1%, and -21.5%; and Bryansk: -16.2%, -23.1%, and -21.5%). On the other hand, there was no statistical difference between the three Chernobyl regions, suggesting that each held similar priorities on these issues viewing them as more important than did the respondents in Fukushima.

Continuous testing and monitoring of radioactivity (49.8%) was also an important issue. However, the difference between Fukushima and Gomel (-16.1%) was significant only at the 5% level. This suggests that testing and monitoring are equally important to respondents from all regions.

The next three important issues were child care, free meals, and healthcare (46.0%); matching radiation measures to correspond with international standards (45.2%); and implementing comprehensive measures in contaminated areas to prevent forest fires and make use of forestry resources (43.7%). There was a statistically significant difference between Fukushima and the other three regions at the 1–10% level (Kiev: -29.5%, -30.0% and -23.9%; Gomel: -15.5%, -15.0%, and -29.9%; Bryansk: -27.9%, -16.5%, and -24.4%). There were also statistically significant differences between Kiev and Gomel on the issues of child welfare (14.0%) and matching international standards of radiation measures (15.0%). The latter issue is also statistically significant at the 10% level between Kiev and Bryansk (13.5%). Overall, these three issues are more important for respondents from Chernobyl than for respondents from Fukushima.

While there were statistically significant differences in other issues, there was a general pattern of a difference of opinion between respondents from Fukushima and the Chernobyl regions on compensation, decontamination, repatriation, and continuation of financial support (Appendix A), as well as reconstruction issues (Appendix B).

3.8. Rehabilitating and Reconstructing the Contaminated Areas

Table 13 summarizes the support for different approaches to revive and reconstruct the contaminated areas. Attempts to decontaminate the soil in Chernobyl and Fukushima by cultivating rapeseed are ongoing [35]. Before the accident, Fukushima was the site for the devel-

Table 11. Issues surrounding welfare and rehabilitation (multiple responses) and cross region comparison.

Item	All regions	By region				Comparison ratios					
						Fukushima &			Kiev &		Gomel &
		Fukushima	Kiev	Gomel	Bryansk	Kiev	Gomel	Bryansk	Gomel	Bryansk	Bryansk
Continuous observation of victims' health	57.5%	44.8%	68.0%	61.0%	69.3%	-23.2% ***	-16.2% **	-24.5% ***	7.0%	-1.3%	-8.3%
	290	91	68	61	70						
Guaranteed social welfare for the victims	52.8%	40.9%	55.0%	64.0%	63.4%	-14.1% *	-23.1% ***	-22.5% ***	-9.0%	-8.4%	0.6%
	266	83	55	64	64						
Continuous pollution measures in residential areas where the average radiation may exceed 1 mSv per year	51.6%	34.5%	64.0%	56.0%	69.3%	-29.5% ***	-21.5% **	-34.8% ***	8.0%	-5.3%	-13.3% *
	260	70	64	56	70						
Continuous testing and monitoring of radioactivity	49.8%	42.9%	55.0%	59.0%	49.5%	-12.1%	-16.1% **	-6.6%	-4.0%	5.5%	9.5%
	251	87	55	59	50						
Continuation of child care, free meals and healthcare	46.0%	31.5%	61.0%	47.0%	59.4%	-29.5% ***	-15.5% *	-27.9% ***	14.0% *	1.6%	-12.4%
	232	64	61	47	60						
Matching radiation measures to correspond with international standards	45.2%	33.0%	63.0%	48.0%	49.5%	-30.0% ***	-15.0% *	-16.5% **	15.0% *	13.5% *	-1.5%
	228	67	63	48	50						
Implement comprehensive measures in contaminated areas to prevent forest fires and make use of forestry resources	43.7%	28.1%	52.0%	58.0%	52.5%	-23.9% ***	-29.9% ***	-24.4% ***	-6.0%	-0.5%	5.5%
	220	57	52	58	53						
Improve measures to educate the public on the efforts being taken to improve the affected area	41.1%	33.0%	43.0%	51.0%	45.5%	-10.0%	-18.0% **	-12.5% *	-8.0%	-2.5%	5.5%
	207	67	43	51	46						
Continue efforts to return land to economic use	39.5%	32.5%	39.0%	44.0%	49.5%	-6.5%	-11.5% **	-17.0%	-5.0%	-10.5%	-5.5%
	199	66	39	44	50						
Provide public or company housing to people displaced by the accident	38.5%	32.5%	36.0%	41.0%	50.5%	-3.5%	-8.5%	-18.0% **	-5.0% *	-14.5%	-9.5%
	194	66	36	41	51						
Maintenance and management of restricted areas	38.3%	36.9%	36.0%	44.0%	37.6%	0.9%	-7.1%	-0.7%	-8.0%	-1.6%	6.4%
	193	75	36	44	38						
Improve the information and awareness activities provided for residents of the affected areas	34.9%	27.6%	41.0%	37.0%	41.6%	-13.4% *	-9.4%	-14.0% *	4.0%	-0.6%	-4.6%
	176	56	41	37	42						
Increase and consolidate funding for scientific research	32.3%	22.7%	29.0%	49.0%	38.6%	-6.3%	-26.3% ***	-16.0% **	-20.0% **	-9.6%	10.4%
	163	46	29	49	39						
Rebuild public facilities, infrastructure, and production facilities	31.3%	33.0%	24.0%	37.0%	29.7%	9.0%	-4.0%	3.3%	-13.0%	-5.7%	7.3%
	158	67	24	37	30						
Other	2.2%	2.5%	1.0%	2.0%	3.0%	—	—	—	—	—	—
	11	5	1	2	3						

Note: ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level (also applies to **Tables 7** and **8**).

opment of techniques to grow sunflower and rapeseed as decontaminants [36]. Since the accident, the impact of phytoremediation (the use of plants and microbes to aid in soil decontamination) of sunflower cultivation has reduced; it was initially viewed favorably, but is now viewed as having only a small impact [37]. Before the Fukushima accident, sunflower and rapeseed were grown to produce oil; now they are grown for decontamination.

A rapeseed cultivation project in Narodychi district in Ukraine [38] hoped to take advantage of the fact that radioactive cesium present in the crop is hardly transferred to the oil when pressed [39]. The EU bioenergy policy provides a market for Ukraine's rapeseed oil output. Although technology and techniques to remove contaminants from rapeseed and sunflower oils have been developed, the project has not expanded as hoped [40], in part, due to the failure to put these techniques to practical use [41]. When the Narodychi Rape Blossom Restoration Project ended in 2012, people realized that it was not possible to decontaminate the soil with rapeseed [42]. A three-year crop rotation found that cereals could be grown with sufficiently low levels of contamination, safe enough to be used not only as livestock feed but also human consumption [42]. Although the conditions and objectives in Fukushima and Chernobyl differ, rapeseed cultivation is a phytoremediation method common to both areas. Of the respondents, 70.2% agreed (39.1% "agree" and 31.2% "somewhat agree") with the use of rapeseed on contaminated farmland (mean: 3.887).

The contaminated area around Chernobyl, including Ukraine and Belarus, has been designated as an exclusion zone. In 1988, Belarus established the Polesie National Radiation Ecology Reserve, which is home to many endangered species [43]. On April 16, 2016, a Ukrainian presidential decree announced that a radiation-ecology UNESCO Biosphere Reserve would be established in the area [44]. Among the respondents, 58.5% supported a nature reserve (36.3% "agree" and 22.2% "somewhat agree"). However, 20.2% were "unsure" of the reserve as a suitable option.

