

**Results of the 15th Annual  
“Questionnaire on Environmental Problems and the Survival of Humankind”**

**REPORT**

**THE ASAHI GLASS FOUNDATION**

September 2006

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## Foreword

This report summarizes the results of this year's "Questionnaire on Environmental Problems and the Survival of Humankind," a survey conducted annually by the Asahi Glass Foundation since 1992.

While 14 years have already passed since the Earth Summit in Rio de Janeiro and four years since the Johannesburg Summit, the urgency and the importance of solving global environmental problems continues to grow ever greater. Global warming continues to be an issue of utmost importance. With the Kyoto Protocol taking effect February last year, attention is being paid to the implementation and accomplishment of the Kyoto mechanisms, in particular, the Clean Development Mechanisms. Recognizing climate change as a grave threat requiring a global response, countries around the world are dedicating their efforts to meeting the goals established in the Kyoto Protocol, and have also begun discussing solutions beyond 2013.

In this year's survey, the 15<sup>th</sup>, the questionnaire was designed to gauge the perceptions of environmental experts from both governmental and private sector organizations around the world, about the progress of endeavors to solve various environmental problems and to highlight how those observations reflect regional characteristics. The questionnaire continued to query respondents on the issues addressed in previous years, including the Environmental Doomsday Clock and Agenda 21. This year's survey also probed respondents about environmental problems identified in last year's (2005) survey as requiring prioritization, both globally and locally, to try to identify the focal point of these concerns.

Once again, the Foundation received thoughtful responses from countless environmentally conscious experts in the private and public sectors around the world. We would like to extend our heartfelt gratitude to them for taking the time to respond to the survey. In addition, we would like to express our profound appreciation to Professor Akio Morishima, chairman of the Institute for Global Environmental Strategies, for continuing to provide invaluable advice at all stages of the project, from the initial survey design, to the analysis of the results.

In closing, we appeal to readers of this report for advice on how to enhance the survey so that it can be made more comprehensive and relevant in the future.

Asahi Glass Foundation  
September 2006

# I. Facts about the 15th Annual “Questionnaire on Environmental Problems and the Survival of Humankind”

**Response period:** Questionnaires were sent out in April 2006 with a return deadline of June 2006.

**Questionnaire respondent pool:** Selected from members of GOs, NGOs, academic and industrial organizations in the databases of the United Nations Environment Program, the United Nations Commission on Sustainable Development and the Asahi Glass Foundation.

**Questionnaires mailed:** 3,989

**Questionnaires returned:** 655

**Response rate:** 16.4%

**Breakdown of respondents by region, gender and occupational affiliation:**

Region	Number of responses	Percent of total
Developed Regions	463	70.7
Japan	307	46.9
United States & Canada	49	7.5
Western Europe	70	10.7
Asian Four (A4) <small>(South Korea, Hong Kong, Taiwan, and Singapore)</small>	37	5.6
Developing Regions	113	17.2
Rest of Asia (RoA)	53	8.1
Latin America	23	3.5
Africa	37	5.6
Other	79	12.1
Oceania	22	3.4
Eastern Europe & former Soviet Union	36	5.5
Middle East	21	3.2
(Overseas Total)	(348)	(53.1)
<b>Total</b>	<b>655</b>	<b>100.0</b>

Gender	Number of responses	Percent of total
Male	549	83.8
Female	94	14.4
No response	12	1.8
<b>Total</b>	<b>655</b>	<b>100.0</b>

Occupational affiliation	Number of responses	Percent of total
National government	76	11.5
Local government	94	14.4
University or research institution	125	18.3
Nongovernmental organization	113	15.3
Corporation	122	16.6
Other	109	16.2
No response	16	7.8
<b>Total</b>	<b>655</b>	<b>100.0</b>

- Notes: 1. This report used the 655 responses as the basis for calculating percentages, which are rounded up from the first or second decimal place.
2. In this report, “Asia” is all of Asia, except Japan. Further, South Korea, Hong Kong, Taiwan, and Singapore are classified as the “Asian Four (A4).” Other Asian countries are classified as the “Rest of Asia (RoA).”
3. Japan, United States & Canada, Western Europe, and the Asian Four are classified as “Developed region,” while the remainder of the Rest of Asia, Latin America, and Africa are classified as “Developing region,” and Oceania, Eastern Europe & former Soviet Union, and Middle East are classified as “Other.”
4. Please note that where it is marked “Percentages are based on the total number of responses,” the total number of responses refers to the total number of responses to that question, not to the total number of respondents to the survey. In the diagrams, “N” represents the number of valid responses.

## II. Summary of Questionnaire Results

### A. Repeat Topics

#### 1. Awareness of the Crisis Facing Human Survival

##### The Environmental Doomsday Clock (Questionnaire 1)

- The average time on the environmental doomsday clock for all respondents was 9:17, with the needle advancing 12 minutes in comparison to the previous year. Respondents from all regions, with the exception of Asia and Oceania, reported large advances in the doomsday clock, resulting in the most advanced time of the clock since the survey began, indicating a high sense of crisis.
- The average time on the environmental doomsday clock as marked by Japanese respondents was 9:15, with the needle advancing 8 minutes in comparison to the previous year.
- The average time for overseas respondents was 9:19, with the needle advancing 15 minutes in comparison to the previous year.
- **Environmental conditions of concern in determining the doomsday clock time:** Respondents from both Japan and overseas most frequently cited “global warming,” followed by “deforestation, desertification, loss of biodiversity,” and “water shortage, food problems.”

#### 2. Progress Toward Agenda 21 (Questionnaire 2)

As in previous years, the questionnaire surveyed respondents about the 10 categories of the action plan as outlined in Agenda 21.

- As in previous years, “promotion of environmental education” was the category most frequently cited as having made progress. In contrast, “lifestyle alteration” was the least cited category.
- Similar to last year, the categories in which more than 50% of responses, from both Japan and overseas, indicated there had been progress included “promotion of environmental education,” “activities by local governments and citizens’ groups,” “environmental measures by industry,” “scientific and technological contributions,” and “formation of recycling systems.”
- As in previous years, more respondents reported no progress than those who reported progress in the following 5 areas, including “conservation of forest resources,” “greenhouse gas prevention measures,” “conservation of biodiversity,” “population/poverty problems,” and “lifestyle alteration.” In particular, “lifestyle alteration” was the only category this year in which more than 50% of respondents indicated no progress.

### B. Main Focus of the Current Year’s Questionnaire

#### Environmental Problems and Their Priority (Questionnaire 3 and 4)

The questionnaire last year queried respondents about environmental problems requiring prioritization. This year, the questionnaire further probed them on these issues, identified as priorities on a global or local scale.

#### 3. Environmental Problems and Their Priority —Global Environmental Problems

##### 3-1. Global Warming

- More than 70% of respondents from Japan and overseas stated, “global warming is a serious and urgent environmental problem requiring an immediate response.” Furthermore, an even higher percentage of respondents from several regions selected this response, including the Asian Four, the Middle East, Western Europe, and Latin America, at 80%.

##### 3-2. Poverty

- The view on poverty as a global environmental problem was divided. Nearly 50% of overseas respondents stated that “significant improvements to the current situation are possible.” In contrast, only 14% of respondents from Japan selected this option, far below the 52% who stated, “poverty will worsen from the current situation.”

### **3-3. Energy Problem**

- From developed regions, the largest number of respondents selected “large amount of energy consumption” as the most pressing energy problem, at 48%, with three out of four respondents from United States & Canada selecting this option. This was followed by “an imbalance in the proportions of energy sources used.” In contrast, respondents from developing regions most frequently cited “the high cost of convenient sources of energy” and “insufficient use of renewable sources of energy,” with each at 20%.

### **3-4. Preservation and Restoration of Ecosystems and Biodiversity**

- Respondents from both Japan and overseas selected “decrease of habitats,” “negative impact of pollutants created by human activities,” and “decrease of species,” in descending order, as the most pressing issues with regards to the preservation and restoration of ecosystems and biodiversity. The highest proportion of respondents selected “decrease of habitats” with the exception of Eastern Europe & former Soviet Union, and the rate exceeded 80% among respondents from the Asian Four, Oceania, United States & Canada, and Japan. Respondents from Eastern Europe & former Soviet Union most frequently cited “negative impact of pollutants created by human activities,” at 58%.

### **3-5. Population Problem**

- A high proportion of respondents, with more than 70% from overseas and more than 90% from Japan, selected “explosive population growth in developing countries” as the most urgent population problem. On the other hand, “because population growth is expected to stop in the future, it is not particularly a problem,” was selected frequently in the Asian Four at 40%, in Eastern Europe & former Soviet Union at more than 20%, and in the Middle East and Western Europe at 14%.

## **4. Environmental Problems and Their Priority —Local Environmental Problems**

### **4-1. Acid Rain/Air Pollution (Asian Four)**

- An overwhelming majority of respondents, at nearly 90%, indicated both acid rain and air pollution were problems. The largest number of respondents, at 70%, selected “destruction of forests and the negative impact on forest ecosystems” as the most detrimental effect created by acid rain, followed by “direct impact on human health,” chosen by 49% of respondents.

### **4-2. Poverty (Rest of Asia, Latin America, Africa)**

- The responses from the three regions, including the Rest of Asia, Latin America, and Africa stating “significant improvements are possible” and stating “poverty will worsen from the current situation” were all comparable at around 40%.

### **4-3. Issues Related to Ocean and Fresh Water Supply (Oceania)**

- More than 60% of respondents identified “degradation and depletion of freshwater resources” and “diminishing marine resources for fisheries” as the water supply issues requiring prioritization.

### **4-4. Deforestation (Latin America)**

- An overwhelming number of respondents selected “soil erosion, landslides, flooding” as the most detrimental effect of deforestation in the region, at 75%.

### **4-5. Desertification and Deterioration of Soil Quality (Africa, Middle East)**

- “Reduction and degradation of water resources” was the most frequently cited issue requiring prioritization, comprising 57% of the responses in Africa. However, this constituted 33% of the responses in the Middle East, where an additional 24% selected “salinization of irrigation water and soil,” reflecting regional differences.

### **4-6. Waste Materials/Recycling (Japan, Western Europe, Asian Four, Rest of Asia, Africa, Eastern Europe & former Soviet Union, Middle East)**

- Respondents from most regions selected “household waste” and “industrial waste” as the waste material problem requiring prioritization. The regions with the highest percentage of responses citing “industrial waste” were Japan and the Asian Four. In addition, respondents from the Asian Four and Western Europe also cited “toxic and hazardous substances,” at 54% and 45% respectively.

#### **4-7. Urbanization/Transportation Problems (Japan, United States & Canada, Western Europe, Asian Four, Eastern Europe & former Soviet Union, Middle East)**

- Respondents from all regions where transportation problems represented a local environmental issue frequently identified “congestion and other transportation obstacles created by excessive concentration of automobiles” as the issue requiring prioritization. In addition, respondents from the Asian Four, Western Europe, and Japan frequently cited “pollution caused by transit vehicles,” whereas those in United States & Canada, the Middle East, and Eastern Europe & former Soviet Union often identified “insufficient/poor quality of public transportation and distribution infrastructure.”
- Responses showed differences between regions regarding which urban environmental problem required prioritization. Respondents from Western Europe and the United States & Canada identified “urban sprawl,” whereas Eastern Europe & former Soviet Union pointed to “disappearance of greenery and natural environments,” while the Asian Four cited “air and noise pollution, and the Middle East and Japan selected “increase in waste.” However, responses were scattered in all regions, indicating that each of the selections was a cause for concern.

#### **4-8. Preservation and Restoration of Ecosystems and Biodiversity (Western Europe, Latin America, Oceania, Eastern Europe & former Soviet Union)**

- The most common responses included “decrease of habitats” from respondents in Latin America and Western Europe, “destruction of traditional ecosystems due to the introduction/invasion of foreign species” from Oceania, and “negative impact of pollutants created by human activities” from Eastern Europe & former Soviet Union.

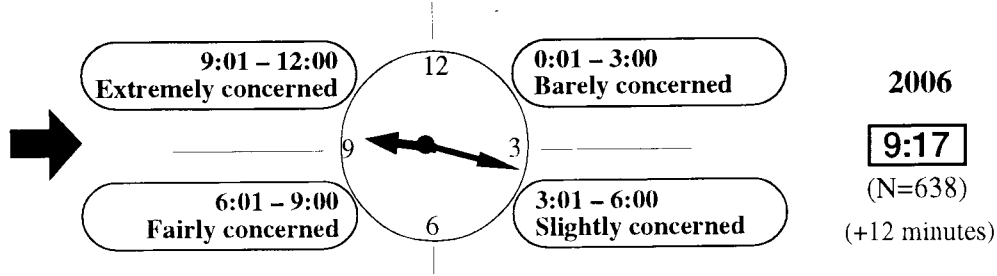
### III. Questionnaire Results

#### A. REPEAT TOPICS

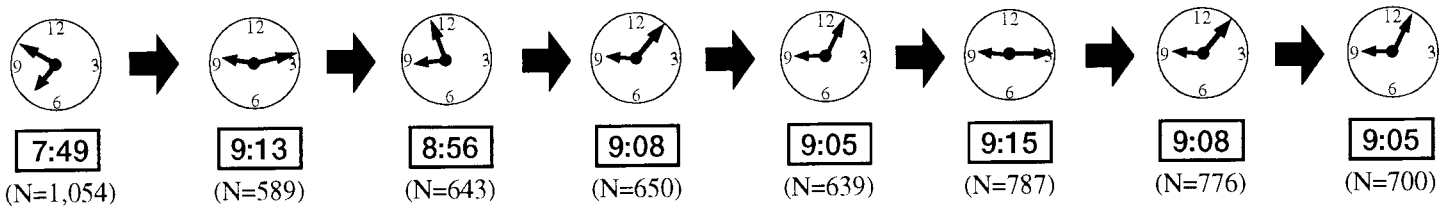
#### 1. AWARENESS OF THE CRISIS FACING HUMAN SURVIVAL ENVIRONMENTAL DOOMSDAY CLOCK (QUESTIONNAIRE 1)

**Question1-1:** To what extent do you feel that the current deterioration of the global environment has created a crisis that will affect the continuance of the human race? Write a time within the range 0:01 to 12:00 corresponding to the extent of your concern in the boxes below.

#### Concern about Human Survival Prospects



1992 (+84 min.) 1996 (-17 min.) 2000 (+12 min.) 2001 (-3 min.) 2002 (+10 min.) 2003 (-7 min.) 2004 (-3 min.) 2005



	Number of respondents (2006)	Changes in time from year to year			Changes in average time by region	
		1996 →	2005 →	2006	1996 → 2006	2005 → 2006
Total	638	9:13 →	9:05 →	9:17	+4	+12
Japan	301	8:51 →	9:07 →	9:15	+24	+8
United States & Canada	48	9:30 →	8:54 →	9:18	-12	+24
Western Europe	68	9:46 →	8:43 →	9:08	-38	+25
Asia	90	9:41 →	9:41 →	9:17	-24	-24
Asian Four	37	* →	9:49 →	9:32	*	-17
Rest of Asia	53	* →	9:37 →	9:07	*	-30
Latin America	23	9:28 →	9:08 →	9:31	+3	+23
Africa	35	9:25 →	9:03 →	9:32	+7	+29
Oceania	21	9:43 →	9:18 →	9:18	-25	0
Eastern Europe & former Soviet Union	35	9:12 →	8:26 →	9:07	-5	+41
Middle East	17	8:30 →	9:18 →	10:05	+95	+47
Overseas Total	337	9:34 →	9:04 →	9:19	-15	+15
Male	537	9:01 →	9:05 →	9:18	+17	+13
Female	90	9:58 →	9:00 →	9:15	-43	+15
Developed Regions	454	* →	9:04 →	9:16	*	+12
Developing Regions	111	* →	9:20 →	9:20	*	0
Other	73	* →	8:49 →	9:24	*	+35

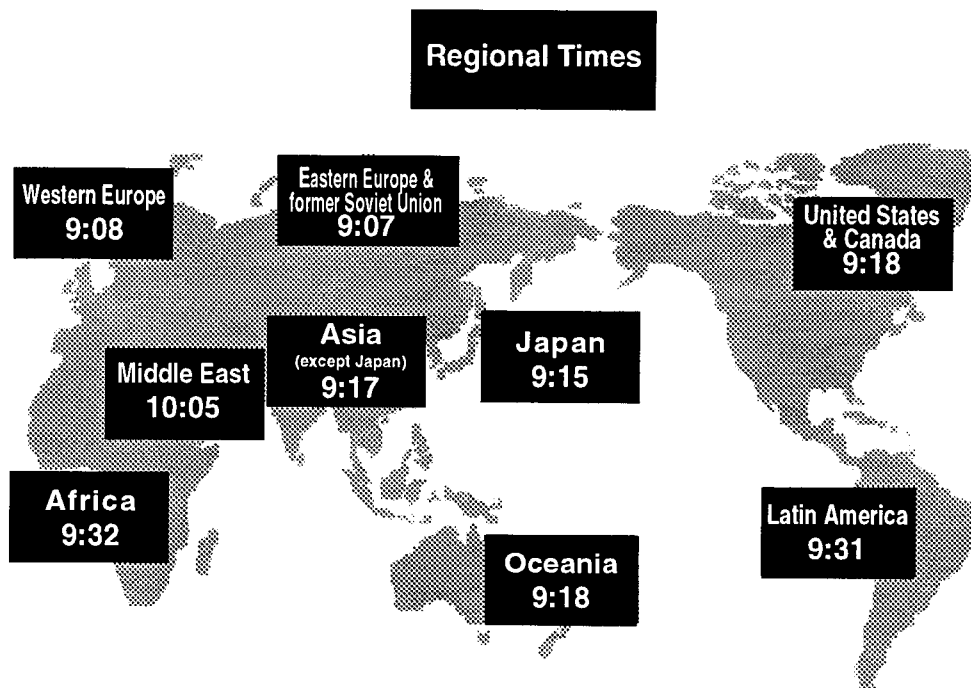
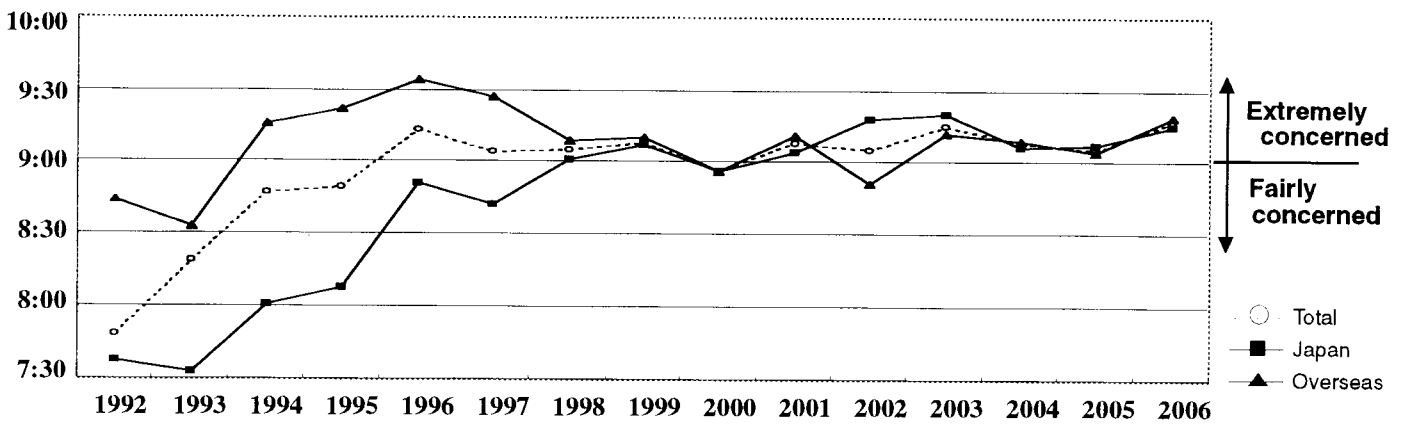
- The average time on the environmental doomsday clock for all respondents advanced by 12 minutes from the previous year to 9:17. This is the furthest the needle has ever advanced, representing high sense of crisis since the survey began.
- The average time on the environmental doomsday clock as marked by Japanese respondents was 9:15, with the needle advancing 8 minutes in comparison to the previous year.