In July 2016, the Ukrainian Ministry of Ecology and Natural Resources announced plans to revitalize a 1,600 km strip of land in the center of the affected area [45]. It was announced that the country would build one of the world's largest mega-solar power plants in Chernobyl. This was a good use of not only contaminated land but also aging power lines dating back to the nuclear plant [46]. In addition, 63.7% of the respondents were in

Table 12. Reconstruction policy and government response to the accident ($n = 504$).

Item	Question \ Response	Agree	Somewhat agree	Unsure	Somewhat disagree	Disagree	Average SD
Medical provision	Do you agree that the government provided medical provisions are sufficient?	56.3%	16.1%	16.1%	7.3%	4.2%	4.131
		284	81	81	37	21	1.174
Care facilities	Do you agree that the government provided care facilities are adequate?	55.4%	11.5%	17.5%	8.9%	6.7%	3.998
		279	58	88	45	34	1.302
Monitoring of radiation	Do you agree that the government's monitoring of radiation is adequate?	53.6%	18.5%	12.9%	8.3%	6.7%	4.038
		270	93	65	42	34	1.268
Social welfare	Do you agree that the social welfare system provided by the government is adequate?	53.2%	17.3%	16.7%	7.5%	5.4%	4.054
		268	87	84	38	27	1.217
Forestry safety measures	Do you agree the government's forestry safety measures are adequate?	53.2%	12.9%	17.3%	9.5%	7.1%	3.954
		268	65	87	48	36	1.315
Education & information	Do you agree that the edcation and information provided by the government has been helpful?	47.2%	14.3%	19.0%	11.1%	8.3%	3.810
		238	72	96	56	42	1.351
Contamination inspection system	Do you agree that the government's inspection system of radioactive contamination is adequate?	46.2%	22.4%	14.7%	11.1%	5.6%	3.927
		233	113	74	56	28	1.245
Infrastructure improvements	Do you agree that the government's infrastructure development has been sufficient?	46.0%	19.6%	16.9%	11.5%	6.0%	3.883
		232	99	85	58	30	1.271
Agricultural safety measures	Do you agree the government's agricultural safety measures have been adequate?	42.5%	23.6%	16.3%	11.5%	6.2%	3.847
		214	119	82	58	31	1.257
Management of restricted areas	Do you agree that the government's management of exclusion zones has been adequate?	38.5%	24.8%	17.7%	11.7%	7.3%	3.754
		194	125	89	59	37	1.278
Item	Question \ Response	Satisfied	Somewhat satisfied	Unsure	Somewhat dissatisfied	Dissatisfied	Average SD
Government response	Are you satisfied with the government's response to the accident?	6.9%	19.6%	18.3%	35.5%	19.6%	2.587
		35	99	92	179	99	1.203

Table 13. Rehabilitation and reconstruction of contaminated area ($n = 504$).

Item	Question \ Response	Agree	Somewhat agree	Unsure	Somewhat disagree	Disagree	Average SD
Rapeseed as a soil decontaminant	Do you agree with the use of rapeseed to decontaminate the soil?	39.1%	31.2%	13.5%	11.9%	4.4%	3.887
		197	157	68	60	22	1.177
Nature reserve	Do you agree with creating a nature reserve in the affected area?	36.3%	22.2%	20.2%	13.7%	7.5%	3.661
		183	112	102	69	38	1.296
Mega solar farm	Do you agree with the construction of large-scale solar farm on the contaminated land?	34.7%	29.0%	17.1%	10.9%	8.3%	3.599
		175	146	86	55	42	1.447
Waste treatment and storage facilities	Do you agree with the construction of waste treatment and interin storage facilities in the affected area?	30.8%	25.4%	14.7%	13.5%	15.7%	3.421
		155	128	74	68	79	1.44
Tourism	Do you agree that the area should be made into a tourist attraction?	28.4%	20.0%	15.7%	18.8%	17.1%	3.238
		143	101	79	95	86	1.468
Livestock and dairy farming	Do you agree that livestock and dairy farming be introduced into the decontaminated areas?	21.8%	21.2%	17.5%	24.0%	15.5%	3.099
		110	107	88	121	78	1.392
Crops	Do you agree that the growing of crops should be permitted in decontaminated areas?	21.4%	21.6%	16.9%	21.8%	18.3%	3.062
		108	109	85	110	92	1.422

favor of "building a mega solar farm" (mean: 3.599) in the contaminated area (34.7% "agree" and 29.0% "somewhat agree").

In July 2019, the State Agency of Ukraine made an announcement on Exclusion Zone Management, stating that operations had begun at a radioactive liquid waste treatment facility in the Chernobyl area [47]. Simultaneously, the Interim Storage Facility 2 (ISF-2), financed by the European Bank of Reconstruction and Development (EBRD), began operating in 2020, providing safer storage for spent radioactive fuel cells from the Chernobyl site for at least the next 100 years [48]. In Japan, contaminated soil and nuclear waste materials are being intensively managed and stored in the towns of Okuma and Futaba, close to the location of the Fukushima Daiichi NPP [49]. There was 56.2% approval for these facilities (30.8% "agree" and 25.4% "somewhat agree," mean: 3.421). On the other hand, 29.2% disapproved of these facilities (15.7% "disagree" and 13.5% "somewhat disagree").

In July 2019, President Zelensky of Ukraine signed a presidential decree to open the Chernobyl zone to the public [50]. It is hoped that developing the area as a tourist facility will provide a positive and constructive spin to the region's legacy. Fukushima Prefecture [51] reported that tourism continues to be lower than before the earthquake.[8] Although the number of tourists and income from tourism have drastically reduced, there are advocates for "dark tourism" – travel to areas characterized by human tragedy. Yankovska and Hannam [53] studied the impact of dark and "toxic" tourism on the area and the motivations of the tourists. The popularity of the HBO-Sky drama *Chernobyl* (broadcast May to June, 2019) [54] proved to be a controversial topic in the region as tourists flocked to the area around Pripyat. In Japan, Azuma et al. [55], among others, advocated for the promotion of dark tourism in Fukushima and around the Daiichi site.[9] Of the respondents, 48.4% agreed that affected areas should be made available for tourism (mean: 3.238; 28.4% "agree" and 20.0% "somewhat agree"). However, 35.9% disagreed (17.1% "disagree" and 18.8% "somewhat disagree").

Dairy farmers in Gomel have added ferrocene to their livestock feed to remove radioactive substances [56]. Of the respondents, 43.1% approve dairy farming in decontaminated areas as an option (21.8% "agree" and 21.2% "somewhat agree"), but 39.5% disapprove (15.5% "disagree" and 24.0% "somewhat disagree").

Finally, support for allowing crop farming on the decontaminated area was approved by 43.1% of participants (21.4% "agree" and 21.6% "somewhat agree"), while 40.1% disapproved (21.8% "disagree" and 18.3% "somewhat disagree").

8. Hultkrantz and Olsson [52] reported on the situation after the Chernobyl accident, estimating that the number of domestic and foreign tourists in Sweden, which is 1,000 km away from the nuclear power plant, decreased drastically, with the loss of total tourism income after the accident being 2.5 billion SEK.
9. On September 20, 2020, the Great East Japan Earthquake and Nuclear Disaster Museum was opened to preserve the full nature of the tragedy, as well as the testimonies and memories of the victims of the Great East Japan Earthquake disaster for all countries and generations [51].

3.9. Correspondence Analysis of Reconstruction Projects and Respondents' Approval and Disapproval

A correspondence analysis was performed to examine the relationship between rehabilitation and reconstruction projects in contaminated areas and their approval or disapproval. This analysis visualizes the relationships between the categories using a map. The points located close to each other have a relatively higher correspondence, while those located farther away have less correspondence.

Figure 2 shows the results of correspondence analysis. The vertical axis (Axis 1) ranges from 0.5 to -0.5, and the horizontal axis (Axis 2) ranges from 0.7 to -0.9, suggesting similar results. The p-values for the χ^2 tests (tests of significance of difference between rows and columns and tests of significance of residual values) for axes 1 and 2 were less than 1% and 5%, respectively, indicating that they are statistically meaningful. Axis 1 measures the support for rehabilitation projects, and Axis 2 measures the responses on a Likert scale.

In the top right quadrant, "mega solar farm" and "rapeseed as a soil decontaminant" are located close to "agree" and "somewhat agree." In the top left quadrant, "waste treatment and storage facilities," "tourism," and "crops" can be found, along with "disagree," although they are not close together. In the bottom left quadrant "livestock and dairy farming" is very close to "somewhat disagree." In the bottom right quadrant, "nature reserve" is not close to "unsure" or "agree." This suggests that the survey participants were supportive of the mega solar farm and the use of rapeseed to decontaminate the land, but are less supportive of the other options.

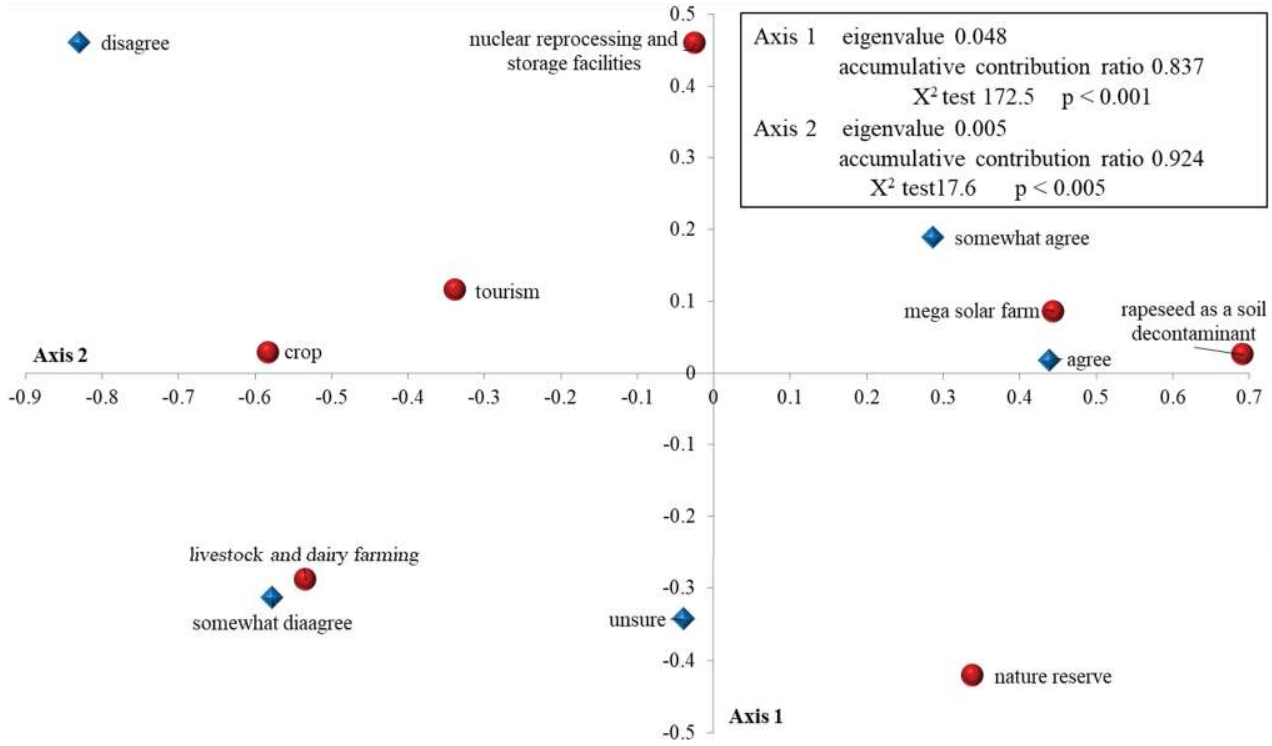
3.10. Cross-Regional Comparison of Government Response, Rehabilitation, and Reconstruction Efforts

Appendix C provides the results of a cross-regional comparison of responses to questions about governmental efforts and various rehabilitation and reconstruction projects in areas contaminated by radioactive materials.

First, for "satisfaction with government response" (see **Table 12**), the differences between Fukushima and Gomel (0.435), between Fukushima and Bryansk (0.704), and between Kiev and Bryansk (0.430) are significant at the 1–5% level. Although there is no statistical difference between Fukushima and Kiev, residents of Fukushima were less satisfied than were residents of Gomel and Bryansk.

Next, for "rapeseed as a soil decontaminant," the differences between Fukushima and Bryansk (0.331) and between Kiev and Bryansk (0.389) were significant at the 10% level. In fact, in Ukraine and Fukushima, rapeseed is widely used as a decontaminant, but this was not yet common practice in Bryansk, where respondents clearly approved of its adoption.

Regarding the establishment of nature reserves, there were significant differences between Fukushima and Kiev



Source: Data collected from SurveyMonkey.

Fig. 2. Correspondence analysis of rehabilitation of contaminated area and survey responses.

(0.711) and between Kiev and Bryansk (0.417) at the 1–10% level. There was widespread support for nature reserves in Kiev.

On the topic of "mega solar farms," the difference between Kiev and Gomel (0.430) and Kiev and Bryansk (0.445) were significant at the 10% level. Kiev respondents clearly supported the construction of a mega solar facility.

In addition, the differences between Fukushima and Bryansk (0.571), Kiev and Gomel (0.470), Kiev and Bryansk (0.941), and Gomel and Bryansk (0.471) for the construction of waste treatment plants and storage facilities were significant at the 1–10% level. In Fukushima, where there are plans to build a waste treatment plant and an interim storage facility, and in Kiev, where such facilities are already in operation, the respondents were opposed.

Finally, regarding the option of bringing tourism to the region, the differences between Fukushima and Gomel (0.698), Fukushima and Bryansk (0.409), and Kiev and Gomel (0.750) were significant at the 1–10% level. More respondents in Fukushima and Kiev approved this idea.

3.11. Use of Rapeseed By-Product and Decontaminated Land

Table 7 summarizes a cross-regional comparison of the responses to questions regarding the use of decontaminated land and the by-product of the rapeseed cultivated for phytoremediation. The most common response was that rapeseed should only be used for decontamination (39.3%). This was followed by the opinion that rapeseed oil should not be used for food or food processing (35.7%). The difference between Fukushima and Gomel (−14.4%) was significant at the 10% level, indicating that there is strong opposition to the use of rapeseed oil in food processing.