- The average time for overseas respondents was 9:19, with the needle advancing 15 minutes in comparison to the previous year.
- Respondents from Asia, who had indicated the most advanced time in the doomsday clock time last year, designated a 24-minute reversal to 9:17, whereas respondents from Oceania reported the same time as the previous year, of 9:18. With those exceptions, respondents from all of the other regions indicated advances in the doomsday clock time, with large increases reported by respondents in the Middle East, Eastern Europe & former Soviet Union, of more than 40 minutes, and from respondents in United States & Canada, Western Europe, Latin America, and Africa, of 20 to 30 minutes.
- The doomsday clock time among male respondents was 9:18, with the needle advancing 13 minutes in comparison to the previous year. The time among female respondents also advanced, by 15 minutes, to 9:15. The needle advanced for both male and female respondents, although the time difference between them decreased compared to the previous year.

### Changes in the Environmental Doomsday Clock

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total	7:49	8:19	8:47	8:49	9:13	9:04	9:05	9:08	8:56	9:08	9:05	9:15	9:08	9:05	9:17
Japan	7:38	7:33	8:01	8:08	8:51	8:42	9:01	9:07	8:56	9:04	9:18	9:20	9:06	9:07	9:15
Overseas	8:44	8:33	9:16	9:22	9:34	9:27	9:09	9:10	8:56	9:11	8:51	9:12	9:09	9:04	9:19
Overseas - Japan (min.)	66	60	75	74	43	45	8	3	0	7	-27	-8	3	-3	4



**Question1-2:** When you selected the time, what were the main environmental conditions about which you were concerned? Please check up to three (3) of the following items of concern.

**Environmental Conditions of Concern in Determining the Doomsday Clock Time for 2006**

	Developed Regions					Developing Regions					Other					
	Japan (N=307)	United States & Canada (49)	Western Europe (70)	A4 (37)	RoA (53)	Latin America (23)	Africa (37)	Oceania (22)	Eastern Europe (22)	Middle East & former Soviet Union (36)	Overseas Total (21)	Developed Regions Total (348)	Developing Regions (463)	Other (79)	Total (655)	(%)
General environmental problems	29	22	20	27	19	22	30	14	31	24	23	27	23	24	26	
Global warming	74	65	73	70	52	39	51	77	44	48	60	73	49	54	66	
Air pollution, water contamination, river/ocean pollution	23	33	25	43	52	65	35	23	58	52	41	26	49	47	32	
Water shortage, food problems	42	61	29	16	50	35	51	50	28	33	40	40	47	35	41	
Deforestation, desertification, loss of biodiversity	52	45	48	73	50	39	60	55	47	33	51	52	51	46	51	
Peoples' lifestyles, waste related problems	22	18	29	22	33	39	14	14	42	29	27	23	28	30	25	
Environmental problems and economic/trade related activities	19	12	17	27	11	22	14	9	22	19	17	19	14	18	18	
Population, poverty, status of women	16	31	33	14	33	39	35	23	22	24	29	20	35	23	23	
Other	5	16	9	5	2	0	5	5	3	0	6	7	3	3	6	
No response	2	0	0	0	0	0	0	0	0	0	0	1	0	0	1	

Notes: Figures enclosed by a double circle represent the answer with the highest number of replies.

A single circle is used for the answer with the second highest number of replies.

Please note that the totals for the various regions should add up to 300% since respondents were asked to select three items.

However, some respondents marked less than three items, causing the aggregate total to be less than 300%.

- The main environmental condition of concern among respondents from both Japan and abroad when recording the doomsday clock time was “global warming,” followed by “deforestation, desertification, loss of biodiversity” and “water shortage, food problems.”
- Responses from developed regions were consistent with the overall pattern. In contrast, respondents from developing regions cited “deforestation, desertification, loss of biodiversity,” “global warming,” “air pollution, water contamination, river/ocean pollution” and “water shortage, food problems” at around 50% each. Respondents from other regions cited “global warming,” “air pollution, water contamination, river/ocean pollution,” and “deforestation, desertification, loss of biodiversity” in descending order.

## 2. PROGRESS TOWARD AGENDA 21 (QUESTIONNAIRE 2)

**Question 2:** Thirteen years have passed since Agenda 21 was adopted as an “action plan for the environment and development” at the Earth Summit in 1992. Please indicate the progress made *in your country* for the following 10 categories taken from the Agenda 21 action plan.

**Comparison of Perceived Progress<sup>1</sup> between 2001 and 2006**

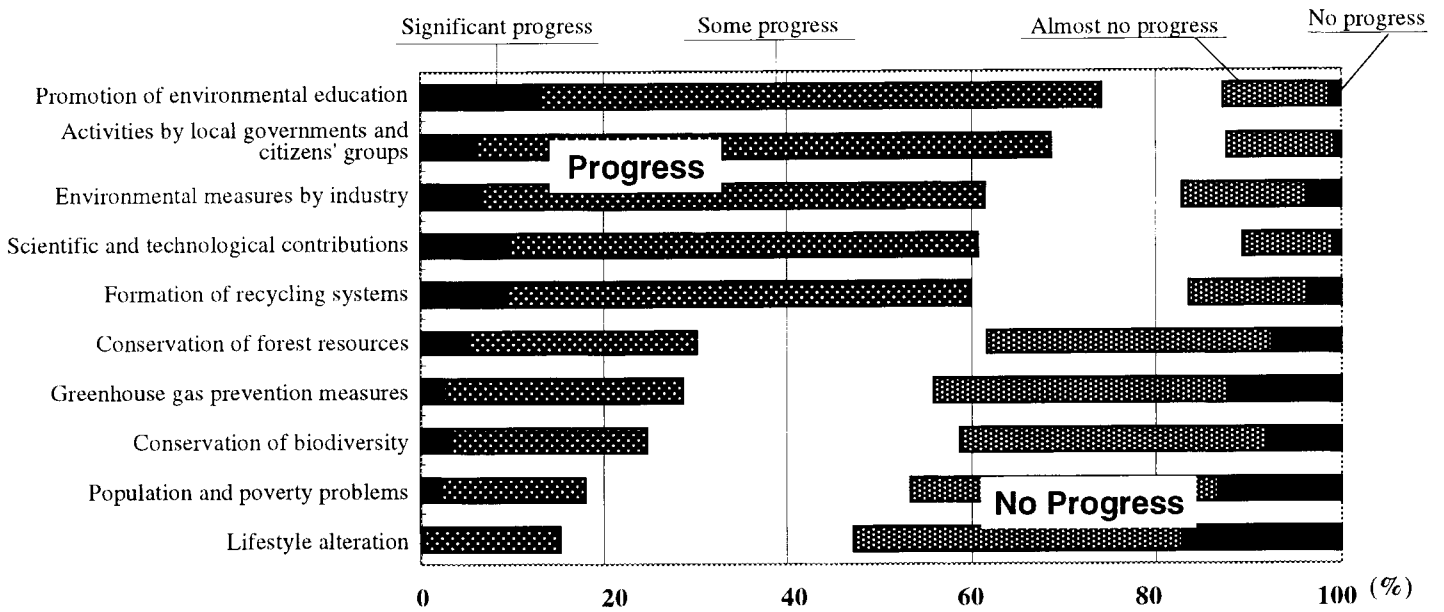
	Japan		United States & Canada		Western Europe		Asia		Asian Four		Rest of Asia		Latin America		Africa		Oceania		Eastern Europe & former Soviet Union		Middle East		Overseas Total		Total		
	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	
Promotion of environmental education	[307] 70	[292] 67	[49] 67	[58] 74	[70] 87	[84] 81	[90] 74	[83] 88	[37] 59	[*] *	[53] 83	[*] *	[23] 70	[35] 80	[37] 70	[55] 84	[22] 95	[30] 80	[36] 83	[22] 91	[21] 86	[22] 77	[348] 78	[392] 82	[655] 74	[684] 76	(%)
Activities by local governments and citizens' groups	67	70	86	79	67	80	67	72	62	*	70	*	61	77	59	65	91	90	67	91	81	64	71	76	69	73	
Environmental measures by industry	66	68	69	62	68	76	52	47	59	*	46	*	57	40	41	40	68	60	50	45	67	45	58	55	62	60	
Scientific and technological contributions	66	69	73	71	67	63	51	51	41	*	57	*	48	17	35	42	59	53	64	45	62	36	58	51	62	59	
Formation of recycling systems	65	66	76	79	72	75	42	42	59	*	30	*	43	26	27	22	91	73	53	23	67	36	57	51	61	57	
Conservation of forest resources	12	11	45	48	52	51	41	55	32	*	46	*	35	49	49	65	82	43	31	23	52	45	46	51	30	34	
Greenhouse gas prevention measures	29	25	14	21	42	49	23	36	22	*	24	*	13	17	27	22	14	40	44	27	57	14	29	32	29	29	
Conservation of biodiversity	7	11	29	34	42	40	32	55	14	*	44	*	39	57	49	60	64	50	53	45	52	41	41	48	25	33	
Population and poverty problems	6	16	18	14	23	24	33	41	19	*	43	*	17	14	35	38	32	33	31	9	57	45	29	28	18	23	
Lifestyle alteration	12	7	10	5	12	12	24	27	32	*	19	*	13	6	16	15	18	33	25	32	38	18	19	17	15	13	

Note: <sup>1</sup> Progress is calculated as the combined total of the ‘significant progress’ and ‘some progress’ categories.

As in previous years, we polled respondents about the progress they felt had been achieved in ten categories taken from the Agenda 21 action plan. The results are listed in the chart in descending order, starting with categories with the greatest number of responses indicating “progress” (combines “significant progress” and “some progress”).

- The largest proportion of responses indicating progress continued to be “promotion of environmental education.” In contrast, the category with the least amount of responses indicating progress was “lifestyle alteration.”
- 41% of overseas respondents stated progress had been achieved in “conservation of biodiversity,” with more than 50% of respondents agreeing with the statement from Oceania, the Middle East, and Eastern Europe & former Soviet Union. In contrast, only 7% of Japanese respondents reported progress in this category, reflecting a large difference in perceptions.
- A large difference between respondents from Japan and abroad can also be seen in the category, “population and poverty problems.” Twenty-nine percent of overseas respondents indicated progress in this category with such responses exceeding 30% in the Middle East, the Rest of Asia, Africa, Oceania, and Eastern Europe & former Soviet Union. In contrast, only 6% of respondents from Japan stated progress had been made in this category.

## Progress toward Agenda 21



- Similar to the previous year, more than 50% of respondents from Japan and overseas indicated there had been progress in the categories of “promotion of environmental education,” “activities by local governments and citizens’ groups,” “environmental measures by industry,” “scientific and technological contributions,” and “formation of recycling systems.”
- In the five categories of “conservation of forest resources,” “greenhouse gas prevention measures,” “conservation of biodiversity,” “population and poverty problems,” and “lifestyle alteration,” the percentage of respondents who indicated there had been no progress surpassed those who stated progress had been made. This year, “lifestyle alteration” was the only category in which responses indicating no progress exceeded 50%.

## Comparison of Differences between 2001 and 2006

	Japan	United States & Canada	Western Europe	Asia	Asian Four	Rest of Asia	Latin America	Africa	Oceania	Eastern Europe & former Soviet Union	Middle East	Overseas Total	Total	(%)
Promotion of environmental education	+3	-7	+6	-14	*	*	-10	-13	+15	-8	+8	-4	-1	
Activities by local governments and citizens' groups	-3	+6	-13	-5	*	*	-16	-6	+1	-24	+17	-6	-4	
Environmental measures by industry	-2	+7	-8	+5	*	*	+17	+1	+8	+5	+21	+3	+1	
Scientific and technological contributions	-2	+3	+4	0	*	*	+31	-7	+6	+18	+26	+6	+3	
Formation of recycling systems	-1	-4	-3	0	*	*	+18	+5	+18	+30	+30	+6	+3	
Conservation of forest resources	+1	-3	+1	-15	*	*	-14	-17	+38	+8	+7	-5	-3	
Greenhouse gas prevention measures	+4	-6	-7	-13	*	*	-4	+5	-26	+17	+44	-3	0	
Conservation of biodiversity	-5	-6	+2	-24	*	*	-18	-11	+14	+7	+11	-7	-8	
Population and poverty problems	-10	+5	-1	-8	*	*	+3	-3	-2	+21	+12	+1	-5	
Lifestyle alteration	+5	+5	0	-2	*	*	+7	+2	-15	-7	+20	+2	+3	

Note: Differences are calculated to the first decimal place. Thus, the percentages may differ from those on the previous page which are rounded to the nearest integer.

When comparing the responses this year to those from five years ago in 2001,

- Overall, there has been no change in the top five categories in which a high percentage of respondents reported progress, which included “promotion of environmental education,” “activities by local governments and citizens’ groups,” “environmental measures by industry,” “scientific and technological contributions,” and “formation of recycling systems.” The bottom five categories have also remained unchanged, and include “conservation of forest resources,” “greenhouse gas prevention measures,” “conservation of biodiversity,” “population and poverty problems,” and “lifestyle alteration.”
- There has been considerable movement within each region in the number of respondents who indicated progress has been made. However, the change is small at an overall level, with the largest movement being “preservation of biodiversity” at minus 8 points.

**B. MAIN FOCUS OF THE CURRENT YEAR'S QUESTIONNAIRE**

**3. ENVIRONMENTAL PROBLEMS AND THEIR PRIORITY-GLOBAL ENVIRONMENTAL PROBLEMS (QUESTION 3)**

Responses to the section titled “Environmental Problems and their Priority—Global Environmental Problems” in the previous year’s questionnaire identified the following five issues as the environmental problems requiring prioritization on a global scale.

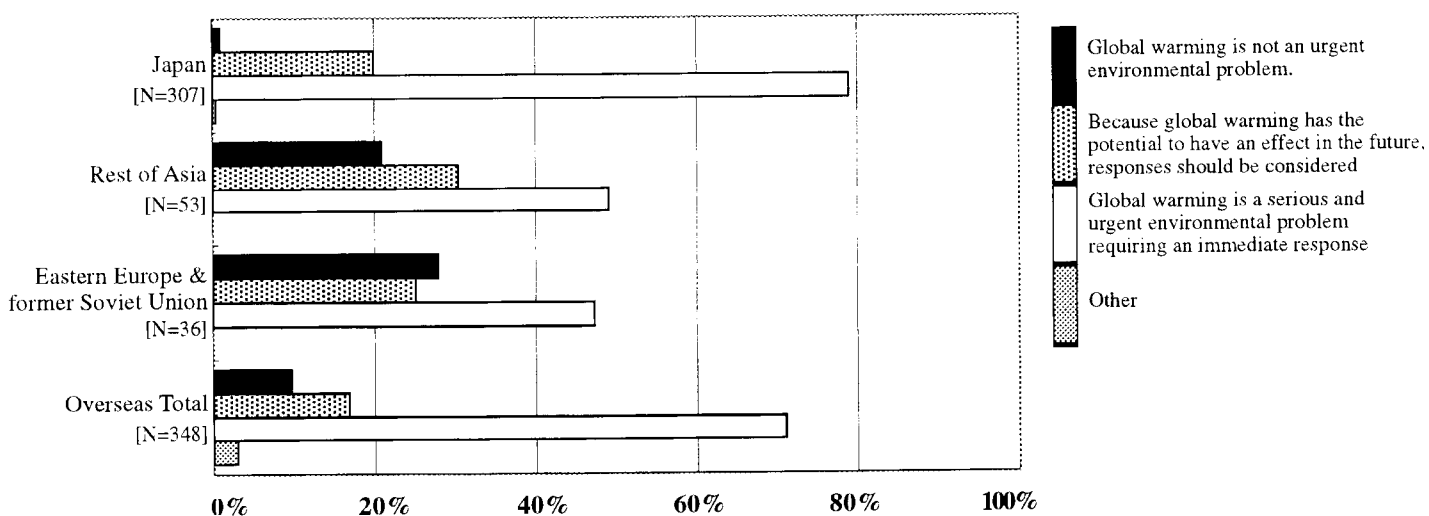
1. Climate change including global warming
2. Poverty
3. Energy problems
4. Preservation and restoration of ecosystems and biodiversity
5. Population problems

The questionnaire this year further probed respondents about these five issues to try to identify the focal point of these concerns.

**3-1. Global Warming (Question 3-1)**

**Question3-1-1:** What is your opinion about global warming? Please circle one item from the following list that best reflects your point of view. If you select item 1, please further select a reason from the subsequent list.

**Opinions about the Seriousness of Global Warming**



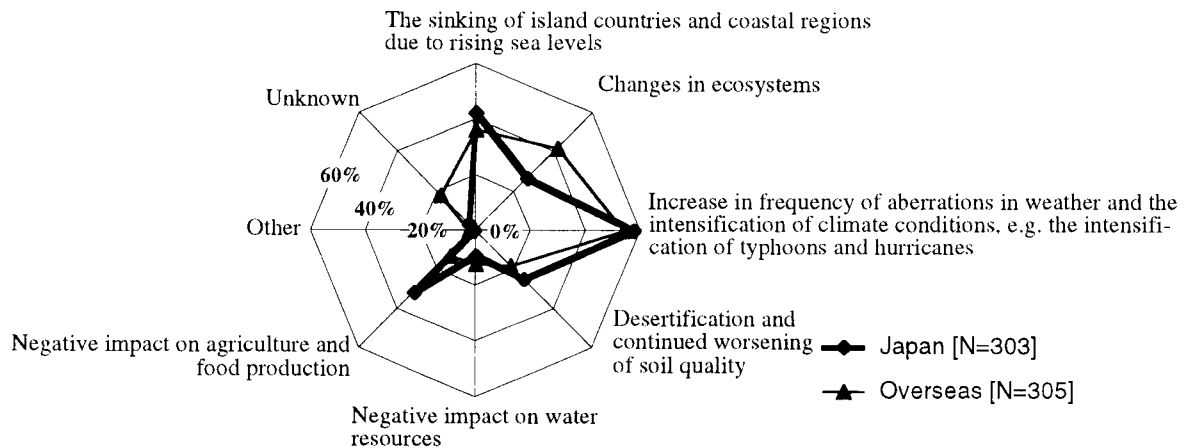
- More than 70% of respondents from both Japan and overseas selected “global warming is a serious and urgent environmental problem requiring an immediate response.” In particular, the regions where more than 80% of respondents selected this option were the Asian Four, the Middle East, Western Europe, and Latin America.
- Respondents who selected “global warming is not an urgent environmental problem” exceeded 20% in the Rest of Asia and Eastern Europe & former Soviet Union.
- Of the respondents who stated, “global warming is not an urgent environmental problem,” the most frequently cited reason for their response was “the scientific grounding for global warming is unclear,” followed by “the effect of global warming is limited.” Further, 3% to 8% of respondents in Eastern Europe & former Soviet Union, the Rest of Asia, and Western Europe stated “global warming will bring favorable effects.” (See p35 for data)

**Question3-1-2:** Please answer this question if you selected item 2 or 3 in the previous question. What effects do you believe global warming will have? Please check two items you consider important for each column in the following chart to indicate the feared effects of global warming.