The use of rapeseed oil as a biofuel or as a diesel fuel supplement was the most popular option in Fukushima (41.4%). The difference between Fukushima and Gomel (16.6%) is significant at the 10% level. Overall, 25.8% of respondents supported this option, while 25.6% approved of the use of rapeseed waste as a fuel to generate biogas. There were statistically significant differences between Fukushima and Gomel (18.5%) and Fukushima and Bryansk (17.7%) at the 10% level.

The use of decontaminated rapeseed fields for tourism had 25.6% overall support from respondents. There was a 10% level of statistical significance between Fukushima and Gomel (16.5%).

To summarize, there was strong opposition, particularly in Gomel, to using rapeseed oil from decontaminated fields in food production. In Fukushima, there was strong support for the use of oil and by-products as bio-energy sources, and decontaminated fields as tourist spots.

3.12. Respondents' Thoughts on the Contaminated Areas

Table 8 provides a summary of the respondents' thoughts on the contaminated areas, with a cross-regional comparison. The most commonly held belief is that

"the tragedy must not be forgotten/the dangers of nuclear power must be stressed" (71.8%). The differences between Fukushima and Kiev (−10.4%), Gomel (−25.4%), and Bryansk (−20.6%) were all significant at the 1–10% level. The Chernobyl respondents held this belief more strongly than did their Fukushima counterparts. The differences between Kiev and Gomel (−15.0%) and Kiev and Bryansk (−10.2%) were significant at the 1–5% level. Gomel and Bryansk respondents were more concerned about the tragedy being remembered than were respondents in Kiev.

The next four concerns were about the presence of radioactive hotspots near the site of the accident (42.9%), and about food: not wanting to eat crops grown in the area (38.9%), dairy products from the area (37.7%), and meat from the area (37.7%). The differences between Fukushima and the Chernobyl areas (ranging from −16.5 to −41.2%) were all statistically significant at the 1–5% level. In Chernobyl, there were more hotspots persisting in the area, and people were clearly more reluctant to eat locally grown produce.

Regarding land use, the differences between Fukushima and Bryansk were all statistically significant, with respondents believing that even when decontaminated, land should not be returned to agricultural use (overall average of 27.0%, difference of −13.5%), farmland should be decontaminated and restored to the state it was in before the accident (26.0%, difference of −20.4%), and decontaminated land should not be put to any economic use (22.0%, difference of −13.5%). In Bryansk, the respondents wanted the land to be restored to the conditions before the accident, but on the whole did not want it to be put to any agricultural or other economic use.

There were also major differences in opinion on repatriation to the area (22.4% overall), and commercialization of the tragedy (21.4%) between Fukushima and Gomel (−19.2% and −15.7%) and Fukushima and Bryansk (−18.9% and 14.4%), which were statistically significant at the 5–10% level.

Finally, regarding the issue of whether waste treatment and interim storage facilities should be constructed in the contaminated areas (21.2% overall support), the differences between Fukushima and Bryansk (−18.9%), and between Kiev and Bryansk (−18.7%) were significant at the 1–5% level. However, as Bryansk does not have highly contaminated areas when compared with Fukushima and Kiev, it can be assumed that support from Bryansk respondents was for construction near the NPPs rather than in Bryansk.

4. Model Results

This section examines the results of the ordinal logit model, as described in Section 2.2.

4.1. Compensation, Decontamination, and Repatriation

Table 1 presents the model results for compensation, decontamination, and repatriation. The results show that the pseudo R^2 is low, ranging from 0.020 to 0.171, but the likelihood ratio test rejected the null hypothesis.

With regard to "Liquidator compensation," that is, compensating those who took part in the initial clean-up process, the coefficient for Fukushima (−1.403) was negative, implying that respondents from the Chernobyl disaster area are more likely than Fukushima respondents to state that they should be compensated. In addition, the coefficient for males (−0.459) was negative, which suggests that women were more likely to support compensation. Those who had health problems (0.914), older respondents (0.017), and those with higher levels of education (0.162) were more likely to support compensation.

Regarding reimbursement of medical expenses, the coefficient for Fukushima (−0.853) was negative, indicating that respondents from the Chernobyl area were more likely to approve reimbursement. Support was also higher among those who had experienced repatriation (0.644), had health problems (0.938), or had a higher level of education (0.207).

Respondents from Kiev and Bryansk were more likely to decontaminate the local environment than were respondents from Fukushima (−0.611) and Gomel (−0.438). Support was positively influenced by having experienced health problems (0.419) or being in the second (0.502) or third (0.0531) income brackets.

On the issue of decontaminating land so that it can be returned to economic use, the coefficients for Fukushima (−1.174), Gomel (−0.942) and Kiev (−0.838) were all negative, indicating that respondents in Bryansk were more enthusiastic about this idea. This was also supported by older respondents (0.015) and those in the second income bracket (0.322).

Respondents in Gomel (−1.140) were opposed to repatriation. However, male (0.552) and older (0.017) respondents were more likely to support repatriation.

Respondents in Bryansk were more likely to support continuing financial support after repatriation than those from Fukushima (−2.269), Gomel (−0.474), and Kiev (−0.623). Those who had worked as liquidators were less likely to support continuing financial support (−1.041). This is also the case for those in the highest income bracket (0.332), while those with health issues were more likely to approve continued financial support (0.938).

Continuing support for the victims of the accident was higher among respondents from Kiev and Bryansk than Fukushima (−2.518) and Gomel (−0.948). Those who had health problems were also more likely to approve continued support (1.058).

Finally, regarding the issue of compensation for farmers, the coefficients for Fukushima (−2.114), Gomel (−1.045), and Kiev (−1.089) were all negative, suggesting that people in Bryansk were more in favor of continuing aid for farmers. Those with health problems (0.658)

were more likely to support compensation, whereas those who had worked as liquidators (−0.730) were less likely to support compensation.

To summarize, those who suffered health problems and those who were old enough to remember the accident were more likely to want compensation and support decontamination, suggesting that memories of the disaster have not faded. However, when considering these responses, it is important to note that repatriation can carry different meanings depending on where the respondent comes from. There are total exclusion zones in Gomel and Kiev, but not in Bryansk. Therefore, repatriation for those from Gomel and Kiev would mean returning to areas that are still highly contaminated and dangerous, whereas for those from Bryansk, it would mean something much less dangerous. Given the differences in the degree and extent of contamination in each region, the more negative perception of repatriation and policies that would facilitate repatriation is understandable.

4.2. Reconstruction Policies

Table 2 provides the results for modeling the responses to reconstruction policies. First, all the coefficients for Fukushima were negative; in other words, Fukushima respondents feel that the policies carried out by the government so far have not been helpful. Support for government policies on managing restricted areas and infrastructural improvements was influenced by having experienced health problems and by income, with those in the middle to higher brackets (II–IV) more likely to support the government's actions.

Considering other individual attributes, those with children tend to approve government policy on medical treatment facilities (0.433) but disapprove of agricultural safety measures (−0.380). Government monitoring of radioactivity gets more approval from women (−0.350 for male) and those with a higher education (0.220), but is disapproved by those who had repatriated to the area (−0.998). This group also disapproved of government handling of forestry safety measures (−0.700). The approval of the system for inspecting radioactive contamination was influenced by age (0.011) and disapproved by those who had been evacuated (−0.469). Older respondents were also more likely to support infrastructural improvement (0.011).

4.3. Analysis of Support for Rehabilitation and Reconstruction Policies

4.3.1. Analysis of Coefficients

Tables 3 and **4** analyze the factors influencing the degree of approval or disapproval of different policies for reconstructing and rehabilitating the contaminated areas.

In modeling support for rapeseed as a decontaminant, it was found that respondents' thoughts on how to use the rapeseed was a better explanatory variable than their thoughts on how to decontaminate the area (i.e., a lower AIC).

Fukushima (−0.700) and "rapeseed by-product as a biofuel" (−0.552) were negative contributory factors for the use of rapeseed as a decontaminant. On the other hand, health problems (0.445), use of rapeseed fields as a tourist attraction (0.522), and concern about dangerous radioactive hotspots in the area (0.841) were positive factors.

Support for tourism as a means of reconstructing and rehabilitating the area tended to come from those with larger households (0.149), who believe the tragedy should not be forgotten and wish to emphasize the dangers of nuclear power (0.390), and who support the site being turned into a tourist attraction (1.944). On the other hand, opposition was influenced by the following variables: residing in Gomel (−0.599), concern over radioactive hotspots (−0.750), belief that the tragedy and the human loss or the site of the accident should not be exploited for financial gain (−0.688), unwillingness to eat crops grown in the decontaminated area (−0.832), and the stance that even decontaminated land should not be returned to agricultural use (−0.560).

Individual factors influencing support for the construction of a mega solar farm included residing in Kiev (0.457), being male (0.866), having children in the household (0.378), and having experienced evacuation (0.530). Support was also found among those who believe the tragedy should not be forgotten and the dangers emphasized (0.576), who do not want to eat meat produced in the area (1.401), those supporting a robotics facility (0.577), and those who propose renewable energy facilities (1.085). On the other hand, opposition was influenced by concerns about the remaining radioactive hotspots (−0.684) and opposition to dairy products from the area (−1.587).

Regarding the issue of establishing a nature reserve (**Table 4**), supporting factors included residing in Fukushima (−0.712) or Kiev (0.546), experience as a liquidator (0.904), and being male (0.577). Other factors included support for turning the site into a tourist attraction (0.977), building a renewable energy facility (0.786), and believing that the site should be left to the wildlife that took over the area after the accident (0.786). Opposition to the idea was strongest among those who think it is unscientific to refuse to eat agricultural products from the decontaminated area (−0.494) and those who refuse to eat crops grown in the decontaminated area (−0.427).

Support for waste treatment and storage facilities was found among those who had been evacuated (0.513) and who explicitly expressed support for the idea (1.727). Opposing variables included residing in Fukushima (−1.107), Gomel (−0.640), and Kiev (−1.335). Other opposing correlations included an unwillingness to consume dairy products from the area (−0.635), the stance that even decontaminated land should not be put to agricultural use (−0.554), and a preference for the site to be used as a tourist attraction (−0.696).

Factors influencing support for cultivating crops in the area included being male (0.383), the stance that farmland should be returned to its pre-accident state (0.517), return-

ing the land to economic use (0.586), and the belief that it is unscientific to not eat produce from the decontaminated land (0.755). Opposing factors comprised the belief that even after decontamination, land should not be used for farming (−1.382) and an unwillingness to eat crops grown in the area (−1.006).

Regarding the issue of introducing livestock and dairy farming to the area, support was found among those who believe it is unscientific to oppose eating produce from the decontaminated area (0.980), those who support returning the area to economic activity (0.530), and those who want to restore the farmland to its pre-accident state (0.458). Opposition came from those who believe that even the decontaminated land should not be used for agriculture (−1.401), and concern over dairy products from the area (−1.091).

4.3.2. Analysis of Marginal Effects

The marginal effect was calculated for each issue based on five responses ranging from "agree" to "disagree."

With regard to rapeseed as a soil decontaminant (**Table 11**), the strongest agreement was found among those who supported using rapeseed plant waste for generating biogas (0.204), followed by those who thought rapeseed fields would be good for tourism (0.126), and those with health problems (0.106).

Using tourism to rehabilitate the area gained the strongest approval from those who supported turning the accident site into a tourist attraction (0.440). Those who refuse to eat crops from the area, were concerned about radioactive hotspots, and did not want to see the tragedy or its victims commercialized, disapproved of the idea (0.098, 0.086, and 0.084, respectively).

Support for the construction of a mega solar farm was strongest among those who refuse to eat meat products from the area, and those who state a preference for renewable energy facilities (0.314 and 0.252, respectively). Those from Kiev (0.105), who had been evacuated (0.121), men (0.188), supporters of a robotics facility (0.133), and those who did not want to see the tragedy forgotten and wanted the dangers of nuclear power to be emphasized (0.120) also supported the policy.

Those who think agreed that the site should be turned into a tourist attraction (0.238) and who had experience working as liquidators (0.221) were especially in favor of the creation of a nature reserve (**Table 4**). Support also came from respondents in Kiev, supporters of renewable energy facilities, and those who wanted to see the area protected for the wildlife that had taken over (0.130, 0.186, and 0.136, respectively).

Approval for constructing waste treatment and storage facilities was strongest among those who expressed a preference for this (0.388) and those who had been evacuated from the area (0.108). On the other hand, disapproval emerged most strongly from respondents in Kiev and Fukushima, where such facilities are already located and operating (0.195 and 0.133, respectively).

Growing crops in the decontaminated area was most strongly supported by those who think it is unscientific not to eat produce grown in the area (0.123). In contrast, those who believe that even decontaminated land should not be used for agriculture and those who did not want to eat crops grown in the area were more likely to disapprove of bringing back farming (0.201 and 0.127, respectively).

Finally, regarding the issue of introducing dairy and livestock farming, those who viewed it as unscientific to not consume produce from the decontaminated area were more likely to provide support (0.170), whereas from those who believe that decontaminated land should not be used for any agricultural purposes were more likely to voice their opposition (0.179).

4.4. Analysis of Support for Government Responses to the Nuclear Accident

4.4.1. Analysis of Coefficients

Table 5 analyses factors influencing degrees of approval or disapproval of government responses and actions in the regions affected by the nuclear accidents.

In Fukushima, respondents with children (−0.208) and older respondents (−0.022) were more likely to be dissatisfied with the government's response to the accident. The government has failed to provide adequate financial and social welfare support for victims of the disaster (−0.928) and education and information for the victims and the general public (−1.565). However, those who had worked in the accident cleanup as liquidators were more likely to be satisfied with the government's response (2.911). Two areas where the government was seen as responding correctly were adopting international standards for measuring radiation (0.714) and managing the exclusion zones (0.757). For Chernobyl as a whole, respondents with experience of health problems (−0.706) were dissatisfied with the government's response. The government was also considered a failure at funding and coordinating scientific research of the disaster.

Kiev respondents were dissatisfied with the government's efforts to monitor the health of the victims (−1.004). Similarly, they were not satisfied with the government scientific funding efforts (−1.144). However, the government's efforts to restore contaminated land to economic use were satisfactory (0.828).

In Gomel, respondents were dissatisfied with the government scientific funding efforts (−0.806). In Bryansk, people who had experienced health issues were more likely to be dissatisfied with the government's response to the accident.

4.4.2. Analysis of Marginal Effects

The marginal effects of the five possible responses from "dissatisfied" to "satisfied" are given in **Table 13**.

In Fukushima, those respondents who worked as liquidators were more likely to choose "somewhat satisfied" (0.368) or "satisfied" (0.224). However, respondents were dissatisfied with government social welfare and financial support for the victims and education and information provision (0.185 and 0.328, respectively).