## Effects of Global Warming

	Developed Regions					Developing Regions					Other				
	Japan (N=303)	United States & Canada (46)	Western Europe (63)	A4 (37)	RoA (42)	Latin America (21)	Africa (30)	Oceania (21)	Eastern Europe (21)	Middle East & former Soviet Union (26)	Overseas Total (305)	Developed Regions (449)	Developing Regions (93)	Other (66)	Total (608)
The sinking of island countries and coastal regions due to rising sea levels	43	30	37	35	45	29	50	57	27	26	37	40	43	36	40
Changes in ecosystems	27	41	48	51	43	52	30	24	46	53	44	33	41	41	35
Increase in frequency of aberrations in weather and the intensification of climate conditions, e.g. the intensification of typhoons and hurricanes	58	52	56	70	50	71	50	52	69	26	56	58	55	52	57
Desertification and continued worsening of soil quality	25	20	22	27	14	19	10	0	23	21	18	24	14	15	22
Negative impact on water resources	9	15	11	5	14	5	13	33	8	16	13	10	12	18	11
Negative impact on agriculture and food production	32	20	13	5	17	5	20	10	19	5	13	26	15	12	23
Other	1	4	2	3	5	0	0	5	4	0	3	1	2	3	2
Unknown	4	13	16	0	26	14	33	14	35	32	19	6	26	27	12

Notes: Figures enclosed by a double circle represent the answer with the highest number of replies. A single circle is used for the answer with the second highest number of replies. Please note that the totals for the various regions should add up to 200% since respondents were asked to select two items. However, some respondents marked less than two items, causing the aggregate total to be less than 200%.



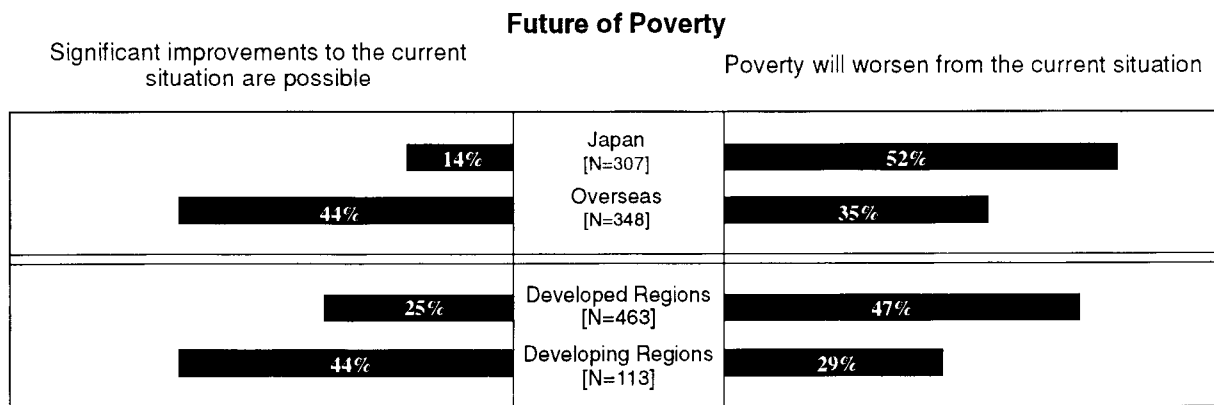
- More than 50% of respondents from both Japan and overseas selected “increase in frequency of aberrations in weather and the intensification of climate conditions” as the most feared effect of global warming. This was followed by “the sinking of island countries and coastal regions due to rising sea levels” and “changes in ecosystems.”
- Twice as many respondents from Japan selected “negative impact on agriculture and food production” compared to overseas respondents, reflecting a marked distinction between Japan and overseas.

**Question3-1-3:** The Kyoto Protocol, which aims at the reduction of greenhouse gas emissions, has taken effect. How do you evaluate the effectiveness of the Kyoto Protocol as a measure to prevent global warming? Please circle one item from the following list that best reflects your point of view.

- More than 60% of respondents from both Japan and overseas selected “the Kyoto Protocol is one point in the effort to curb greenhouse gas emissions, and global warming will only be prevented through additional agreements between countries around the world.”
- An extremely small proportion of respondents, of only 2%, selected “global warming will be prevented by member countries adhering to the terms of the Kyoto Protocol,” indicating recognition among the majority of respondents that the prevention of global warming would be difficult through the Kyoto Protocol alone. However, it was notable that the proportion of respondents who selected this option was nearly 10% in the Middle East, and the regions which stated global warming was not an urgent environmental problem with the response exceeding 20% in question 3-1-1, namely the Rest of Asia, and Eastern Europe & former Soviet Union. (See p36 for data)

### 3-2. Poverty

**Question3-2-1:** What is your perception on poverty? Please circle one item from the following list that best reflects your point of view.

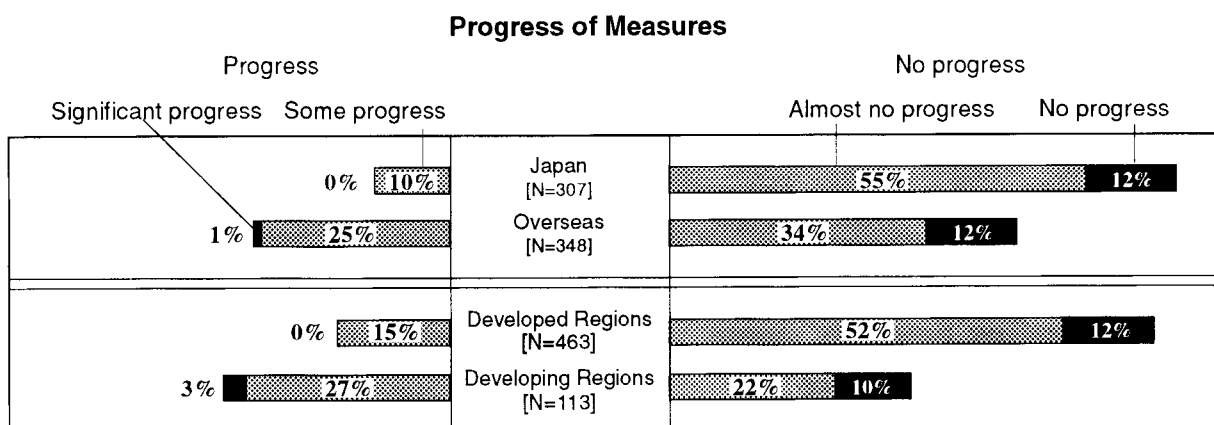


- When asked about poverty as a global issue, slightly less than 50% of overseas respondents stated “significant improvements to the current situation are possible,” whereas a minor proportion of Japanese respondents agreed with the statement, at only 14%. Instead, 52% of Japanese respondents stated, “poverty will worsen from the current situation,” reflecting a difference in points of view.
- In comparing responses from developed regions and developing regions, 47% of respondents from developed regions stated “poverty will worsen from the current situation,” surpassing the 25% who selected “significant improvements to the current situation are possible.” In contrast, 44% of respondents from developing regions selected “significant improvements to the current situation are possible,” which exceeded the 29% who stated “poverty will worsen from the current situation,” revealing a more optimistic perspective prevailing in developing regions than in developed regions.

**Question3-2-2:** What do you think are the causes of poverty when considering the issue? Please circle two items from the following list that best reflects your point of view.

- The main reasons respondents cited for the causes of poverty were “population growth,” “political and economic environment,” and “discrepancies between the North and South.” (See p36-37 for data.)

**Question3-2-3:** How do you evaluate the progress of measures to counter poverty? Please circle one item from the following list that best reflects your point of view.



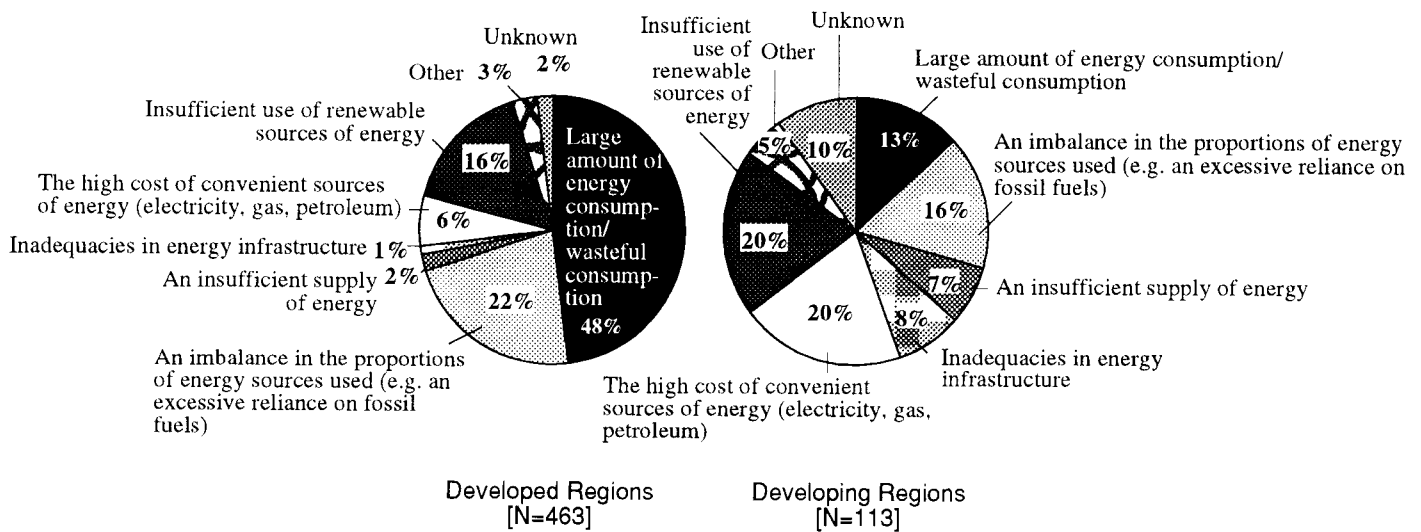
- An overwhelming majority of respondents indicated no progress in the measures to counter poverty. The ratio of overseas respondents reporting no progress to those reporting progress was at 2 to 1, which climbed to 6 to 1 among Japanese respondents.
- Four times as many respondents from developed regions selected “no progress” as those who reported progress. In contrast, respondents from developing regions were divided on this question, with 30% each on both sides of the issue. It was notable that among the developing regions, there were twice as many respondents from the Rest of Asia who reported progress than those who stated no progress. On the other hand, more respondents from Latin America and Africa indicated no progress than those who reported progress.



### 3-3. Energy Problem

**Question3-3-1:** What is the most pressing energy problem in your country? Please circle one item from the following list that best reflects your point of view.

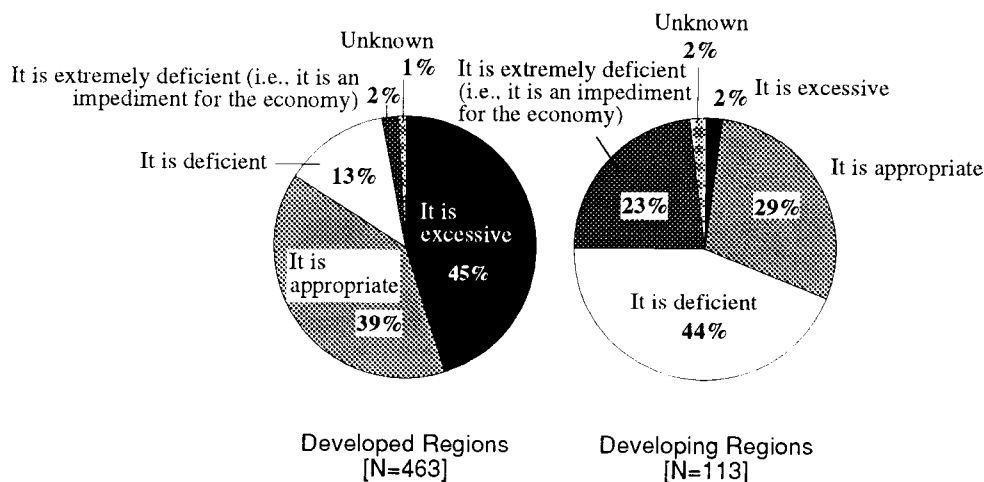
**Energy Problems of Greatest Concern**



- The largest number of respondents, or 48%, from developed regions selected “large amount of energy consumption” as the most pressing energy problem, with three out of four respondents from United States & Canada selecting this option. This was followed by “an imbalance in the proportions of energy sources used.” In contrast, respondents from developing regions most frequently cited “the high cost of convenient sources of energy” and “insufficient use of renewable sources of energy,” with each at 20%.
- “Large amount of energy consumption” was selected infrequently by respondents from Latin America and Africa. The most frequently selected choice among respondents from Latin America was “an imbalance in the proportions of energy sources used,” whereas “the high cost of convenient sources of energy” was the most common selection among respondents from Africa. “The high cost of convenient sources of energy” was also frequently cited by respondents in all regions with the exception of Western Europe, United States & Canada, and Japan, with the highest rate in Africa. (See p37 for data)

**Question3-3-2:** What is your opinion about the supply of energy in your country as a whole? Please circle one item from the following list that best reflects your point of view.

**Energy Supply (Comparison of Developed and Developing Regions)**



## Energy Supply (All)

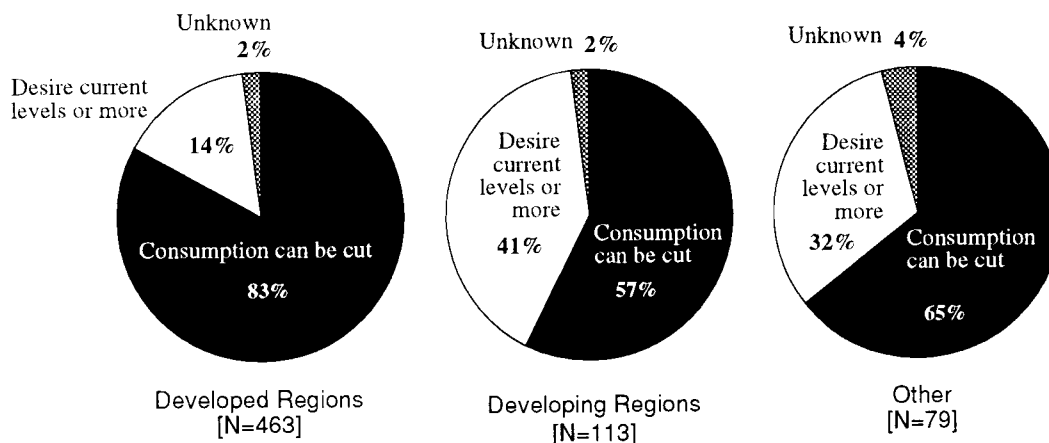
	Developed Regions					Developing Regions					Other				
	Japan (N=307)	United States & Canada (49)	Western Europe (70)	A4 (37)	RoA (53)	Latin America (23)	Africa (37)	Oceania (22)	Eastern Europe (21)	Middle East & former Soviet Union (36)	Overseas Total (348)	Developed Regions (463)	Developing Regions (113)	Other (79)	Total (655)
It is excessive	46	51	34	49	2	4	0	36	19	19	25	45	2	24	35
It is appropriate	40	33	47	27	21	52	27	41	47	43	36	39	29	44	38
It is deficient	11	16	10	22	57	30	35	18	31	29	27	13	44	27	20
It is extremely deficient (i.e., it is an impediment for the economy)	2	0	4	3	21	9	35	5	3	10	10	2	23	5	6
Unknown	1	0	4	0	0	4	3	0	0	0	1	1	2	0	1

Notes: Figures enclosed by a double circle represent the answer with the highest number of replies. A single circle is used for the answer with the second highest number of replies.

- When asked about the supply of energy in their respective countries, 45% of respondents from developed regions stated the supply was “excessive,” which, when combined with those who stated the supply was “appropriate,” totaled 84%. In contrast, 44% of respondents from developing countries stated their energy supply was “deficient,” which, combined with an additional 23% who stated supply was “extremely deficient,” totaled two-thirds of the responses, revealing a contrast between the regions.
- The region with the highest proportion of respondents who stated energy supply was “excessive” was United States & Canada at 51%. On the other hand, the highest proportion of respondents who stated energy supply was “extremely deficient” came from Africa at 35%, strongly reflecting regional characteristics.

**Question3-3-3:** When considering the energy problems faced by your country, what changes are you prepared to make about your personal energy consumption? Please circle one item from the following list that best reflects your point of view.

### Appetite for Personal Energy Consumption



- Responses showed a strong determination to cut personal energy consumption levels. Those stating they were prepared to reduce their personal energy consumption “to 20% less” or “to less than half” of their current levels combined totaled more than 50% of respondents from all regions, including developed, developing, and all others.
- 41% of respondents from developing regions stated they would like either an amount of energy comparable to current levels or more, by selecting “I would like a comparable amount,” “I would like to have two times more energy,” or “I would like to have 10 times more energy,” marking the highest percentage of responses reflecting this opinion. This was in contrast to 15% of respondents from developed regions who selected these items. Other regions ranked in the middle, at 32%.
- More than 40% of respondents in Oceania and United States & Canada indicated they could “reduce their energy consumption to less than half” of current levels. (See p38 for data)

**Question3-3-4:** What do you think would be the most effective source of energy to replace fossil fuels? Please indicate your opinion by ranking the following sources of energy in order of effectiveness.

**Effective Energy Source to Replace Fossil Fuels**

	Developed Regions				Developing Regions						Other				
	Japan (N=307)	United States & Canada (49)	Western Europe (70)	A4 (37)	RoA (53)	Latin America (23)	Africa (37)	Oceania (22)	Eastern Europe (21)	Middle East & former Soviet Union (36)	Overseas Total (348)	Developed Regions (463)	Developing Regions (113)	Other (79)	Total (655)
Nuclear energy	34	22	27	30	9	0	8	18	39	10	20	32	7	25	27
Wind energy	6	8	9	8	8	9	5	14	3	14	8	6	7	9	7
Solar power	32	33	27	51	42	35	46	45	22	48	37	33	42	35	35
Biomass	13	8	11	0	15	13	14	0	14	10	10	11	14	9	12
Hydraulic power	7	8	11	5	17	22	14	5	3	0	10	7	17	3	8
Other	1	14	10	5	6	9	3	14	6	0	8	4	5	6	5
Unknown	7	6	4	0	4	13	11	5	14	19	7	6	8	13	7

Notes: Figures enclosed by a double circle represent the answer with the highest number of replies. A single circle is used for the answer with the second highest number of replies.

- Of the effective sources of energy to replace fossil fuels ranked first, “solar power” was most frequently selected by overseas respondents at 37%, followed by “nuclear energy” at 20%. In contrast, “nuclear energy” was most frequently selected by Japanese respondents at 34%, followed by “solar power” at 32%.
- When analyzed regionally, “solar power” and “nuclear energy” tied as the most effective source of energy to replace fossil fuels among respondents from developed regions, at 33% and 32% respectively. In Western Europe, “solar power” and “nuclear energy” each received 27% of the responses, whereas 33% of respondents from United States & Canada selected “solar power” and 22% “nuclear energy,” and 51% of respondents from the Asian Four selected “solar power” and 30% “nuclear energy.” “Solar power” was overwhelmingly the energy source of choice among respondents from developing regions, at 42%, whereas “nuclear energy” only received 7% of the responses. As such, “nuclear energy” placed fourth among developing regions after “hydraulic power” and “biomass,” reflecting recognition it is not a very likely source of energy to replace fossil fuels.