In Chernobyl, respondents were more likely to be "somewhat dissatisfied" (0.102) or "dissatisfied" (0.073) with the government's response. They were also "somewhat dissatisfied" (0.087) and "dissatisfied" (0.075) with funding and coordination of scientific research.

Respondents in Kiev were "somewhat satisfied' with government efforts to restore the area to economic use (0.120). However, on the issues of monitoring health problems and scientific research funding, respondents were "somewhat dissatisfied" (0.119 and 0.117, respectively) or "dissatisfied" (0.121 and 0.150, respectively).

In Gomel, respondents were "dissatisfied" with scientific research funding efforts (0.117). In Bryansk, respondents with health issues were "dissatisfied" with the government's response to the disaster (0.347).

4.5. Application of the Models to the Hypotheses

To finish this section, we will apply these models to the hypotheses.

With regard to the first null hypothesis, "There is no difference between how respondents from each country view reconstruction policies to overcome the damage caused by the nuclear accident," within the regions affected by the Chernobyl accident, there was general agreement on compensation for liquidators and medical expenses, but Bryansk respondents felt more strongly about decontamination efforts, financial support for returnees and victims, and support for farmers, whereas Gomel respondents were strongly opposed to allowing repatriation. Therefore, the null hypothesis is rejected.

With regard to the second null hypothesis, "There is no difference between how respondents from each country view reconstruction policies to overcome the damage caused by the nuclear accident" could be rejected, as there was a statistically significant difference between the Fukushima and Chernobyl respondents regarding reconstruction policies.

The third null hypothesis, "There is no difference among respondents from the four countries in their approval or disapproval of reconstruction plans for the area contaminated by radioactive materials" could also be rejected as, for example, respondents from Kiev favor a solar farm and nature reserve, whereas respondents from Bryansk favor a waste treatment facility; in Fukushima, there was support for rapeseed and tourism and in Gomel tourism was also seen as a viable policy. Simultaneously, there was strong opposition to waste treatment and storage facilities in Fukushima, Kiev, and Gomel.

The final null hypothesis, "There is no difference among respondents from the four countries in their attitudes toward the government's response to the nuclear accident" can be rejected, as there is a clear difference in how Fukushima respondents view the government's response and reconstruction policies.

5. Conclusions

5.1. Results

First, there is general agreement among respondents in the Chernobyl area that the government should finance medical expenses, provide proper compensation for liquidators, compensation for farmers, continuing compensation for victims after repatriation, and should continue to support victims. Respondents from Bryansk expect the government to decontaminate the surrounding environment and compensate farmers. Gomel respondents opposed repatriation.

Next, regarding the issue of rehabilitation policies, respondents said that medical care, care facilities, and monitoring of radiation are important provisions. Respondents from Fukushima were generally less satisfied than were those from Chernobyl on government reconstruction efforts.

Issues seen as important included the continued monitoring of victims' health, guaranteeing social welfare, and protecting residential areas where relatively high levels of radiation are still being measured. These issues are more important for Chernobyl respondents than for Fukushima respondents.

When considering approaches to reconstructing the affected areas and revitalizing the economy, respondents favor using rapeseed for phytoremediation, establishing nature reserves, and establishing mega solar farms. However, each region has preferred approaches: many Bryansk respondents favor rapeseed production and having a waste treatment and storage facility in the area, while Kiev tends to favor solar farms. Kiev and Fukushima respondents favor introducing tourism to the area but are opposed to the waste treatment and storage facilities already operating there.

Respondents oppose using rapeseed oil or any by-products in food processing, although in Fukushima they strongly support using it as a bioenergy source and wish to promote rapeseed fields as a tourist attraction.

Respondents from Gomel and Bryansk are more concerned about not letting the horrors of the tragedy fade from memory, while Chernobyl respondents in general are more concerned than are Fukushima respondents about the dangers posed by nuclear power. They are also more strongly opposed to consuming crops, meat, or dairy products from the decontaminated area.

The results of the ordinal logit model for compensation, decontamination, and repatriation suggest that respondents from Chernobyl regions, those with health problems, and those with higher levels of education wanted compensation for liquidators and medical expenses, while people in Bryansk and older respondents wanted the contaminated areas to be decontaminated. Older people want the evacuation order to be lifted, while those from Gomel, the most heavily contaminated region, want the order to remain. Respondents in Bryansk and those with health problems want to see continued financial aid after repatriation, compensation for farmers, and continued support

for victims.

Similarly, the ordinal logit model for reconstruction policy found that the reconstruction policy is generally viewed positively by those who have experienced health problems and those with middle and high income, but not by respondents in Fukushima. For those who had repatriated, the inspection system for radioactive contamination was seen as beneficial, but the systems for monitoring radioactive contamination and forestry safety measures were not. For those with children, health facilities are helpful, but safety measures for agriculture are inadequate.

Certain correlations arose from the modelling of the reconstruction issues. Those supporting the use of rapeseed as a decontaminant also support its use as a biofuel or fuel supplement. Respondents favoring tourism as a way to revitalize the local economy also support turning the site of the accident into a tourist attraction. Respondents opposed to eating meat from the decontaminated area, and those favoring renewable energy facilities also support the establishment of a solar farm. Supporters of a nature reserve also support the introduction of tourism into the area, and there was a strong correlation with those who had worked as liquidators. Respondents in favor of waste treatment and storage facilities are often those who had evacuated from the area, but this is also most strongly opposed by those living in the areas where these facilities already exist – Kiev and Fukushima. Supporters of agriculture and dairy farming also tend to argue that it is unscientific to refuse to eat produce from the decontaminated area, whereas those who refuse to eat produce from decontaminated land opt for agriculture to return to the area.

Finally, the model shows that in Fukushima, there is a need to improve social welfare provision and the quality of information for the victims of the accident. In Chernobyl, people want to see more, better funded, and better coordinated scientific research.

5.2. Future Issues and Lessons for Fukushima Reconstruction

This paper presents a statistical analysis of the views of people from the areas affected by the two largest NPP accidents, looking at issues related to government policy, reconstruction, rehabilitation, and welfare. Here, we present what we believe will be useful for the future reconstruction of Fukushima and avenues for future research.

The radioactive discharge from the Chernobyl plant was 5.67 times greater than that of Fukushima, and the extent of the damage was significantly greater. In Gomel, where the contamination affected a vast area, respondents opposed extensive decontamination and allowed repatriation. Compared to Fukushima respondents, Chernobyl respondents generally prioritized reconstruction, financial aid, and compensation to victims and liquidators. In the Chernobyl-affected regions, the Chernobyl Law clearly defines the areas affected and the people affected by the nuclear accident. A legal framework exists to provide compensation as well as social and financial support, but many of the respondents appear to have felt this to be inadequate. In addition, some also felt the need for decontamination. In contrast, Fukushima respondents appear to have less interest in reconstruction policies and exhibit less knowledge on issues of rehabilitation, reparations, and decontamination. It should be noted, however, that while the results from the four regions have been pooled, and there is a great deal of variation in the level of radiation experienced within and between regions, there is no way of correlating responses to degrees of contamination experienced. This is a limitation of this study and an area for future and more focused research.