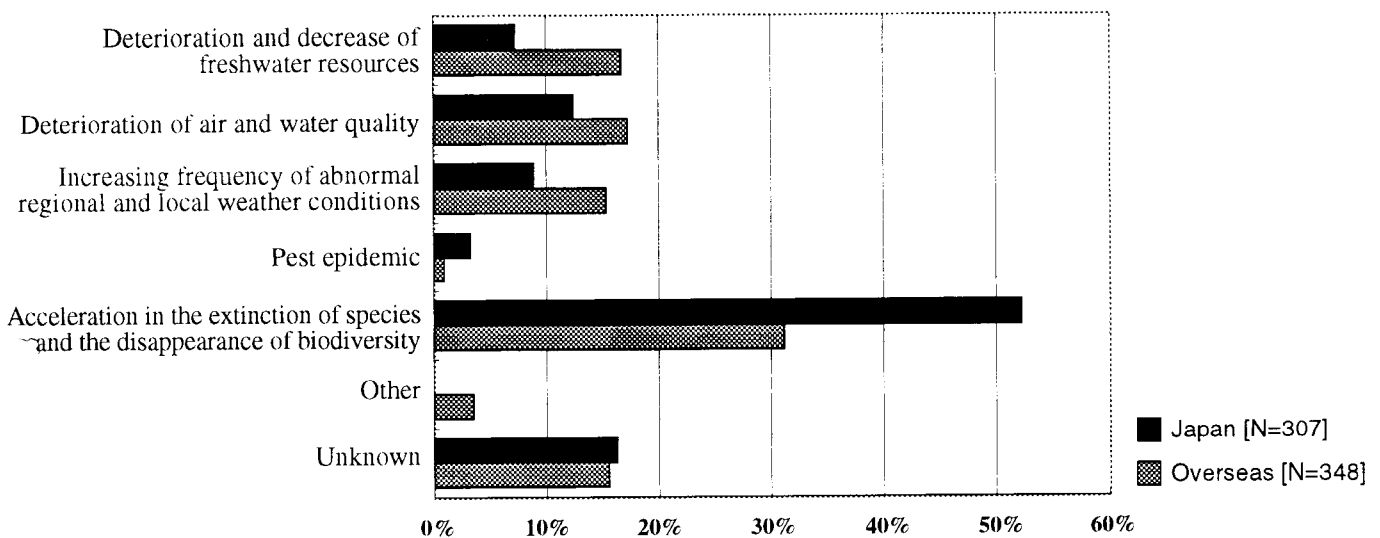
### 3-4. Preservation and Restoration of Ecosystems and Biodiversity

**Question3-4-1:** What do you consider as the most important environmental issues requiring a response with regards to preserving and restoring ecosystems and biodiversity? Please check two items that you consider most significant.

- Respondents from both Japan and overseas indicated that “decrease of habitats,” “negative impact of pollutants created by human activities,” and “decrease of species,” in descending order, were the most pressing issues requiring a global response with regards to the preservation and restoration of ecosystems and biodiversity. “Decrease of habitats” was the most frequently cited issue among all respondents except those from Eastern Europe & former Soviet Union, with more than 80% of respondents from the Asian Four, Oceania, United States & Canada, and Japan making this selection. Respondents from Eastern Europe & former Soviet Union most frequently cited “negative impact of pollutants created by human activities,” at 58%. (See p38 for data)

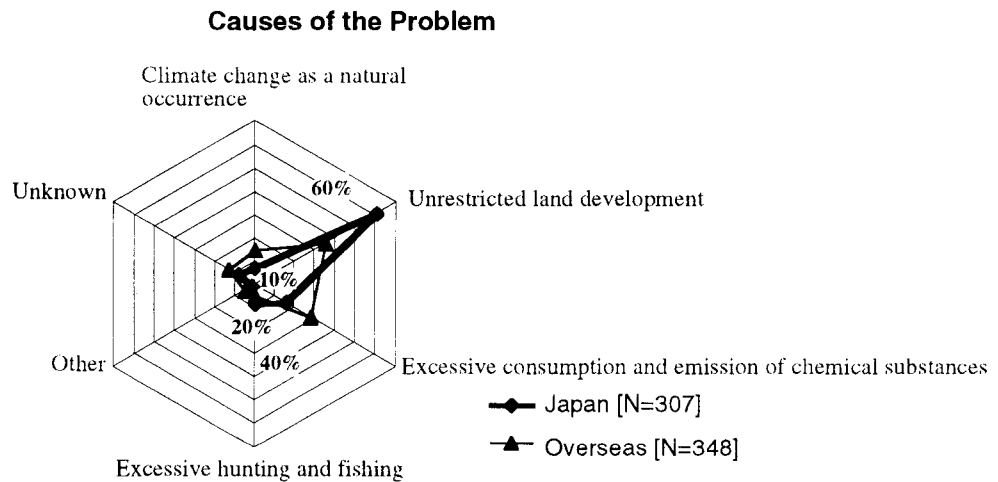
**Question3-4-2:** On which of the following will the item you chose in question 3-4-1, have the greatest influence? Please check one item that best reflects your point of view.

**Items on Which the Effects Will Be Most Significant**



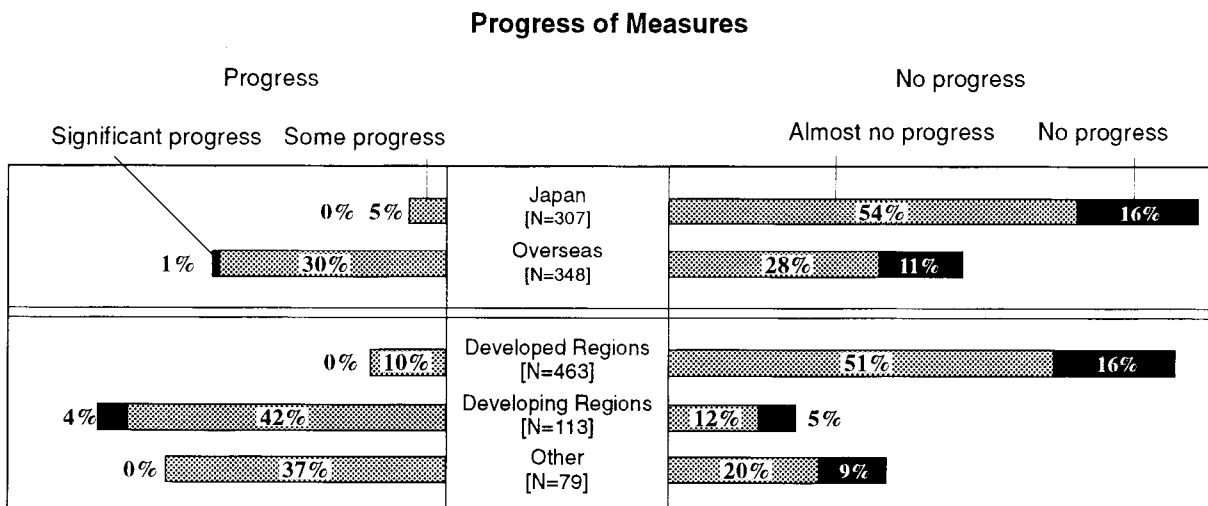
- The most frequently cited response among respondents from both Japan and overseas was “acceleration in the extinction of species and the disappearance of biodiversity,” exceeding 40% of all responses. 52% of respondents from Japan selected this issue, the highest among the regions.

**Question3-4-3:** What do you think is the primary cause of the destruction of ecosystems and biodiversity? Please check one item that best reflects your point of view.



- An overwhelming number of respondents from Japan selected “unrestricted land development” as the primary cause of the destruction of ecosystems and biodiversity, at 60%. In contrast, 35% of overseas respondents selected “unrestricted land development,” while another 28% selected “excessive consumption and emission of chemical substances.” “Excessive consumption and emission of chemical substances” was frequently cited in the Asian Four, the Rest of Asia, Africa, the Middle East, and Eastern Europe & former Soviet Union. (See p39 for data.)

**Question3-4-4:** How do you evaluate the progress of measures to preserve and restore ecosystems and biodiversity? Please check one item that best reflects your point of view.



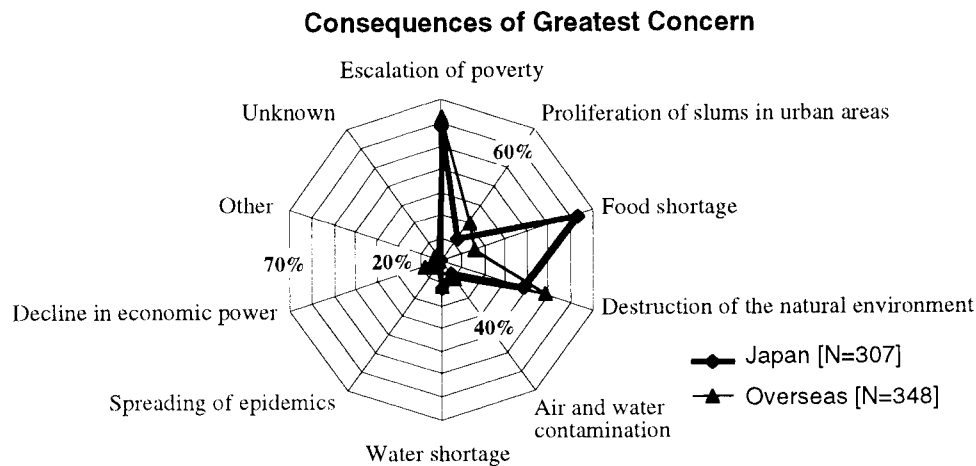
- Sixty Seven percent of respondents from developed regions stated no progress in the measures to preserve and restore ecosystems and biodiversity, greatly exceeding the 10% of respondents who stated there had been progress. In contrast, 40% of respondents from developing and other regions indicated progress had been made, exceeding the 20 to 30% who stated no progress, revealing a significant difference between the regions.
- In the Rest of Asia, more than 50% of respondents stated progress had been made. This was followed by the Middle East and Eastern Europe & former Soviet Union, where more than 40% of respondents reported progress, and Latin America and Africa, where more than 30% of respondents made this selection.

### 3-5. Population Problem

**Question3-5-1:** In your opinion, what population problem needs to be solved at a global level? Please circle one item that best reflects your point of view.

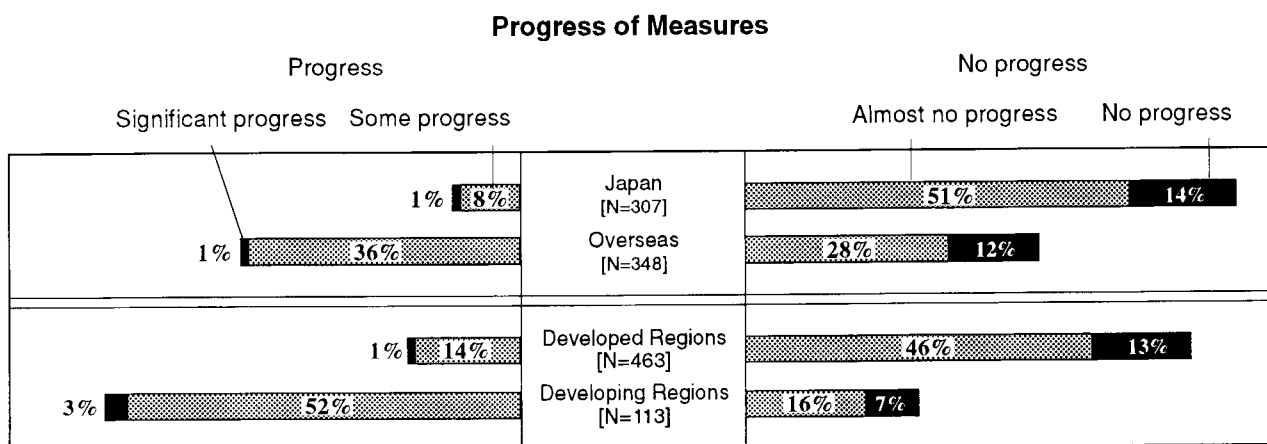
- A high percentage of respondents, with more than 70% from overseas and more than 90% from Japan, selected “explosive population growth in developing countries” as the population problem needing to be solved at a global level. On the other hand, “because population growth is expected to stop in the future, it is not particularly a problem,” was selected frequently in the Asian Four at 40%, in Eastern Europe & former Soviet Union at more than 20%, and in the Middle East and Western Europe at 14%.

**Question3-5-2:** What are the most concerning consequences of population growth? Please circle two items that you consider most significant.



- “Escalation of poverty” and “destruction of the natural environment” were frequently cited as the most concerning consequences of population growth by respondents from both Japan and overseas. However, it is notable that more than 60% of respondents in Japan also cited “food shortage.”
- On top of “Escalation of poverty” and “destruction of the natural environment,” “proliferation of slums in urban areas” was cited comparatively frequently by respondents in developing regions. (See p40 for data)

**Question3-5-3:** How do you evaluate the progress of measures to counter population growth at a global level? Please circle one item that best reflects your point of view.



- Overseas respondents were divided in their evaluation of progress of measures to counter population growth. Approximately 40% stated progress had been made, which was countered by a similar percentage who indicated no progress. In contrast, 65% of respondents from Japan stated no progress, greatly exceeding the 9% who reported progress.
- Responses from developed and developing regions showed opposite results. Four times as many respondents from developed regions stated no progress as those who reported progress, whereas twice as many respondents from developing regions indicated progress had been made as those who reported no progress. In particular, 69% of respondents from the Rest of Asia and 59% from Africa stated progress. (See p40 for data)

#### 4. ENVIRONMENTAL PROBLEMS AND THEIR PRIORITY—LOCAL ENVIRONMENTAL PROBLEMS (QUESTION 4)

In the section titled “Environmental Problems and Their Priority—Local Environmental Problems,” the questionnaire last year identified local priorities by region, as shown in the following chart.

Area	1st priority	2nd priority	3rd priority
Japan	Waste management	Urbanization	Energy
Asian Four	Waste management	Urbanization	Acid rain & air pollution
Eastern Europe & former Soviet Union	Waste management	Urbanization	Ecosystem
Middle East	Waste management	Urbanization	Desertification
Western Europe	Urbanization	Waste management	Ecosystem
U.S. & Canada	Urbanization	Global warming	Energy
Africa	Poverty	Waste management	Desertification
Rest of Asia	Poverty	Waste management	Population
Latin America	Deforestation	Poverty	Ecosystem
Oceania	Global warming	Ecosystem	Ocean & fresh water

<From page 13 of *Results of the 14<sup>th</sup> Annual “Questionnaire on Environmental Problems and the Survival of Humankind”*>

The questionnaire this year further probed respondents about these issues, and identified the following results. The following section contains descriptions and data of how respondents from different parts of the world perceive the region where they reside.

#### 4-1. Acid Rain/Air Pollution (Asian Four)

(See p41-42 for data)

Issues queried in the questionnaire:

**Question1:** Have acid rain and air pollution become environmental problems in the region/country where you reside ?

**Question2:** In what area does acid rain have the most impact in the region and country where you reside?

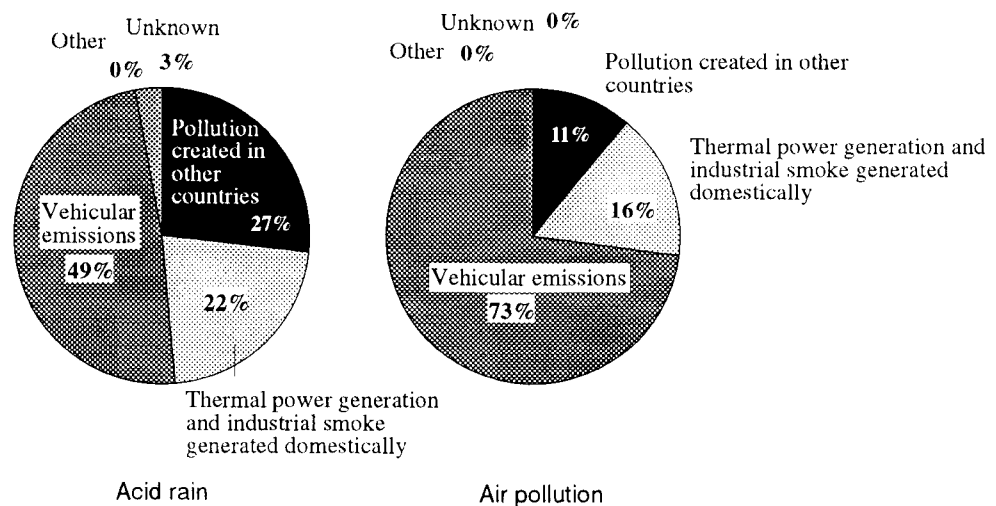
**Question3:** What do you think is the cause of acid rain in the region/country where you reside?

**Question4:** How do you evaluate the progress of measures to counter acid rain in the region/country where you reside?

**Question5:** What do you think is the cause of air pollution in the region/country where you reside?

**Question6:** How do you evaluate the progress of measures to counter air pollution in the region/country where you reside?

#### Cause of Acid Rain/Air Pollution (Asian Four [N=37])



- An overwhelming majority of respondents, at 89%, indicated both acid rain and air pollution had become problems. The primary cause was “vehicular emissions” (49% for acid rain, 73% for air pollution) and for acid rain at 27% of respondents indicated “pollution created in other countries.” Respondents selected “destruction of forests and the negative impact on forest ecosystems” (70%) and “direct impact on human health” (49%) as the most detrimental effects of acid rain.
- There were twice as many responses indicating no progress in the measures to counter air pollution (41%) as there were responses reporting progress (22%). “Cannot determine” and “unknown” combined constituted 60% of the responses to the same question on acid rain, making it unfeasible to determine a specific point of view from the region.

#### 4-2. Poverty (Rest of Asia, Latin America, Africa)

(See p42-43 for data)

Issues queried in the questionnaire:

**Question1:** What do you think are the causes of poverty when considering the issue?

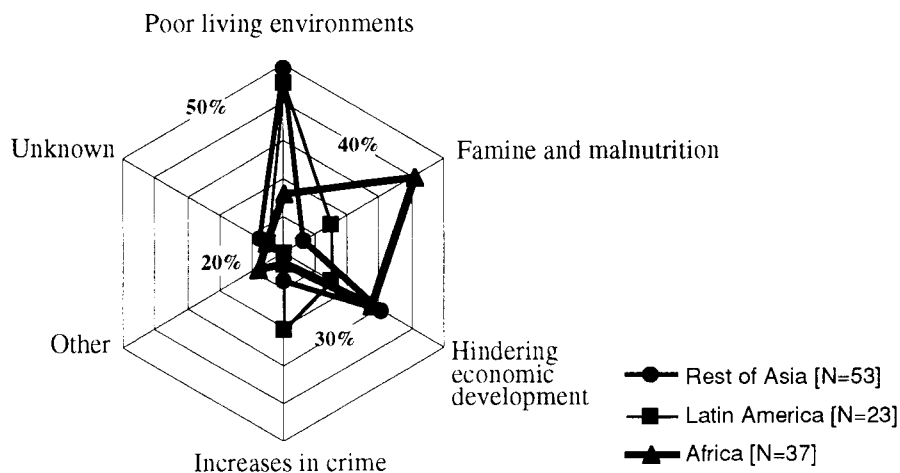
**Question2:** What is the most detrimental outcome poverty has caused?

**Question3:** How do you evaluate the progress of measures to counter poverty?

**Question4:** What is your perception about poverty?

- Poverty was an issue in each of the developing regions. While approximately 40% of respondents in all regions selected, “significant improvements are possible,” there was a comparable percentage stating “poverty will worsen from the current situation.” This was a recurring pattern across the regions.

#### Detrimental Outcome of Poverty



- Respondents from Latin America selected “political and economic environment” as the cause of poverty (43%) and stated “poor living environments” (45%) was the most detrimental effect of poverty. Respondents from Africa also selected “political and economic environment” as the cause (32%), and stated “famine and malnutrition” (41%) and “hindering economic development” (27%) were the most detrimental effects of poverty. On the other hand, while some respondents from the Rest of Asia selected “insufficient investment towards developing human resources” (19%) and “population growth” (13%), the largest percentage selected “unknown” (43%), making unclear the causes of poverty in the region. “Poor living environments” (49%) was the most detrimental effect of poverty in the Rest of Asia.
- Whereas the Rest of Asia indicated progress had been made (63%) in measures to counter poverty, more respondents in Latin America and Africa stated no progress (Latin America: 65%; Africa: 46%) than those who reported progress.



### 4-3. Issues Related to Ocean and Fresh Water Supply (Oceania)

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(See p43 for data)

Issues queried in the questionnaire:

**Question1:** What problem among the issues relating to ocean and fresh water supply do you think needs prioritization?

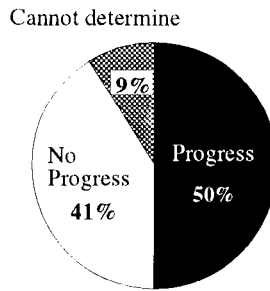
**Question2:** What detrimental effects are issues related to ocean and fresh water supply causing in Oceania?

**Question3:** How do you evaluate the progress in Oceania of measures taken to respond to issues related to ocean and fresh water supply?

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- Respondents raised “degradation and depletion of freshwater resources” (73%) and “diminishing marine resources for fisheries” (64%) as the water supply issues requiring prioritization.
- The effects of water supply problems included “damages to fisheries caused by diminished marine resources” (36%) and “degradation of resources for fisheries and tourism caused by the destruction of coral reefs” (32%).

#### The Progress of Measures (Oceania [N=22])



- Those reporting progress (50%) slightly exceeded responses stating no progress (41%), but the opinions were more or less divided when taking into account the respondents who stated, “cannot determine” (9%).

### 4-4. Deforestation (Latin America)

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(See p43-44 for data)

Issues queried in the questionnaire:

**Question1:** What is the most significant effect deforestation has caused?

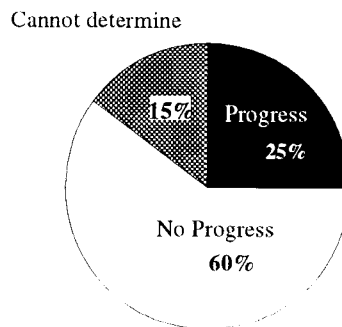
**Question2:** What do you think is the leading cause of deforestation?

**Question3:** How do you evaluate the progress of measures to respond to problems created by deforestation?

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- The causes of deforestation were attributed to “expanded use of land for agricultural purposes” (60%) and “excessive and/or illegal harvesting of wood” (55%). An overwhelming number of respondents selected “soil erosion, landslides, flooding” as the most detrimental effect (75%).

#### The Progress of Measures (Latin America [N=23])



- Responses indicating no progress (60%) in measures to respond to deforestation far exceeded the responses reporting progress had been made (25%).

#### 4-5. Desertification and Deterioration of Soil Quality (Africa, Middle East)

(See p44-45 for data)

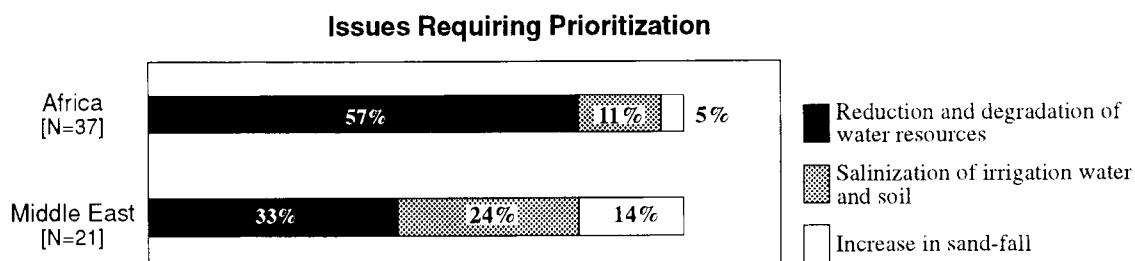
Issues queried in the questionnaire:

**Question1:** Within the issue of desertification and the deterioration of soil quality, what is the most important problem that needs to be prioritized?

**Question2:** What is the effect of desertification and deterioration of soil quality in your country, or what outcomes do you expect these problems to cause?

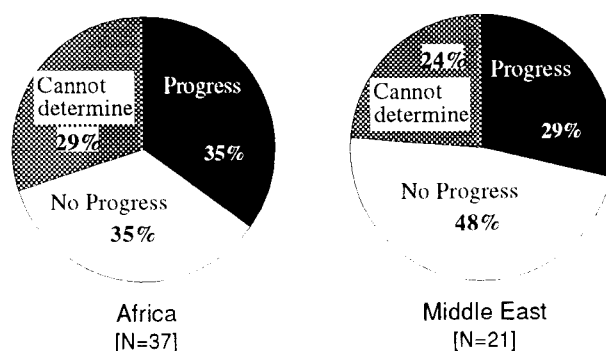
**Question3:** What do you think is the cause (man-made causes or unavoidable natural causes) of desertification and the deterioration of soil quality?

**Question4:** How do you evaluate the progress of measures to counter desertification and the deterioration of soil quality?



- In Africa, “reduction and degradation of water resources” (57%) was the most frequently cited issue requiring prioritization. Respondents there selected “uncontrolled development” (30%) and “excessive grazing” (22%) as the man-made causes, “climate change” (49%) as the natural cause, and “declines in agricultural production” as the most detrimental effect of desertification and deterioration of soil quality.
- In the Middle East, along with “reduction and degradation of water resources” (33%), “salinization of irrigation water and soil” (24%) was also raised as an issue, revealing regional differences. “Uncontrolled development” (52%) was cited as the man-made cause of desertification and deterioration of soil quality there, and “climate change” (38%) as well as “wind erosion” (29%) were selected as the natural causes, reflecting a regional difference in natural phenomenon. Respondents in the Middle East also selected “declines in agricultural production” (38%) as the most detrimental effect of desertification and deterioration of soil quality.

#### The Progress of Measures



- Opinions among respondents in Africa were divided, with approximately the same number of respondents indicating progress had been made (35%) as those who reported no progress (35%) and those who selected “cannot determine” and “unknown” (29%). In the Middle East on the other hand, respondents stating no progress (48%) exceeded those who reported progress (29%).

#### 4-6. Waste Materials/Recycling (Japan, Western Europe, Asian Four, Rest of Asia, Africa, Eastern Europe & former Soviet Union, Middle East)

(See p45-46 for data)

Issues queried in the questionnaire:

**Question1:** In the region/country where you reside, what problem regarding issues of waste material management should be prioritized for a response?

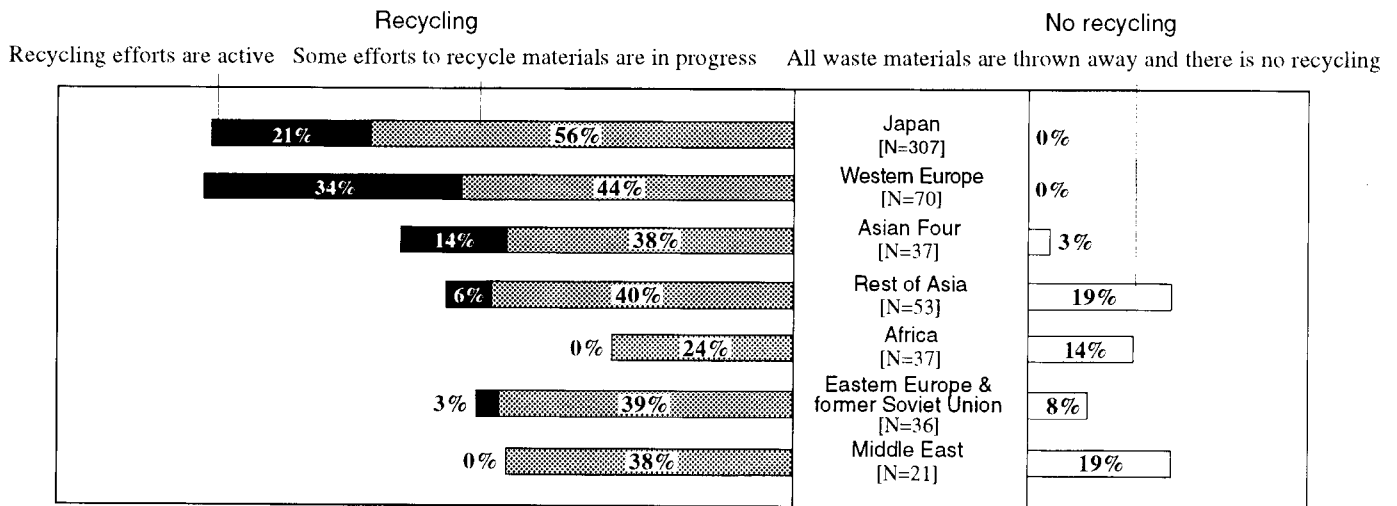
**Question2:** In your opinion, what is the most detrimental effect waste materials create in the region/country where you reside?

**Question3:** Of the 3 Rs (Reduce, Reuse, Recycle), how do you evaluate the level of recycling endeavors within the region/country where you reside?

**Question4:** How do you evaluate the progress of measures to respond to problems created by waste materials in the region/country where you reside?

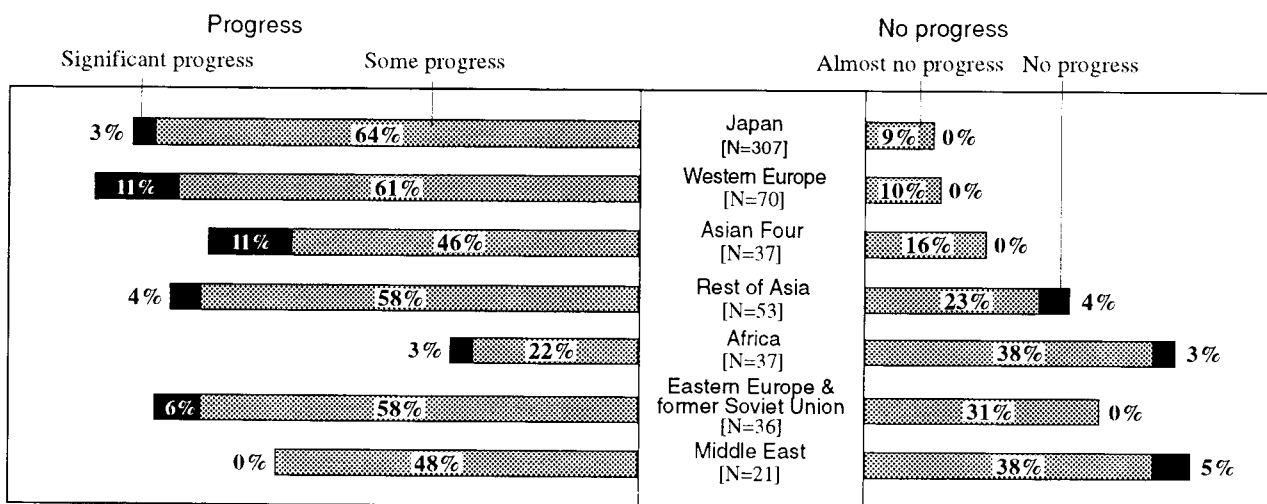
- Respondents from most regions selected “household waste” and “industrial waste” as the waste material problem requiring prioritization. Of those, many in Japan and the Asian Four cited “industrial waste” (Japan: 73%; Asian Four: 70%). In addition, a comparably high number of respondents in the Asian Four and Western Europe also cited “toxic and hazardous substances” (Asian Four: 54%; Western Europe: 46%).
- A high percentage of respondents from the Middle East and Africa selected “negatively impacts health and well being” (Middle East: 62%; Africa: 62%) as the most detrimental effect created by waste materials in their region. A comparably high number of respondents in the Asian Four, the Rest of Asia, and Eastern Europe & former Soviet Union also selected “negatively impacts health and well being.” Additionally, also frequently cited was “degrades living environments” in Japan, Western Europe, and the Rest of Asia (Japan: 43%; Western Europe: 53%; Rest of Asia: 47%) and “life threatening” in the Asian Four and Japan (Asian Four: 35%; Japan: 26%).

### Level of Recycling Activities



- Recycling has begun in most regions. Respondents from Western Europe had the highest rate of responses for “recycling efforts are active,” at 35%, followed by Japan, at 21%. When combining the number of respondents who stated “recycling efforts are active,” and “some efforts to recycle materials are in progress,” the total exceeded 70% in Western Europe and Japan.

### The Progress of Measures to Counter Waste Problems



- More than 40% of respondents from Africa and the Middle East stated no progress in the measures to respond to problems created by waste materials, whereas more than 50% of respondents from all other regions reported progress. Western Europe and Japan, where many respondents stated “recycling efforts are active,” also had a high proportion of responses indicating progress in this area.
- Africa offered a distinct case. An overwhelming number of respondents selected “negatively impacts health and well being” (62%) as the most detrimental effect of waste materials, revealing a marked difference from other regions. However, 49% indicated “recycling has only just begun,” with 0% stating “recycling efforts are active,” and “some efforts to recycle materials are in progress” also limited to 24%. Responses regarding the progress of measures also reflected this reality, making Africa the only region where the observation that there has been no progress (41%) exceeded those stating progress had been made.

## 4-7. Urbanization/Transportation Problems (Japan, United States & Canada, Western Europe, Asian Four, Eastern Europe & former Soviet Union, Middle East)

(See p46-47 for data)

Issues queried in the questionnaire:

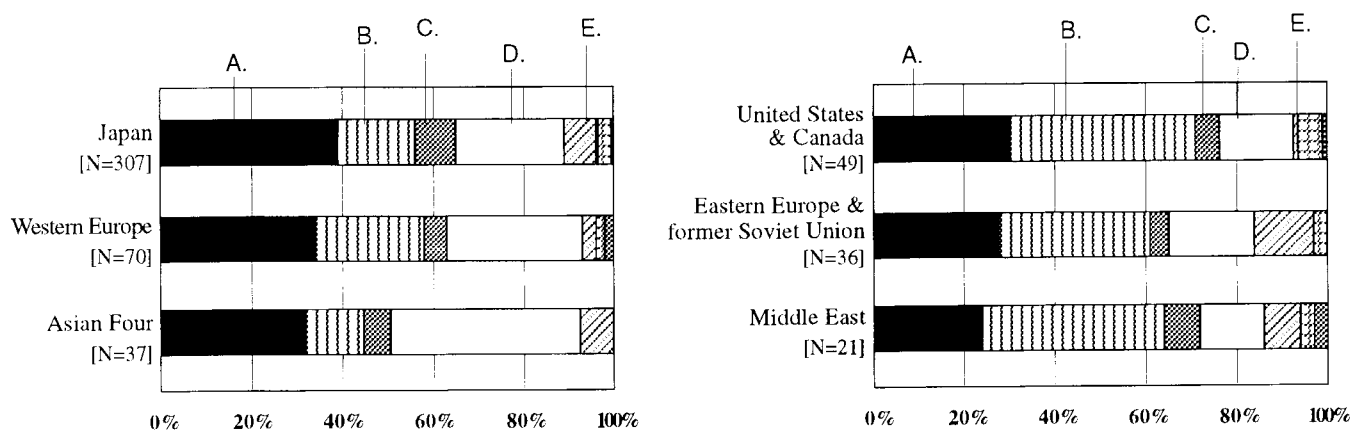
**Question1:** In the region/country where you reside, what problem regarding issues of transportation should be prioritized for a response?

**Question2:** In the region/country where you reside, what problem regarding issues of urban environmental problems) should be prioritized for a response?

**Question3:** From the following list of urban infrastructures, what are significant relationships with urban environmental problems in the region/country where you reside.

**Question4:** How do you evaluate the progress of measures to respond to urbanization and transportation problems in the region/country where you reside ?

**Transportation Problems Requiring Prioritization**



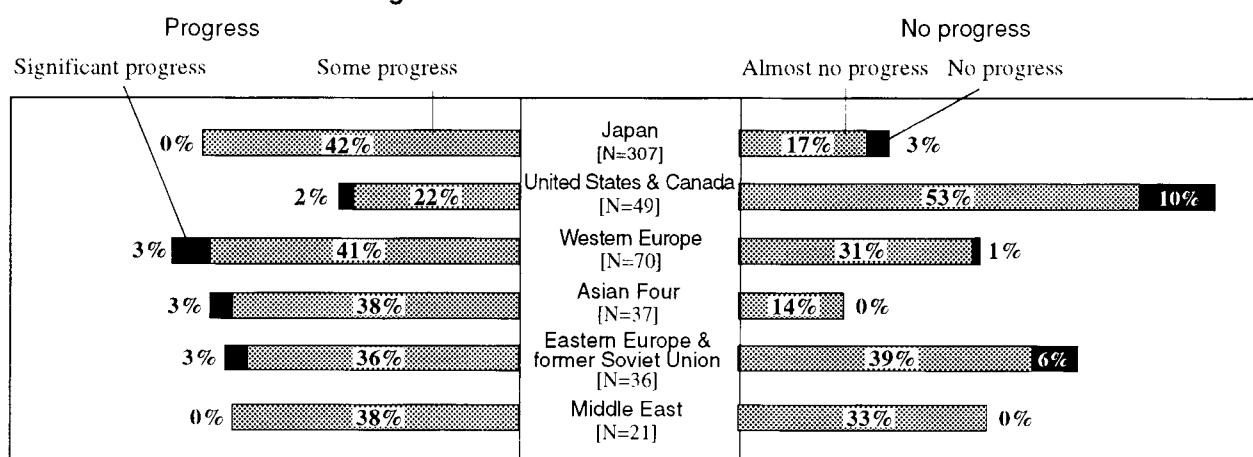
- A. Congestion and other obstacles to transportation created by an excessive concentration of automobiles
- B. Insufficient/poor quality of public transportation and distribution infrastructure, e.g. networks of roads and railways
- C. Decline in convenience and comfort of public transportation due to overcrowded conditions
- D. Environmental destruction, e.g. air and noise pollution caused by transit vehicles
- E. Frequent incidence of accidents and disasters caused by excessive numbers of transportation vehicles

Notes: Please note that the totals for the various regions should add up to 200% since respondents were asked to select two items. However, some respondents marked less than two items, causing the aggregate total to be less than 200%. Hence, the calculations here were performed on the basis of 100%.

- Respondents from all regions where transportation problems were a local environmental issue frequently identified “congestion and other transportation obstacles created by excessive concentration of automobiles” as the issue requiring prioritization. In addition, respondents from the Asian Four, Western Europe, and Japan frequently cited “pollution caused by transit vehicles,” whereas those in United States & Canada, the Middle East, and Eastern Europe & former Soviet Union often identified “insufficient/poor quality of public transportation and distribution infrastructure.”
- Responses showed regional differences regarding which urban environmental problem required prioritization. The following is a listing of responses regarding the issue and infrastructure to be prioritized, by region.
  - Respondents in United States & Canada selected “urban sprawl” (80%) as the most pressing issue, with the infrastructure to be prioritized including “development and maintenance of transportation infrastructure” (69%) and “energy supply” (45%).
  - In Western Europe, respondents selected “urban sprawl” (51%) and “air and noise pollution” (40%) as the most pressing issues, with the infrastructure to be prioritized including “development and maintenance of transportation infrastructure” (73%) and “energy supply” (37%).
  - In Eastern Europe & former Soviet Union, respondents selected “disappearance of greenery and natural environments” (47%) and “increase in waste” (42%) as the most pressing issues, with the infrastructure to be prioritized including “development and maintenance of transportation infrastructure” (64%) and “development and maintenance of waste processing facilities” (58%).
  - Respondents in Japan selected “increase in waste” (64%) and “disappearance of greenery and natural environments” (51%) as the most pressing issues, and cited “development and maintenance of waste processing facilities” (72%) as the number one infrastructure to be prioritized.
  - In the Asian Four, respondents cited “air and noise pollution” (65%) as the most pressing issue, and “development and maintenance of transportation infrastructure” (76%) as the infrastructure to be prioritized.

- In the Middle East, “increase in waste” was the most frequently cited problem; however, most other items were also selected as an issue needing prioritization, with little difference in the number of responses. “development and maintenance of transportation infrastructure” (57%) was the most frequently cited infrastructure needing prioritization; however, “development and maintenance of waste processing facilities” (38%) and “water supply” (38%) were also comparably high.

### The Progress of Measures to Counter Waste Problems



- In United States & Canada and Eastern Europe & former Soviet Union, more respondents stated no progress in the measures to respond to urbanization and transportation problems than those who reported progress. In contrast, respondents reporting progress exceeded those stating a lack thereof in Japan, Western Europe, the Asian Four, and the Middle East. Additionally, approximately 40% of respondents from Japan and Western Europe stated they “cannot determine” the level of progress.