The Japanese government's reconstruction policy is seen as the least helpful among the four regions, and it has the lowest support for its provision of compensation for those who worked on the disposal of waste from the NPP accident, for medical expenses, as well as victim compensation. The lack of legislation similar to the Chernobyl Law clearly impacted how these issues have been addressed. This research strongly suggests that the Fukushima respondents need to have their social welfare guaranteed by the government. In addition, the Japanese government needs to improve the information it provides regarding reconstruction and rehabilitation policies and activities, both for the wider public and for the people of Fukushima looking to return to their homes.

The Japanese government's policy from the start has been to decontaminate the area and designate it as a reconstruction and revitalization zone in order to promote regional development, facilitate repatriation, and even encourage new people to settle in the area. However, even after 10 years, many evacuees have remained in the areas where they were resettled because they have established a new life. There are still many issues that need to be addressed, such as reformulating new recovery plans for the local municipalities (for example, revitalizing town centers and restoring full local government functionality), and coordinating these across the region.

In Fukushima, there is a debate as to whether forest land of more than 20 m from residential areas should be decontaminated. The results of this study suggest that there is support for the use of rapeseed as a decontaminant as well as a biofuel and for encouraging tourism. This may mean that land use has to be reconsidered without the assumption of repatriation, as has been the case in Chernobyl.

Finally, this analysis suggests that the differences between countries can in part be explained by the degree of contamination experienced. Gomel respondents were the least interested in decontamination and repatriation, given how severely the area was affected. The Chernobyl respondents showed a high level of interest in reconstruction policies and an awareness of the need for compensation, decontamination, and financial support. On the other hand, Fukushima respondents showed a lower level of interest in reconstruction policies and less awareness of compensation, decontamination, and financial support.

Statistical differences were found by pooling the data from the four countries, thus providing useful information but also acting as a limitation. Future research will attempt to examine each region in more detail, including the level of contamination experienced.

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Table 14. Cross-region comparison of responses on compensation, decontamination, evacuation orders and financial support (Tukey method).

Item	Region 1	Region 2	average 1	average 2	1 - 2	p-value	Item	Region 1	Region 2	average 1	average 2	1 - 2	p-value
Liquidator compensation	Fukushima	Kiev	4.227	4.560	0.333	0.014 **	Cancellation of evacuation orders	Fukushima	Kiev	3.704	3.050	0.654	0.000 ***
	Fukushima	Gomel	4.227	4.760	0.533	0.000 ***		Fukushima	Gomel	3.704	2.420	1.284	0.000 ***
	Fukushima	Bryansk	4.227	4.743	0.516	0.000 ***		Fukushima	Bryansk	3.704	3.228	0.477	0.019 **
	Kiev	Gomel	4.560	4.760	0.200	0.395		Kiev	Gomel	3.050	2.420	0.630	0.005 ***
	Kiev	Bryansk	4.560	4.743	0.183	0.475		Kiev	Bryansk	3.050	3.228	0.178	0.782
	Gomel	Bryansk	4.760	4.743	0.017	0.999		Gomel	Bryansk	2.420	3.228	0.808	0.000 ***
Medical expenses	Fukushima	Kiev	4.158	4.630	0.472	0.000 ***	Continuation of financial support after rapatriation	Fukushima	Kiev	3.276	4.460	1.184	0.000 ***
	Fukushima	Gomel	4.158	4.750	0.592	0.000 ***		Fukushima	Gomel	3.276	4.430	1.154	0.000 ***
	Fukushima	Bryansk	4.158	4.762	0.605	0.000 ***		Fukushima	Bryansk	3.276	4.624	1.348	0.000 ***
	Kiev	Gomel	4.630	4.750	0.120	0.789		Kiev	Gomel	4.460	4.430	0.030	0.997
	Kiev	Bryansk	4.630	4.762	0.132	0.733		Kiev	Bryansk	4.460	4.624	0.164	0.712
	Gomel	Bryansk	4.750	4.762	0.012	1.000		Gomel	Bryansk	4.430	4.624	0.194	0.590
Decontamination of environment	Fukushima	Kiev	4.084	4.310	0.226	0.354	Financial support for victims	Fukushima	Kiev	3.576	4.570	0.994	0.000 ***
	Fukushima	Gomel	4.084	4.160	0.076	0.945		Fukushima	Gomel	3.576	4.770	1.194	0.000 ***
	Fukushima	Bryansk	4.084	4.465	0.382	0.029 **		Fukushima	Bryansk	3.576	4.792	1.216	0.000 ***
	Kiev	Gomel	4.310	4.160	0.150	0.781		Kiev	Gomel	4.570	4.770	0.200	0.492
	Kiev	Bryansk	4.310	4.465	0.155	0.761		Kiev	Bryansk	4.570	4.792	0.222	0.395
	Gomel	Bryansk	4.160	4.465	0.305	0.220		Gomel	Bryansk	4.770	4.792	0.022	0.999
Decontaminate land for economic use	Fukushima	Kiev	4.030	4.020	0.010	1.000	Compensation for farmers	Fukushima	Kiev	3.399	4.210	0.811	0.000 ***
	Fukushima	Gomel	4.030	3.950	0.080	0.951		Fukushima	Gomel	3.399	4.240	0.841	0.000 ***
	Fukushima	Bryansk	4.030	4.455	0.426	0.023 **		Fukushima	Bryansk	3.399	4.644	1.245	0.000 ***
	Kiev	Gomel	4.020	3.950	0.070	0.977		Kiev	Gomel	4.210	4.240	0.030	0.998
	Kiev	Bryansk	4.020	4.455	0.435	0.058 *		Kiev	Bryansk	4.210	4.644	0.434	0.043 **
	Gomel	Bryansk	3.950	4.455	0.505	0.019 **		Gomel	Bryansk	4.240	4.644	0.404	0.069 *

Note: ***, **, and * indicate statistical significant at the 1%, 5%, and 10% levels (also applies to **Tables 1** and **13**).

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Appendix A. Comparison of Responses on Compensation, Decontamination, Evacuation Orders and Financial Support

Table 14 shows cross-region comparison of responses on compensation, decontamination, evacuation orders and financial support.

Appendix B. Comparison of Responses to Reconstruction Policies

Table 15 shows cross-region comparison of responses to reconstruction policies.

Table 15. Cross region comparison of responses to reconstruction policies (Tukey method).

Item	Region 1	Region 2	average 1	average 2	1 - 2	p-value	Item	Region 1	Region 2	average 1	average 2	1 - 2	p-value
Medical provision	Fukushima	Kiev	3.153	4.720	1.567	0.000 ***	Education & information	Fukushima	Kiev	2.665	4.670	2.005	0.000 ***
	Fukushima	Gomel	3.153	4.800	1.647	0.000 ***		Fukushima	Gomel	2.665	4.460	1.795	0.000 ***
	Fukushima	Bryansk	3.153	4.851	1.699	0.000 ***		Fukushima	Bryansk	2.665	4.614	1.949	0.000 ***
	Kiev	Gomel	4.720	4.800	0.080	0.910		Kiev	Gomel	4.670	4.460	0.210	0.413
	Kiev	Bryansk	4.720	4.851	0.131	0.692		Kiev	Bryansk	4.670	4.614	0.056	0.976
	Gomel	Bryansk	4.800	4.851	0.051	0.973		Gomel	Bryansk	4.460	4.614	0.154	0.669
Care facilities	Fukushima	Kiev	2.808	4.710	1.902	0.000 ***	Contamination inspection system	Fukushima	Kiev	3.148	4.330	1.182	0.000 ***
	Fukushima	Gomel	2.808	4.820	2.012	0.000 ***		Fukushima	Gomel	3.148	4.380	1.232	0.000 ***
	Fukushima	Bryansk	2.808	4.871	2.063	0.000 ***		Fukushima	Bryansk	3.148	4.644	1.496	0.000 ***
	Kiev	Gomel	4.710	4.820	0.110	0.799		Kiev	Gomel	4.330	4.380	0.050	0.987
	Kiev	Bryansk	4.710	4.871	0.161	0.539		Kiev	Bryansk	4.330	4.644	0.314	0.156
	Gomel	Bryansk	4.820	4.871	0.051	0.974		Gomel	Bryansk	4.380	4.644	0.264	0.292
Monitoring of radiation	Fukushima	Kiev	3.084	4.620	1.536	0.000 ***	Infrastructure improvements	Fukushima	Kiev	2.961	4.420	1.459	0.000 ***
	Fukushima	Gomel	3.084	4.680	1.596	0.000 ***		Fukushima	Gomel	2.961	4.510	1.549	0.000 ***
	Fukushima	Bryansk	3.084	4.743	1.659	0.000 ***		Fukushima	Bryansk	2.961	4.584	1.624	0.000 ***
	Kiev	Gomel	4.620	4.680	0.060	0.974		Kiev	Gomel	4.420	4.510	0.090	0.923
	Kiev	Bryansk	4.620	4.743	0.123	0.816		Kiev	Bryansk	4.420	4.584	0.164	0.660
	Gomel	Bryansk	4.680	4.743	0.063	0.970		Gomel	Bryansk	4.510	4.584	0.074	0.954
Social welfare	Fukushima	Kiev	3.094	4.620	1.526	0.000 ***	Agricultural safety measures	Fukushima	Kiev	3.044	4.320	1.276	0.000 ***
	Fukushima	Gomel	3.094	4.660	1.566	0.000 ***		Fukushima	Gomel	3.044	4.350	1.306	0.000 ***
	Fukushima	Bryansk	3.094	4.822	1.728	0.000 ***		Fukushima	Bryansk	3.044	4.495	1.451	0.000 ***
	Kiev	Gomel	4.620	4.660	0.040	0.990		Kiev	Gomel	4.320	4.350	0.030	0.997
	Kiev	Bryansk	4.620	4.822	0.202	0.406		Kiev	Bryansk	4.320	4.495	0.175	0.648
	Gomel	Bryansk	4.660	4.822	0.162	0.598		Gomel	Bryansk	4.350	4.495	0.145	0.768
Forestry safety measures	Fukushima	Kiev	2.867	4.690	1.823	0.000 ***	Management of restricted areas	Fukushima	Kiev	3.113	4.050	0.937	0.000 ***
	Fukushima	Gomel	2.867	4.610	1.743	0.000 ***		Fukushima	Gomel	3.113	4.280	1.167	0.000 ***
	Fukushima	Bryansk	2.867	4.762	1.895	0.000 ***		Fukushima	Bryansk	3.113	4.228	1.114	0.000 ***
	Kiev	Gomel	4.690	4.610	0.080	0.935		Kiev	Gomel	4.050	4.280	0.230	0.496
	Kiev	Bryansk	4.690	4.762	0.072	0.950		Kiev	Bryansk	4.050	4.228	0.178	0.696
	Gomel	Bryansk	4.610	4.762	0.152	0.673		Gomel	Bryansk	4.280	4.228	0.052	0.989

Table 16. Cross region comparison of responses to rehabilitation and reconstruction of contaminated areas (Tukey method).

Item	Region 1	Region 2	average 1	average 2	1 - 2	p-value	Item	Region 1	Region 2	average 1	average 2	1 - 2	p-value
Satisfaction with government response	Fukushima	Kiev	2.305	2.580	0.275	0.220	Waste treatment and storage facilities	Fukushima	Kiev	3.360	2.990	0.370	0.138
	Fukushima	Gomel	2.305	2.740	0.435	0.013 **		Fukushima	Gomel	3.360	3.460	0.100	0.936
	Fukushima	Bryansk	2.305	3.010	0.704	0.000 ***		Fukushima	Bryansk	3.360	3.931	0.571	0.005 ***
	Kiev	Gomel	2.580	2.740	0.160	0.767		Kiev	Gomel	2.990	3.460	0.470	0.085 *
	Kiev	Bryansk	2.580	3.010	0.430	0.047 **		Kiev	Bryansk	2.990	3.931	0.941	0.000 ***
	Gomel	Bryansk	2.740	3.010	0.270	0.358		Gomel	Bryansk	3.460	3.931	0.471	0.083 *
Rapeseed as a soil decontaminant	Fukushima	Kiev	3.788	3.730	0.058	0.977	Rehabilitation through tourism	Fukushima	Kiev	3.448	3.500	0.052	0.991
	Fukushima	Gomel	3.788	4.010	0.222	0.401		Fukushima	Gomel	3.448	2.750	0.698	0.000 ***
	Fukushima	Bryansk	3.788	4.119	0.331	0.092 *		Fukushima	Bryansk	3.448	3.040	0.409	0.091 *
	Kiev	Gomel	3.730	4.010	0.280	0.323		Kiev	Gomel	3.500	2.750	0.750	0.001 ***
	Kiev	Bryansk	3.730	4.119	0.389	0.085 *		Kiev	Bryansk	3.500	3.040	0.460	0.105
	Gomel	Bryansk	4.010	4.119	0.109	0.910		Gomel	Bryansk	2.750	3.040	0.290	0.479
Establish a nature reserve	Fukushima	Kiev	3.399	4.110	0.711	0.000 ***	Livestock and dairy farming	Fukushima	Kiev	3.227	2.960	0.267	0.392
	Fukushima	Gomel	3.399	3.710	0.311	0.185		Fukushima	Gomel	3.227	3.060	0.167	0.757
	Fukushima	Bryansk	3.399	3.693	0.294	0.226		Fukushima	Bryansk	3.227	3.020	0.207	0.608
	Kiev	Gomel	4.110	3.710	0.400	0.116		Kiev	Gomel	2.960	3.060	0.100	0.956
	Kiev	Bryansk	4.110	3.693	0.417	0.092 *		Kiev	Bryansk	2.960	3.020	0.060	0.990
	Gomel	Bryansk	3.710	3.693	0.017	1.000		Gomel	Bryansk	3.060	3.020	0.040	0.997
Mega solar farm	Fukushima	Kiev	3.768	3.960	0.192	0.597	Cultivation of crops	Fukushima	Kiev	3.172	2.990	0.182	0.715
	Fukushima	Gomel	3.768	3.530	0.238	0.407		Fukushima	Gomel	3.172	3.010	0.162	0.782
	Fukushima	Bryansk	3.768	3.515	0.254	0.348		Fukushima	Bryansk	3.172	2.960	0.212	0.606
	Kiev	Gomel	3.960	3.530	0.430	0.076 *		Kiev	Gomel	2.990	3.010	0.020	1.000
	Kiev	Bryansk	3.960	3.515	0.445	0.061 *		Kiev	Bryansk	2.990	2.960	0.030	0.999
	Gomel	Bryansk	3.530	3.515	0.015	1.000		Gomel	Bryansk	3.010	2.960	0.050	0.995

Appendix C. Comparison of Responses to Rehabilitation and Reconstruction of Contaminated Areas

Table 16 shows cross-region comparison of responses to rehabilitation and reconstruction of contaminated areas.

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