### 4-8. Preservation and Restoration of Ecosystems and Biodiversity (Western Europe, Latin America, Oceania, Eastern Europe & former Soviet Union)

(See p47-48 for data)

Issues queried in the questionnaire:

**Question1:** What do you consider as the most important environmental issues requiring a response with regards to preserving and restoring ecosystems and biodiversity?

**Question2:** For the item you chose in question 1, which of the following will have the greatest influence?

**Question3:** What do you think is the primary cause of the destruction of ecosystems and biodiversity?

**Question4:** How do you evaluate the progress of measures to preserve and restore ecosystems and biodiversity?

### Issues Requiring Prioritization

	Western Europe (70)	Latin America (23)	Oceania (22)	Eastern Europe & former Soviet Union (36)
Decrease of habitats, including deforestation and agricultural land development	54	70	41	50
Decrease of species	30	13	14	19
Destruction of traditional ecosystems due to the introduction/ invasion of foreign species	14	39	59	19
Negative impact of pollutants created by human activities, including the overuse of nutrients and fertilizers	49	30	36	58
Decrease of resources for agricultural and marine production	21	17	23	8
Other	7	9	0	3
Unknown	9	0	14	14

Notes: Figures enclosed by a double circle represent the answer with the highest number of replies.

A single circle is used for the answer with the second highest number of replies.

Please note that the totals for the various regions should add up to 200% since respondents were asked to select two items. However, some respondents marked less than two items, causing the aggregate total to be less than 200%.

- In Eastern Europe & former Soviet Union, respondents selected “negative impact of pollutants created by human activities” (58%) as the most pressing issue. Respondents attributed the causes to “unrestricted development” (44%) and “excessive consumption and emission of chemical substances” (31%) with the most significant effect being “deterioration of air and water quality” (33%).
- In Oceania, respondents stated “destruction of traditional ecosystems due to the introduction/invasion of foreign species” as the most pressing issue. They attributed the cause to “unrestricted land development” (44%), with the most significant effects being “deterioration and decrease of freshwater resources,” (27%) and “acceleration in the extinction of species” (18%).
- In Latin America, respondents cited “decrease of habitats” (70%) as the most pressing issue. They attributed the cause to “unrestricted land development” (52%), with the most significant effects being “increasing frequency of abnormal regional and local weather conditions” (26%) and “acceleration in the extinction of species” (26%).
- In Western Europe, respondents cited “decrease of habitats” (54%) as the most pressing issue. They attributed the cause to “unrestricted land development” (41%), with the most significant effect being “acceleration in the extinction of species” (30%).
- In Western Europe and Oceania, approximately 60% of respondents stated progress had been made, far exceeding those indicating no progress. In Eastern Europe & former Soviet Union, nearly 50% of respondents stated progress had been made, slightly exceeding the responses reporting no progress. In contrast, more than 50% of respondents in Latin America stated no progress, exceeding the 35% who reported progress.

## IV. Comments from Respondents

This year's questionnaire elicited a total of 210 free comments, including 97 from 47 countries outside Japan and 113 from Japan. The respondents kindly commented on the state of environmental problems in various regions worldwide and thought of policies and ideas for alleviating environmental problems. Some comments also contained suggestions and requests for future survey questions, which we will gratefully take into consideration in designing the next questionnaire. Owing to space considerations, we are only able to list a portion of the comments, including 22 representing 34 countries and 25 from Japan. The name (excluding title), organization, country and processing number of the respondent is included with the comment. Comments from respondents requesting anonymity are marked with an M or F to denote male or female.

### Comments from overseas

I would like to make a big change in lifestyle to reduce my environmental footprint. Current lifestyles are not sustainable. It is hard to make that kind of change as a working mother.

*F, ASIA 006*

The main negative impacts on the environment are caused by interactions, not by single issues. For example, population growth combined with growing desires to have a high material standard of living causes damage to the environment, not just population growth alone. The main impact of energy scarcity will be to reduce the viability of large cities and to give incentives for use of nuclear weapons.

*M, North America 019*

In most African countries, the use of non-biodegradable materials and pesticides without proper handling of the toxic substances is very high. There is a pressing need to let the societies be aware of the outcomes of these activities. In some African societies, the wealth of an individual is determined by the size of the family he has. You can even find a man with 10 wives and more than 40 children in some societies. Thus family planning should be preached in such societies.

*Mr. Leonard Jones Chauka, Institute of Marine Sciences, TANZANIA 043*

The first and foremost important thing is to bring/raise awareness of the people at all levels about environmental problems. This is still very much lacking in the majority of communities in Asian countries.

*M, AIT, THAILAND 050*

Human existence creates its own problems and humans must develop solutions for them. Some progress is being made despite mankind's egoistic and undisciplined approach to life. Only when problems have become much more threatening to human existence will humans exercise sufficient discipline (and self discipline) to conquer them.

*M, Retired, U.K. 051*

The population explosion, coupled with excessive air travel and global warming, will inevitably result in the increase of disease (especially viral and prion infections) to which humans will become increasingly less resistant as environmental conditions and food shortage are exacerbated by climate deterioration.

*Mr. J. M. Cloudsley Thompson, Emeritus Professor, University of London, U.K. 055*

People of the developing countries want to attain the standard of living enjoyed by those in the "western countries" – and why not? The problem is, we cannot all have that standard of living. It will bankrupt the planet environmentally. However, I doubt "westerners" will give up their ecological-footprint willingly, so that others in poorer countries can have a little more. We have a huge dilemma.

*F, Contractor, Gisborne District Council, NEW ZEALAND 074*

Global warming, desertification, melting of polar ice are signs of danger that is to happen in the future. There is lack of leadership to solve the problem globally. We are slowly but surely moving to our doom. By the time leaders are aware of the problems it might be too late.

*Mr. Mesfn Giorhs, Bureau of Finance and Economic Development, ETHIOPIA 117*

About waste materials management, lot of progress has been made in my country (Senegal) by the National Environment Department to solve this problem, and to fight the deterioration of environment for the best quality of life.

*Mr. Pathe Balse, Direction de Environment et Etablissements Clanes, SENEGAL 118*

Biodiversity conservation through people's participation. People in developing countries are much more vulnerable to effects of environmental degradation because they often directly depend on the land. Environmental

disasters are major problems – Save environment & save life.

*M, G.B. Pant Institute, INDIA 129*

I find the problems all come back to over-population of cars. It causes too much driving, sprawl, over-consumption, pollution, over-consumption of valuable fossil fuels, inequality, loss of community, disenfranchisement of young and old (who don't drive). The switch from private car ownership to collective car ownership and sharing is the way to go. Look at the car-sharing movement.

*Mr. Chris Bradshaw, Vice President, Vrtucar, CANADA 142*

Individuals need to feel greater responsibility for their actions; governments need to step in and provide more incentives and regulations; and people everywhere need to understand the basics of population growth.

*F, CANADA 146*

Thirty years ago we were witnessing television programs advising us that the global environment was deteriorating. In the early to mid 1980s these programs proliferated and we were being increasingly warned about ozone depletion, deforestation, climate change, toxic pollution of water air and land, loss of biodiversity etc. Earth summits came and went, the world shifted focus, we invaded and were invaded, terrorism raised its head and over time the environmental movement lost its edge and governments lost their will. Now, in a typical thirty year change cycle, we are being bombarded again as noted figures such as David Attenborough warns us of global perils and there is a new-old movement to living simply and lightly on the planet as latter day hippies leave town and set up composting toilets, wind turbines and solar collectors, grow their own and revive good old fashioned values. Are we doomed to move in cycles of repetition or can we not shift focus and make whole, lasting and permanent changes?

*Ms. Carole Douglas, Director, Desert Traditions, AUSTRALIA 149*

Poverty is the principal problem that leads to, for example, deforestation, over fishing and poor living conditions. In Latin America, it should be top priority to alleviate poverty.

*Mr. Francisco J. Lozano, Tecnologico de Monterrey, MEXICO 151*

As I see it, the main global problem is the universal unwillingness to accept that economic and population growth are the main causes of the environmental crisis. The consequence of this is that the measures being adopted are not commensurate with the scale of the problem.

*Mr. J. G. Mosley, Principal, Peak Environmental Enterprises, AUSTRALIA 156*

Global and national environmental and social considerations in the US and abroad are being held hostage by the inane, international militaristic policies of the current US President and his lackeys.

*Mr. Gene M. Owens, Exec. Director, Eco-Share Group, U.S.A. 167*

Israel is a model for turning the desert green. We are willing to teach others. It is a shame that prejudice against us causes people to refuse our help.

*Dr. F. Leavitt, Centre for Asian and International Bioethics, ISRAEL, 175*

Population control, reducing the number of automobiles produced all over the world especially in developing countries and China, replacing plastics with some other things like cloth, stopping military actions and wars and increasing the level of education are the most important tasks have to be done.

*M, Managing Director, Taravat Bahar Environmental Institute, IRAN 184*

1. All developmental activities must have environmental approach.
2. Any development activity must be with consent and participation of local people.
3. Development should be sacrificed for environment, when there is need.

*Dr. Sundara Narayana Patro, Director, HONEST, INDIA 202*

In Latin America the environmental problems are known. However, the lack of resources (human, financial and technical) results in limited activities to correct these problems. In addition, there is a preference towards economic development rather than environmental conservation and management and as such the environment is often neglected.

*M, Environmental Protection Agency, GUYANA 208*

Climate change is a disease that has hit mother EARTH – like HIV-AIDS is to humans, we don't know the disease is worsening, we refuse to believe, we have yet to find a cure, we don't agree to a united change, we rely on hope our common good, vs. you and me. Entropy prevails unless we fight our very own environmental problems, which are ours domestically.

*Mr. Peuanina Learai, Ministry Natural Resources, Env-Meteorology, SAMOA 222*



As always, my primary environmental concern is the proliferation of nuclear weapons. It is apparent that they will become much more widely available in the near future. If this is the case, I think it is inevitable that they will be used and unprecedented environmental destruction will be the consequence. Whole countries or continents could be rendered uninhabitable in a matter of minutes. Environmental scientists and public health officials must recognize this threat and should take steps to do what can be done to prevent the spread and use of nuclear weapons. The first step is to acknowledge the threat and to clearly see how close we are coming to global catastrophe.

*Mr. Andrew B. Lindstrom, Research Scientist, U.S. Environmental Protection Agency, U.S.A. 228*

If you have the same sun energy and you increase the population and the quality of life, then as a consequence you need additional energy; this additional energy can be obtained by fossil carbon, by nuclear power plants, by elimination of other species, by wars, and so on. No solution if the population following growing and bad solution if the level of life-style continues increasing.

*Mr. Juan F. Gallardo Lancho, Spanish Ministry of Education & Science, SPAIN 230*

Environmental problems give rise to poverty. In Africa, particularly Ghana, there are many people living in poverty. They have not been empowered to confront their poor status and they continue to degrade the environment. This is because the environment is their source of life, it is the wealth of the poor. The rich also degrade the environment but they are rich and can find other sources for their livelihood. Empower the poor to confront their status and to use environmental resources sustainable.

*Mr. Redeemer Kowu, Director, Environmental Protection Agency, GHANA 236*

There are many laws for protecting environment in some countries like Mauritania but the problem is that they are never applied; and this must deserve sanctions from United Nations special agencies.

*Mr. Cheikhna A. Aidara, Coordinator, APEM, MAURITANIA 239*

Plant resources conservation related to water, energy and agriculture should be the concern of the world if human population should survive.

*F, NATURINDO, INDONESIA 253*

I am a Kenyan environmentalist, a 1990 UNED GLOBAL 500 Laureate. In SSA (Sub-Saharan Africa-) poverty links greatly with environmental degradation for majority people in SSA survive by degrading the environment – Hence poverty becomes a major contributor to environmental degradation in SSA.

*Mr. Michael A.N. Odula, Exec. Director, (Environment) Cape-Kenya, KENYA 259*

Destruction of ecosystem e.g. through land subdivision in semi-arid pastoral areas will put to an end the intricate traditional grazing cycles and put into disorder the natural way of life. The subdivision will also affect wildlife migration, encourage cultivation and introduce other lifestyles incompatible with wildlife conservation in the Savannahs.

*M or F Unknown, Consultant Wildlife Monitoring Expert, Amboseli Tsavo Gamescout Association, KENYA 261*

Freshwater issues are being addressed in Australia. Over exploitation of marine resources is my major concern – especially illegal fishing that compromises Australian efforts to manage its fisheries.

*Dr. Bradford Sherman, Senior Research Scientist, CSIRO Land and Water, AUSTRALIA 269*

I think that if we don't make something to stop climate change, the other measures that we are taking to stop some other environmental change will be incidental.

*Mr. Turan, Ministry of Environment & Forestry, TURKEY 273*

Living with less environmental impact requires lifestyle change; reduce dependence upon long-distance transport of goods (mainly food) and people; more emphasis on local food production. In Canada, very wasteful energy projects (e.g. far sands) are being developed in anticipation of increased dependence upon hydrocarbons.

*Mr. Chaslie Roots, Scientist, Federal Government, CANADA 280*

The causes for desertification, deforestation and land degradation is based in the important problem: the dictatorial political regimes in Africa. Because it causes their poverty and migrations, no progress environment, no progress health, etc.

*M, NGO (Tierra Viva), GUINEA ECUATORIAL 292*

In view of colossal degradation in the quality of man-land relationship in greater part of the world, leading to ever increasing environmental degeneration, poverty and pathetic socio-economic disparities, it is imperative on the part of homo sapience to launch a multi pronged crusade in order to ameliorate such relationship through a synergetic, and symbiotic approach to achieve sustainable development for social progress, economic growth and environmental protection on the planet.

*Dr. R.V. Verma, Director, Institute for Regional Development Studies, INDIA 298*

Oceania suffers from the global environmental impacts of industrialized countries – who pollute the air and the sea with their chemicals – climate change has caused massive sea-level rises which has eroded small island countries, and when the tide is low it is so low that the coral and water life is exposed to the sun.

*Ms. Maria Kerlake, Dean, Faculty of Arts, Academic-Higher Institute, SAMOA 307*

### **Comments from Japan**

It is par for the course for the earth's environment and nature to go through changes. For certain nature conservancy groups to blindly advocate maintaining the status quo or a return to the past is to go against the laws of nature.

*Yu Nakamura, JAPAN 003J*

Although global environmental problems are an issue faced by all of mankind, I believe it will be difficult to resolve them unless the poverty in developing countries, centering in Africa, is first alleviated. The problems of urban waste management and transportation, characteristic of developed countries, can be resolved by developed countries themselves where financial resources are abundant and environmental awareness is high. On the other hand, although the problems within impoverished countries often spring from internal political causes, countries around the world need to aggressively support nation-building efforts to allow these countries to sustain themselves economically. I believe it is important to build the basis upon which developing countries will be able to pay heed to global environmental problems.

*M, United Nations Environment Programme International Environmental Technology Centre, JAPAN 021J*

I wish environmental preservation and resource conservation are taught as rigorously, if not more, than emergency drills at elementary, middle, and high schools. I also wish such training is transferred abroad so that the earth is protected.

*M, JAPAN 039J*

As the world's population exceeds 6.5 billion and disparities emerge at a global scale, some say there would have to be two more planet Earths, for a total of three, if all human beings are to equally have the same living standards as those prevailing in developed countries. Keeping this in mind, how we answer the question before all of us—"Can we be responsible for the state of the Earth in 100 years?"—is the essence of today's environmental problems.

*Hisashi Nitta, JAPAN 040J*

For global warming countermeasures (to become effective) and to build a society that recycles and reuses resources, it is essential to engage not only corporations but also the lifestyles of each individual. I think it is also necessary to develop a field of study about the effects on ecosystems.

*M, IBM Japan, JAPAN 080J*

What efforts have the national and local government, and citizens made in order to meet the greenhouse gas reduction goals since Japan ratified the Kyoto Protocol? There were many people welcomed the ratification of the protocol, but it seems extremely difficult to meet the objectives. I surmise many people don't even recognize what needs to be done in order to meet those goals. We don't even hear about specific recommendations to meet the goals from environmental experts who advocated loudly the ratification of the protocol. What does each individual citizen need to do in order to meet the goals, and perhaps, we need to make some sacrifices and be ready to accept some inconveniences. Little time is left. Relying on emissions trading is not a true answer.

*Hiroshi Nasu, JAPAN 089J*

Solving the issue is becoming more problematic as it is becoming more and more difficult to gain a national consensus on lowering the quality of consumer life. It seems that the key is how to strike a balance with the economy. I believe Japan has an important role to fulfill, including coordination with countries like China who relegate the environment to secondary importance using "they are on course to catch up" as their excuse.

*M, Ichihara City Hall, JAPAN 112J*

Environmental problems have gone beyond what can be resolved from an end-of-the-pipeline approach. What we need is not something as simple as lifestyle changes, but rather policies regulating consumption, and there is a strong need to begin the debate about what shape that might take. If economic activities are part of the true nature of human beings and is the cause of environmental problems, it is necessary to aim for a fundamental paradigm shift at the microeconomic level, instead of thinking about policies at the macroeconomic level and paying lip service to win-win situations between the economy and the environment.

*Hajime Oshitani, Professor, Department of Regional Environmental Studies, Rakuno Gakuen University, JAPAN 124J*

Resolving individual environmental problems symptomatically will not only not lead to solving other problems, but rather has the potential to accelerate them. In order for nature and human society to each become sustainable

with the other, I think it is necessary to comprehensively and fundamentally rethink and transform the lifestyles that people have built, the rules of society, and industry.

*Yoshitsugu Kunimatsu, Former Governor, Shiga Prefecture, JAPAN 127J*

The majority of the destruction of the earth's environment is thought to be caused by human activities. I think governments around the world should strengthen their education to protect the global environment and put them into place.

*M, Mainichi Newspapers, JAPAN 130J*

Based on the frequency by which we directly and indirectly experience various global scale problems such as aberrations in weather, water problems and food problems, I believe the starting point is to have as many people as possible rethink and change their lifestyles, such as conserving energy, and place the emphasis not on physical time but on biological time.

*M, Chubu Electric Power Company, JAPAN 137J*

Although global warming is an extremely important issue, I believe what is more urgent is to solve the world's water problems, and to decrease the number of diseases and deaths caused by water, which primarily affect children. Additionally, the effect on agriculture and food shortage is another issue of great importance to Japan, which is an importer of food.

*Kimitake Masato, Director, Department of the Environment, Suntory Ltd., JAPAN 141J*

Although it seems our government feels as though they have fulfilled their part through the "Cool Biz" program, our country's government, as well as industry and academia, need to strengthen their efforts from a global perspective. In doing so, the most important task is to determine how to persuade China and the United States to engage in these measures. I painfully feel the need for our country to strengthen our strategies towards the two countries, including voicing our opinions and convincing them.

*Tsutomu Yamaguchi, Chairman and CEO, Examination Center for Electrical Engineers, JAPAN 143J*

Nine years have passed since the environmental conference at Kyoto. Although the situation has moved forward with the Kyoto Protocol going into effect and systems like emissions trading are beginning to be utilized, I feel we are far from the end of the tunnel in achieving a fundamental solution to environmental problems. The eruption of industrial pollution accompanying Chinese development, the crisis in the Sea of Japan, and the realities of environmental and human destruction accompanying war teach us that environmental problems cannot be solved through a superficial arrangement to trade benefits and damages negotiated at a table. I believe there is an even greater need for a widespread recognition to undertake global solutions that surpass national borders.

*Michiyoshi Furuichi, Office of the President, Japan Atomic Power Company, JAPAN 150J*

Environmental conservation in countries with immense population sizes and growth, primarily China and India, is essential. Also crucial is to eliminate excessiveness in the daily life of people in developed countries, and to make widespread the ideas "wasteful," "pity," and "giving."

*Sekio Higuchi, General Secretary, Society of Automotive Engineers of Japan, JAPAN 153J*

I question whether or not it is possible to solve global environmental problems under the current capitalist system. I believe there is a need to seriously consider an environmental economy, an economic system that prevents the deterioration of the environment in which mankind and life forms exist.

*Toru Kashima, Technical Director, Mitsubishi Materials Environmental Center, JAPAN 156J*

It is a regrettable fact that desertification is advancing, and poverty caused by water and food shortages is becoming a source for terrorism, resulting in great environmental destruction through war. I think there is no question about the urgent need for a stable supply of water, food and electricity in regions suffering from desertification, like the Sub-Saharan region. Furthermore, it seems to be a reality in countries where information disclosure is insufficient that environmental contamination is hidden from the public eye, and it is only after it spreads to a wider region that people find out about the problem. I feel that there is even more need for a well-balanced, global scale international cooperation that leaves no one behind, including the oil producing countries where environmental awareness has been fast growing in recent years.

*Naoshi Okumura, Japan External Trade Organization, JAPAN 165J*

It is necessary to cultivate a recognition on the finite and scarce nature of the resources necessary for the sustenance of mankind, including energy, water, and minerals. There also needs to be an ongoing, composed, and objective dialogue about the various long-term scenarios (as opposed to a dogmatic pursuit of blame), transforming the recognition into something commonly shared by all, regardless of the stage of development the country is in.

*Setso Iuchi, Director, Recycling Promotion Division, Ministry of Economy, Trade and Industry, JAPAN 170J*

I constantly feel that the recent aberrations in weather and natural disasters are manifestations of the effects of global warming. But I think that such recognition and a sense of crisis is lacking in society, which I question. It begs for more aggressive publicity efforts and educational activities on the part of public institutions, educational institutions, and the media.

*Tsutomu Mizutani, JAPAN 195J*

Global environmental problems in our country, for example, energy problems, need to be pursued with a long-term strategy in place. It seems what needs attention in this case are the food and energy problems of China and India. China, in particular, appears poised to control the world's resources on the back of their rich foreign exchange reserves. Our country needs to once again carefully reconsider how it will secure its own clean source of energy.

*Kiyoshi Fujimoto, Department of Environmental Strategies, Ministry of Agriculture, Forestry, and Fisheries, JAPAN 200J*

There needs to be aggressive environmental education in order to cultivate recognition for the finite nature of the Earth's environment, and to encourage reconsideration of the premise of maintaining current lifestyles and growth. In addition, measures such as tax credits need to be adopted so that environmentally friendly lifestyles have a high financial reward. It is essential for our country to make international contributions that exhibit a leadership role in solving global environmental problems by contributing our experience with pollution, and transfer our knowledge and energy conservation technology to countries like China and India, which will have a large effect on the Earth's environment in the future.

*M, Center for Food Quality, Labeling and Consumer Services, JAPAN 242J*

Despite the continued deterioration of the Earth's environment, starting with climate change, I find that interest in global environmental problems have stagnated and faded both globally and locally. For example, there is a mountain of issues waiting to receive attention and be acted upon from the standpoint of global environmental problems, like the disturbances of war, the imbalance of marine life, and the intensification of natural disasters. But active movements drawing the attention of the whole world, like those during the 20<sup>th</sup> century, have ceased to occur. At the same time, the mountain of problems have become fragmented and specialized, and while there have been some progress in economic activities like scientific technologies, it seems that generally, all of the attention has become focused on global warming, poverty and population problems. I believe developed countries in particular should promote the development of new concepts like compact cities and compact life.

*Michiko Imai, President, Le Verseau Inc., JAPAN 278J*

Global environmental problems, in particular, global warming, is a crucial subject. However, they are problems requiring 30 to 100 years before they can be solved. If policies are determined without medium and long-term visions, they will result in ineffective directions like the Kyoto Protocol. Rather than viewing the problems from the standpoint of sustainability, it is important to gather a global consensus on the environmental priorities to be undertaken.

*M, Sharp Corporation, JAPAN 300J*

There should be more debate about environmental problems with the World Health Organization, and there needs to be a powerful World Environmental Organization.

*Soki Oda, WorldWatch Japan, JAPAN 303J*

Along with conflicts and war, I believe the excessive consumption people carry on casually in their everyday lives in affluent countries are the cause of various environmental problems including overwhelming poverty. At the same time as solving individual problems, I can't help thinking about the need for education to help people think about the earth, about humanity, and the meaning of true wealth, as well as to recognize the connection between themselves and the world and the connections between the present and the future. This should not be pushed down the throats of children and young people; indeed it is the adults who need this education.

*Kikuo Inaba, Professor, Department of Human Sciences, Osaka University of Economics, JAPAN 305J*

# V. Data

## Data (Question 3)

### 3-1-1. Global Warming

	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Other
1. Global warming is not an urgent environmental problem... because: ①The scientific grounding for global warming is unclear.	1%	4%	1%	0%	11%	0%	5%	5%	8%	0%	4%	3%	1%	7%	5%
1. Global warming is not an urgent environmental problem... because: ②The effect of global warming is limited	0%	0%	1%	0%	6%	4%	3%	0%	11%	5%	3%	2%	0%	4%	6%
1. Global warming is not an urgent environmental problem... because: ③Global warming will bring favorable effects to the earth's environment as a whole	0%	0%	3%	0%	4%	0%	0%	0%	8%	0%	2%	1%	1%	2%	4%
2. Because global warming has the potential to have an effect in the future, responses should be considered	20%	18%	9%	19%	30%	0%	11%	23%	25%	10%	17%	18%	18%	18%	20%
3. Global warming is a serious and urgent environmental problem requiring an immediate response	79%	76%	81%	81%	49%	91%	70%	73%	47%	81%	71%	75%	79%	65%	63%
Unknown	0%	2%	4%	0%	0%	4%	11%	0%	0%	5%	3%	2%	1%	4%	1%

### 3-1-2.

1. The sinking of island countries and coastal regions due to rising sea levels	43%	30%	37%	35%	45%	29%	50%	57%	27%	26%	37%	40%	40%	43%	36%
2. Changes in ecosystems	27%	41%	48%	51%	43%	52%	30%	24%	46%	53%	44%	35%	33%	41%	41%
3. Increase in frequency of aberrations in weather and the intensification of climate conditions, e.g. the intensification of typhoons and hurricanes.	58%	52%	56%	70%	50%	71%	50%	52%	69%	26%	56%	57%	58%	55%	52%
4. Desertification and continued worsening of soil quality	25%	20%	22%	27%	14%	19%	10%	0%	23%	21%	18%	22%	24%	14%	15%
5. Negative impact on water resources	9%	15%	11%	5%	14%	5%	13%	33%	8%	16%	13%	11%	10%	12%	18%
6. Negative impact on agriculture and food production	32%	20%	13%	5%	17%	5%	20%	10%	19%	5%	13%	23%	26%	15%	12%
7. Other	1%	4%	2%	3%	5%	0%	0%	5%	4%	0%	3%	2%	1%	2%	3%
Unknown	4%	13%	16%	0%	26%	14%	33%	14%	35%	32%	19%	12%	6%	26%	27%

### Data (Question 3)

	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Other	
3-1-3.																
1. Global warming will be prevented by member countries adhering to the terms of the Kyoto Protocol.	1%	0%	0%	0%	8%	4%	5%	0%	8%	10%	3%	2%	0%	6%	6%	
2. Global warming will continue even when the goals established in the Kyoto Protocol are met	18%	10%	7%	14%	8%	4%	0%	23%	19%	10%	10%	13%	15%	4%	18%	
3. Global warming will continue as it will be difficult for countries to meet the goals established in the Kyoto Protocol.	18%	12%	11%	5%	13%	22%	16%	5%	11%	29%	13%	15%	16%	16%	14%	
4. The Kyoto Protocol is one point in the effort to curb greenhouse gas emissions, and global warming will only be prevented through additional agreements between countries around the world.	62%	69%	71%	78%	68%	61%	73%	64%	56%	43%	67%	65%	65%	68%	54%	
5. Other	1%	4%	7%	3%	4%	4%	3%	9%	0%	5%	4%	3%	2%	4%	4%	
Unknown	1%	4%	3%	0%	0%	4%	3%	0%	6%	5%	3%	2%	2%	2%	4%	

### 3-2-1. Poverty

1. Significant improvements to the current situation are possible	14%	41%	66%	16%	38%	52%	49%	59%	33%	24%	44%	30%	25%	44%	38%	
2. Maintaining the current situation is all one can do	32%	10%	3%	35%	17%	4%	5%	0%	17%	10%	11%	21%	25%	11%	10%	
3. Poverty will worsen from the current situation	52%	43%	27%	49%	23%	43%	30%	27%	36%	57%	35%	43%	47%	29%	39%	
4. Poverty is not a problem	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	1%	0%	
Unknown	2%	6%	4%	0%	23%	0%	14%	9%	14%	10%	9%	6%	2%	15%	11%	

### 3-2-2.

1. Population growth	13%	33%	16%	0%	15%	35%	8%	32%	25%	19%	21%	35%	40%	17%	25%	
2. Insufficient investment towards developing human resources (e.g. absence of educational opportunities)	4%	0%	9%	0%	8%	17%	5%	14%	11%	0%	9%	13%	14%	9%	9%	
3. Political and economic environment	11%	27%	27%	0%	15%	17%	24%	14%	25%	24%	27%	29%	32%	19%	22%	
4. Discrepancies between the North and South	3%	6%	11%	0%	17%	9%	32%	5%	6%	5%	13%	19%	22%	20%	5%	
5. Regional causes (e.g. poor natural environment, lack of natural resources)	0%	4%	3%	0%	2%	0%	3%	0%	0%	0%	5%	13%	17%	2%	0%	

### Data (Question 3)

	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Other
6. War and armed conflict	3%	10%	6%	0%	4%	9%	3%	5%	3%	10%	9%	22%	29%	4%	5%
7. Low agricultural productivity as a cause for famine	1%	4%	1%	0%	2%	0%	3%	5%	0%	0%	2%	7%	9%	2%	1%
8. Other	1%	2%	7%	0%	0%	9%	0%	0%	3%	5%	3%	2%	2%	2%	3%
Unknown	15%	14%	20%	0%	38%	4%	22%	27%	28%	38%	21%	12%	5%	26%	30%

#### 3-2-3.

1. Significant progress	0%	0%	1%	0%	0%	4%	5%	0%	3%	0%	1%	1%	0%	3%	1%
2. Some progress	10%	24%	24%	24%	36%	17%	19%	32%	22%	14%	25%	18%	15%	27%	23%
3. Cannot determine	21%	12%	9%	32%	26%	17%	35%	14%	36%	24%	22%	22%	19%	27%	27%
4. Almost no progress	55%	49%	49%	38%	13%	35%	27%	36%	22%	29%	34%	44%	52%	22%	28%
5. No progress	12%	12%	14%	5%	6%	26%	5%	14%	17%	19%	12%	12%	12%	10%	16%
Unknown	1%	2%	3%	0%	19%	0%	8%	5%	0%	14%	6%	3%	1%	12%	5%

#### 3-3-1. Energy Problems

1. Large amount of energy consumption/wasteful consumption	46%	73%	39%	46%	19%	9%	8%	36%	19%	24%	33%	39%	48%	13%	25%
2. An imbalance in the proportions of energy sources used (e.g. an excessive reliance on fossil fuels)	21%	14%	26%	27%	15%	30%	8%	18%	19%	10%	19%	20%	22%	16%	16%
3. An insufficient supply of energy	2%	2%	1%	3%	6%	4%	11%	0%	3%	5%	4%	3%	2%	7%	3%
4. Inadequacies in energy infrastructure	1%	0%	3%	0%	13%	0%	5%	0%	8%	0%	4%	3%	1%	8%	4%
5. The high cost of convenient sources of energy (electricity, gas, petroleum)	5%	4%	6%	22%	15%	22%	27%	14%	17%	14%	14%	10%	6%	20%	15%
6. Insufficient use of renewable sources of energy	19%	6%	19%	0%	19%	17%	24%	18%	28%	24%	17%	18%	16%	20%	24%
7. Other	3%	0%	4%	3%	4%	9%	5%	9%	0%	0%	3%	3%	3%	5%	3%
Unknown	3%	0%	3%	0%	9%	9%	11%	5%	6%	24%	6%	4%	2%	10%	10%

#### 3-3-2.

1. It is excessive.	46%	51%	34%	49%	2%	4%	0%	36%	19%	19%	25%	35%	45%	2%	24%
2. It is appropriate.	40%	33%	47%	27%	21%	52%	27%	41%	47%	43%	36%	38%	39%	29%	44%
3. It is deficient.	11%	16%	10%	22%	57%	30%	35%	18%	31%	29%	27%	20%	13%	44%	27%
4. It is extremely deficient (i.e., it is an impediment for the economy).	2%	0%	4%	3%	21%	9%	35%	5%	3%	10%	10%	6%	2%	23%	5%
Unknown	1%	0%	4%	0%	0%	4%	3%	0%	0%	0%	1%	1%	1%	2%	0%

### Data (Question 3)

	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Other	
3-3-3.																
1. Current consumption level is less than half of the ideal consumption level.	15%	41%	30%	3%	19%	17%	27%	41%	11%	24%	24%	20%	19%	21%	23%	
2. Current consumption level is at 20 percent less of the ideal consumption level.	71%	41%	41%	84%	40%	43%	27%	36%	47%	38%	44%	57%	64%	36%	42%	
3. The two levels are comparable.	13%	14%	23%	14%	34%	30%	32%	23%	31%	24%	25%	19%	14%	33%	27%	
4. Current consumption level is 2 times greater than ideal consumption level.	0%	0%	0%	0%	6%	9%	11%	0%	8%	0%	3%	2%	0%	8%	4%	
5. Current consumption level is 10 times greater than ideal consumption level.	0%	2%	0%	0%	0%	0%	0%	0%	3%	0%	1%	0%	0%	0%	1%	
Unknown	2%	2%	6%	0%	2%	0%	3%	0%	0%	14%	3%	2%	2%	2%	4%	

### 3-3-4.

1. Nuclear energy	34%	22%	27%	30%	9%	0%	8%	18%	39%	10%	20%	27%	32%	7%	25%
2. Wind energy	6%	8%	9%	8%	8%	9%	5%	14%	3%	14%	8%	7%	6%	7%	9%
3. Solar power	32%	33%	27%	51%	42%	35%	46%	45%	22%	48%	37%	35%	33%	42%	35%
4. Biomass	13%	8%	11%	0%	15%	13%	14%	0%	14%	10%	10%	12%	11%	14%	9%
5. Hydraulic power	7%	8%	11%	5%	17%	22%	14%	5%	3%	0%	10%	8%	7%	17%	3%
6. Other	1%	14%	10%	5%	6%	9%	3%	14%	6%	0%	8%	5%	4%	5%	6%
Unknown	7%	6%	4%	0%	4%	13%	11%	5%	14%	19%	7%	7%	6%	8%	13%

### 3-4-1. The Preservation and Restoration of Ecosystems and Biodiversity

1. Decrease of habitats, including deforestation and agricultural land development	86%	94%	76%	84%	47%	57%	65%	86%	53%	43%	69%	77%	85%	55%	59%
2. Decrease of species	38%	24%	30%	38%	17%	35%	16%	23%	25%	33%	26%	32%	35%	20%	27%
3. Destruction of traditional ecosystems due to the introduction/ invasion of foreign species	10%	29%	16%	14%	25%	13%	30%	27%	11%	5%	20%	15%	13%	24%	14%
4. Negative impact of pollutants created by human activities, including the overuse of nutrients and fertilizers	51%	37%	34%	57%	47%	39%	49%	27%	58%	24%	42%	46%	48%	46%	41%
5. Decrease of resources for agricultural and marine production	11%	4%	23%	3%	13%	26%	14%	18%	14%	19%	14%	13%	12%	16%	16%
6. Other	1%	4%	3%	0%	0%	0%	3%	0%	0%	5%	2%	1%	2%	1%	1%
Unknown	1%	2%	7%	0%	13%	4%	5%	9%	14%	24%	8%	5%	2%	9%	15%



### Data (Question 3)

#### 3-4-2.

	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Other
1. Deterioration and decrease of freshwater resources	7%	27%	20%	3%	17%	22%	19%	14%	11%	10%	17%	12%	11%	19%	11%
2. Deterioration of air and water quality	12%	12%	13%	38%	11%	30%	14%	5%	25%	14%	17%	15%	14%	16%	16%
3. Increasing frequency of abnormal regional and local weather conditions	9%	10%	10%	27%	11%	13%	19%	18%	22%	14%	15%	12%	11%	14%	19%
4. Pest epidemic	3%	0%	1%	0%	0%	4%	0%	5%	0%	0%	1%	2%	2%	1%	1%
5. Acceleration in the extinction of species and the disappearance of biodiversity	52%	41%	37%	30%	26%	26%	32%	27%	22%	24%	31%	41%	47%	28%	24%
6. Other	0%	6%	4%	3%	0%	0%	0%	5%	6%	10%	3%	2%	2%	0%	6%
Unknown	16%	4%	14%	0%	34%	4%	16%	27%	14%	29%	16%	16%	13%	22%	22%

#### 3-4-3.

1. Climate change as a natural occurrence	7%	8%	10%	22%	17%	22%	16%	9%	22%	14%	15%	11%	9%	18%	16%
2. Unrestricted land development	60%	55%	54%	27%	19%	30%	19%	41%	22%	29%	35%	47%	56%	21%	29%
3. Excessive consumption and emission of chemical substances	15%	18%	14%	43%	32%	26%	41%	5%	42%	33%	28%	22%	18%	34%	29%
4. Excessive hunting and fishing	8%	2%	4%	8%	4%	4%	5%	9%	3%	5%	5%	6%	7%	4%	5%
5. Other	1%	8%	7%	0%	2%	4%	5%	23%	0%	0%	5%	3%	3%	4%	6%
Unknown	8%	8%	10%	0%	26%	13%	14%	14%	11%	19%	13%	10%	8%	19%	14%

#### 3-4-4.

1. Significant progress	0%	0%	0%	0%	4%	0%	5%	0%	0%	0%	1%	1%	0%	4%	0%
2. Some progress	5%	14%	17%	24%	51%	39%	30%	18%	42%	48%	30%	18%	10%	42%	37%
3. Cannot determine	24%	6%	14%	46%	26%	26%	35%	32%	33%	10%	24%	24%	22%	29%	27%
4. Almost no progress	54%	51%	47%	27%	4%	22%	16%	36%	8%	24%	28%	40%	51%	12%	20%
5. No progress	16%	27%	16%	3%	6%	9%	3%	14%	8%	5%	11%	13%	16%	5%	9%
Unknown	1%	2%	6%	0%	9%	4%	11%	0%	8%	14%	6%	4%	2%	9%	8%

#### 3-5-1. Population Problems

1. Explosive population growth in developing countries	92%	65%	70%	54%	92%	70%	68%	82%	69%	67%	71%	81%	83%	80%	72%
2. Because population growth is expected to stop in the future, it is not particularly a problem	4%	6%	14%	41%	4%	4%	8%	9%	22%	14%	14%	9%	9%	5%	16%

### Data (Question 3)

	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Other
3. Other	2%	29%	11%	5%	4%	17%	19%	9%	6%	10%	12%	8%	7%	12%	8%
Unknown	2%	0%	4%	0%	0%	9%	5%	0%	3%	10%	3%	2%	2%	4%	4%

### 3-5-2.

1. Escalation of poverty	59%	52%	50%	59%	65%	77%	71%	68%	68%	67%	62%	60%	57%	69%	70%
2. Proliferation of slums in urban areas	12%	9%	25%	0%	35%	36%	15%	9%	18%	28%	21%	16%	13%	29%	18%
3. Food shortage	63%	20%	13%	5%	10%	9%	24%	23%	18%	17%	15%	39%	48%	14%	20%
4. Destruction of the natural environment	38%	57%	65%	27%	53%	41%	44%	41%	25%	28%	48%	43%	43%	48%	32%
5. Air and water contamination	7%	13%	7%	5%	10%	0%	6%	18%	14%	17%	10%	8%	7%	7%	17%
6. Water shortage	12%	20%	17%	0%	4%	9%	0%	14%	18%	17%	11%	11%	13%	4%	17%
7. Spreading of epidemics	3%	9%	3%	0%	2%	0%	6%	5%	4%	0%	4%	3%	3%	3%	3%
8. Decline in economic power	3%	4%	3%	0%	4%	18%	18%	5%	18%	11%	8%	6%	3%	11%	12%
9. Other	2%	7%	3%	0%	6%	0%	3%	0%	4%	0%	3%	3%	2%	4%	2%
Unknown	1%	2%	5%	5%	2%	5%	3%	0%	7%	0%	3%	2%	2%	3%	3%

### 3-5-3.

1. Significant progress	1%	2%	0%	0%	6%	0%	0%	0%	0%	0%	1%	1%	1%	3%	0%
2. Some progress	8%	27%	30%	27%	63%	18%	59%	23%	14%	29%	36%	22%	14%	52%	23%
3. Cannot determine	25%	16%	18%	32%	18%	23%	18%	14%	32%	19%	21%	23%	24%	19%	24%
4. Almost no progress	51%	33%	30%	36%	8%	32%	18%	41%	43%	14%	28%	39%	46%	16%	36%
5. No progress	14%	14%	15%	5%	4%	18%	3%	14%	11%	24%	12%	13%	13%	7%	17%
Unknown	1%	2%	7%	0%	2%	9%	3%	0%	0%	0%	3%	2%	2%	4%	0%

## Data (Question 4)

### 4-1. Acid Rain/Air Pollution (Asian Four)

	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East
<b>4-1-1.</b>										
1. Acid rain only				0%						
2. Air pollution only				11%						
3. Both acid rain and air pollution				89%						
Unknown				0%						
<b>4-1-2-1.</b>										
1. Destruction of forests and the negative impact on forest ecosystems				70%						
2. Impact on agricultural products				22%						
3. Impact on water resources and marine products				22%						
4. Corrosion of buildings and ruins				11%						
5. Direct impact on human health				49%						
6. Other				3%						
Unknown				3%						
<b>4-1-2-2.</b>										
1. Pollution created in other countries				27%						
2. Thermal power generation and industrial smoke generated domestically				22%						
3. Vehicular emissions				49%						
4. Other				0%						
Unknown				3%						
<b>4-1-2-3.</b>										
1. Significant progress				0%						
2. Some progress				11%						
3. Cannot determine				43%						
4. Almost no progress				30%						
5. No progress				0%						
Unknown				16%						
<b>4-1-3-1</b>										
1. Pollution created in other countries				11%						
2. Thermal power generation and industrial smoke generated domestically				16%						
3. Vehicular emissions				73%						
4. Other				0%						
Unknown				0%						

## Data (Question 4)

	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East
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### 4-1-3-2.

1. Significant progress				0%						
2. Some progress				22%						
3. Cannot determine				32%						
4. Almost no progress				41%						
5. No progress				0%						
Unknown				5%						

### 4-2. Poverty (Rest of Asia, Latin America and Africa)

#### 4-2-1.

1. Population growth					13%	4%	8%			
2. Insufficient investment towards developing human resources (e.g. absence of educational opportunities)					19%	26%	14%			
3. Political and economic environment					11%	43%	32%			
4. Discrepancies between the North and South					2%	0%	3%			
5. Regional causes (e.g. poor natural environment, lack of natural resources)					6%	0%	8%			
6. War and armed conflict					4%	0%	3%			
7. Low agricultural productivity as a cause for famine					2%	0%	3%			
8. Other					0%	9%	5%			
Unknown					43%	17%	24%			

#### 4-2-2.

1. Poor living environments					49%	45%	16%			
2. Famine and malnutrition					6%	15%	41%			
3. Hindering economic development					30%	15%	27%			
4. Increases in crime					8%	20%	3%			
5. Other					0%	0%	8%			
Unknown					8%	5%	5%			

#### 4-2-3.

1. Significant progress					8%	4%	8%			
2. Some progress					55%	22%	27%			
3. Cannot determine					9%	4%	11%			
4. Almost no progress					23%	39%	35%			
5. No progress					2%	26%	11%			
Unknown					4%	4%	8%			

## Data (Question 4)

Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East
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4-2-4.									
1. Significant improvements to the current situation are possible				38%	35%	46%			
2. Maintaining the current situation is all one can do				9%	17%	8%			
3. Poverty will worsen from the current situation				40%	43%	35%			
4. Poverty is not a problem				2%	0%	0%			
Unknown				11%	4%	11%			

### 4-3. Issues Related to Ocean and Fresh Water Supply (Oceania)

4-3-1.									
1. Contamination of the ocean from toxic chemical substances							9%		
2. Changes in marine ecosystems caused by global warming							45%		
3. Diminishing marine resources for fisheries							64%		
4. Degradation and depletion of freshwater resources							73%		
5. Other							0%		
Unknown							5%		

### 4-3-2.

1. Damages to fisheries caused by diminished marine resources							36%		
2. Degradation of resources for fisheries and tourism caused by the destruction of coral reefs							32%		
3. Desertification of the continental shelf							14%		
4. Negative impact to human health from marine products contaminated with toxic chemical substances							5%		
5. Other							5%		
Unknown							9%		

### 4-3-3.

1. Significant progress							5%		
2. Some progress							45%		
3. Cannot determine							9%		
4. Almost no progress							32%		
5. No progress							9%		
Unknown							0%		

### 4-4. Deforestation (Latin America)

4-4-1.									
1. Abnormal weather conditions and climate change							10%		

## Data (Question 4)

	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East
2. Soil erosion, landslides, flooding						75%				
3. Changes to animal and plant ecosystems						10%				
4. Negative impact on fisheries (fresh and saltwater), diminishing marine production						0%				
5. Other						5%				
Unknown						0%				

### 4-4-2.

1. Excessive and/or illegal harvesting of wood						55%				
2. Development (mining, road construction)						35%				
3. Expanded use of land for agricultural purposes						60%				
4. Insufficient forestation planning and/or forest management						30%				
5. Forest fires						0%				
6. Other						10%				
Unknown						0%				

### 4-4-3.

1. Significant progress						0%				
2. Some progress						25%				
3. Cannot determine						15%				
4. Almost no progress						35%				
5. No progress						25%				
Unknown						0%				

## 4-5. Desertification and Deterioration of Soil Quality (Africa and Middle East)

### 4-5-1.

1. Reduction and degradation of water resources							57%			33%
2. Salinization of irrigation water and soil							11%			24%
3. Increase in sand-fall							5%			14%
4. Other							14%			10%
Unknown							14%			19%

### 4-5-2.

1. Life threatening							19%			10%
2. Declines in agricultural production							57%			38%
3. Reductions in space for human habitation							3%			14%
4. Increased occurrence of abnormal weather conditions							8%			14%
5. Other							5%			0%

## Data (Question 4)

	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East
Unknown							8%			24%
<b>4-5-3-A.</b>										
1. Excessive grazing							22%			24%
2. Excessive extraction							14%			0%
3. Uncontrolled development							30%			52%
4. Abandonment of agricultural land by farmers and their migration to urban areas							8%			5%
5. Other							16%			0%
Unknown							11%			19%
<b>4-5-3-B.</b>										
1. Wind erosion							16%			29%
2. Water erosion							14%			10%
3. Climate change							49%			38%
4. Other							16%			5%
Unknown							5%			19%
<b>4-5-4.</b>										
1. Significant progress							0%			5%
2. Some progress							35%			24%
3. Cannot determine							24%			14%
4. Almost no progress							32%			29%
5. No progress							3%			19%
Unknown							5%			10%
<b>4-6. Waste Materials/Recycling (Japan, Western Europe, Asian Four, Rest of Asia, Africa, Eastern Europe &amp; former Soviet Union and Middle East)</b>										
<b>4-6-1.</b>										
1. Household waste, e.g. municipal solid waste	64%		47%	51%	81%		81%		64%	52%
2. Industrial waste	73%		44%	70%	60%		51%		53%	43%
3. Bulk waste, e.g. automobiles	9%		23%	5%	9%		8%		28%	33%
4. Toxic and hazardous substances	30%		46%	54%	25%		24%		28%	24%
5. Radioactive waste materials	16%		23%	16%	2%		3%		17%	14%
6. Other	1%		1%	0%	0%		5%		3%	10%
Unknown	1%		6%	0%	2%		5%		3%	10%
<b>4-6-2.</b>										
1. Life threatening	26%		6%	35%	8%		3%		8%	5%
2. Degrades living environments	43%		53%	30%	47%		24%		36%	19%
3. Negatively impacts health and well being	16%		21%	35%	36%		62%		44%	62%

## Data (Question 4)

	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East
4. Hinders economic development	5%		4%	0%	4%		0%		3%	0%
5. Other	3%		1%	0%	2%		0%		3%	5%
Unknown	7%		14%	0%	4%		11%		6%	10%

### 4-6-3.

1. Recycling efforts are active.	21%		34%	14%	6%		0%		3%	0%
2. Some efforts to recycle materials are in progress.	56%		44%	38%	40%		24%		39%	38%
3. Recycling has only just begun.	21%		14%	46%	36%		49%		47%	33%
4. All waste materials are thrown away and there is no recycling.	0%		0%	3%	19%		14%		8%	19%
5. Other	1%		0%	0%	0%		5%		0%	5%
Unknown	1%		7%	0%	0%		8%		3%	5%

### 4-6-4.

1. Significant progress	3%		11%	11%	4%		3%		6%	0%
2. Some progress	64%		61%	46%	58%		22%		58%	48%
3. Cannot determine	22%		10%	27%	11%		27%		6%	10%
4. Almost no progress	9%		10%	16%	23%		38%		31%	38%
5. No progress	0%		0%	0%	4%		3%		0%	5%
Unknown	1%		7%	0%	0%		8%		0%	0%

## 4-7. Urbanization/Transportation Problems (Japan, United States & Canada, Western Europe, Asian Four, Eastern Europe & former Soviet Union and Middle East)

### 4-7-1.

1. Congestion and other obstacles to transportation created by an excessive concentration of automobiles	75%	57%	66%	59%					53%	43%
2. Insufficient/poor quality of public transportation and distribution infrastructure, e.g. networks of roads and railways	33%	78%	46%	24%					64%	71%
3. Decline in convenience and comfort of public transportation due to overcrowded conditions	17%	10%	10%	11%					8%	14%
4. Environmental destruction, e.g. air and noise pollution caused by transit vehicles	46%	31%	57%	78%					36%	24%
5. Frequent incidence of accidents and disasters caused by excessive numbers of transportation vehicles	13%	2%	6%	14%					25%	14%
6. No transportation problems in particular	1%	0%	0%	0%					0%	0%
7. Other	6%	10%	4%	0%					6%	5%
Unknown	1%	2%	4%	0%					0%	5%

### 4-7-2.

1. Increase in waste	64%	35%	29%	11%					42%	38%
2. Air and noise pollution	26%	22%	40%	65%					44%	24%



## Data (Question 4)

	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East
3. Declining convenience and comfort caused by congestion and overcrowded conditions	32%	10%	19%	38%					17%	29%
4. Disappearance of greenery and natural environments	51%	24%	31%	32%					47%	24%
5. Urban sprawl, and the deterioration of urban environments with the spread of metropolitan areas into suburbs	15%	80%	51%	49%					31%	24%
6. Maintenance of water supply, sewerage, and sanitation systems	3%	16%	14%	0%					17%	29%
7. Other	2%	4%	3%	0%					3%	0%
Unknown	1%	0%	4%	0%					0%	14%

### 4-7-3.

1. Energy supply	29%	45%	37%	30%					22%	0%
2. Water supply	13%	31%	20%	5%					17%	38%
3. Sewerage processing	27%	12%	7%	24%					28%	24%
4. Development and maintenance of transportation infrastructure, e.g. networks of railways and roads	46%	69%	73%	76%					64%	57%
5. Development and maintenance of waste processing facilities	72%	29%	46%	59%					58%	38%
6. Other	7%	8%	3%	0%					0%	5%
Unknown	1%	2%	4%	0%					3%	14%

### 4-7-4.

1. Significant progress	0%	2%	3%	3%					3%	0%
2. Some progress	42%	22%	41%	38%					36%	38%
3. Cannot determine	38%	12%	19%	43%					17%	10%
4. Almost no progress	17%	53%	31%	14%					39%	33%
5. No progress	3%	10%	1%	0%					6%	0%
Unknown	1%	0%	4%	3%					0%	19%

### 4-8. The Preservation and Restoration of Ecosystems and Biodiversity (Western Europe, Latin America, Oceania and Eastern Europe & former Soviet Union)

#### 4-8-1.

1. Decrease of habitats, including deforestation and agricultural land development			54%			70%			41%	50%
2. Decrease of species			30%			13%			14%	19%
3. Destruction of traditional ecosystems due to the introduction/invasion of foreign species			14%			39%			59%	19%
4. Negative impact of pollutants created by human activities, including the overuse of nutrients and fertilizers			49%			30%			36%	58%
5. Decrease of resources for agricultural and marine production			21%			17%			23%	8%
6. Other			7%			9%			0%	3%

## Data (Question 4)

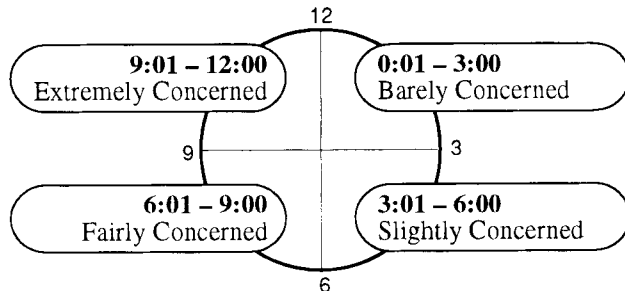
	Japan	U.S.A. & Canada	Western Europe	Asian 4	RoA	Latin America	Africa	Oceania	E. Europe & former USSR	Middle East
Unknown			9%			0%		14%	14%	
<b>4-8-2.</b>										
1. Deterioration and decrease of freshwater resources			10%			22%		27%	11%	
2. Deterioration of air and water quality			16%			17%		5%	33%	
3. Increasing frequency of abnormal regional and local weather conditions			21%			26%		14%	14%	
4. Pest epidemic			1%			0%		5%	0%	
5. Acceleration in the extinction of species and the disappearance of biodiversity			30%			26%		18%	14%	
6. Other			7%			0%		5%	8%	
Unknown			14%			9%		27%	19%	
<b>4-8-3.</b>										
1. Climate change as a natural occurrence			9%			4%		14%	6%	
2. Unrestricted land development			41%			52%		50%	44%	
3. Excessive consumption and emission of chemical substances			26%			17%		9%	31%	
4. Excessive hunting and fishing			7%			9%		9%	8%	
5. Other			9%			9%		5%	0%	
Unknown			9%			9%		14%	11%	
<b>4-8-4.</b>										
1. Significant progress			6%			0%		9%	3%	
2. Some progress			51%			35%		55%	44%	
3. Cannot determine			10%			9%		5%	11%	
4. Almost no progress			24%			39%		18%	31%	
5. No progress			4%			13%		14%	8%	
Unknown			4%			4%		0%	3%	

# VI. Questionnaire as Distributed to Respondents

## I. REPEAT TOPICS

### 1. Awareness of the Crisis Facing Human Survival—Environmental Doomsday Clock

1-1. To what extent do you feel that the current deterioration of the global environment has created a crisis that will affect the continuance of the human race? Write a time within the range 0:01 to 12:00 corresponding to the extent of your concern in the boxes below.



Please write your time here.

:

(Example  : )

1-2. When you selected the time above, what were the main environmental conditions about which you were concerned? Please check up to three (3) of the following items of concern.

- |  |   |
|--|---|
| <input type="checkbox"/> <sup>(1)</sup> General environmental problems                               | <input type="checkbox"/> <sup>(2)</sup> Global warming                |
| <input type="checkbox"/> <sup>(3)</sup> Air pollution, water contamination, river/ocean pollution    | <input type="checkbox"/> <sup>(4)</sup> Water shortage, food problems |
| <input type="checkbox"/> <sup>(5)</sup> Deforestation, desertification, loss of biodiversity         |   |
| <input type="checkbox"/> <sup>(6)</sup> Peoples' lifestyles, waste related problems                  |   |
| <input type="checkbox"/> <sup>(7)</sup> Environmental problems and economic/trade related activities |   |
| <input type="checkbox"/> <sup>(8)</sup> Population, poverty, status of women                         |   |
| <input type="checkbox"/> <sup>(9)</sup> Other: _____   |   |

### 2. Progress Toward Agenda 21

Thirteen years have passed since Agenda 21 was adopted as an "action plan for the environment and development" at the Earth Summit in 1992. Please indicate the progress made in your country for the following 10 categories taken from the Agenda 21 action plan by circling one (1) letter on the scale of (a) to (e) for each category.

Significant progress  
Some progress  
Cannot determine  
Almost no progress  
No progress

- |  |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|
| (1) Promotion of environmental education .....                 | (a) | (b) | (c) | (d) | (e) |
| (2) Activities by local governments and citizens' groups ..... | (a) | (b) | (c) | (d) | (e) |
| (3) Scientific/technological contributions .....               | (a) | (b) | (c) | (d) | (e) |
| (4) Formation of recycling systems .....                       | (a) | (b) | (c) | (d) | (e) |
| (5) Conservation of forest resources .....                     | (a) | (b) | (c) | (d) | (e) |
| (6) Conservation of biodiversity .....                         | (a) | (b) | (c) | (d) | (e) |
| (7) Greenhouse gas prevention measures .....                   | (a) | (b) | (c) | (d) | (e) |
| (8) Population/poverty problems .....                          | (a) | (b) | (c) | (d) | (e) |
| (9) Lifestyle alteration .....                                 | (a) | (b) | (c) | (d) | (e) |
| (10) Environmental measures by industry .....                  | (a) | (b) | (c) | (d) | (e) |

## II. MAIN FOCUS OF THE CURRENT YEAR'S QUESTIONNAIRE

The questionnaire last year queried respondents about Environmental Problems and Their Priority, both at the global and local levels. The following questions were developed based on those responses; Question 3, about global environmental problems, will be a common query for respondents around the world, whereas Question 4, about local issues, will be highly specific to the region where the respondent resides.

### 3. Environmental Problems and Their Priority <Common questions for all respondents>

Respondents to last year's questionnaire indicated that global environmental problems requiring prioritization included the following five issues: 1. climate change including global warming, 2. poverty, 3. energy problems, 4. preser

vation and restoration of ecosystems and biodiversity, and 5. population problems. Please indicate your opinions about each of these five issues. For questions 3-1-2, 3-2, and 3-4, please also provide responses about the local situation in the region and country where you reside, in addition to considering the problem from a global perspective.

**3-1. Global Warming**

**3-1-1. What is your opinion about global warming? Please circle one item from the following list that best reflects your point of view. If you select item 1, please further select a reason from the subsequent list.**

1. Global warming is not an urgent environmental problem. ... because:
  - <sup>(1)</sup> The scientific grounding for global warming is unclear
  - <sup>(2)</sup> The effect of global warming is limited
  - <sup>(3)</sup> Global warming will bring favorable effects to the earth's environment as a whole
2. Because global warming has the potential to have an effect in the future, responses should be considered
3. Global warming is a serious and urgent environmental problem requiring an immediate response

**3-1-2. Please answer this question if you selected item 2 or 3 in the previous question. What effects do you believe global warming will have? Please check two items you consider important for each column in the following chart to indicate the feared effects of global warming on a global level, as well as from the perspective of the region/country where you reside.**

Feared effects on a global level      Feared effects in your region/country


1. The sinking of island countries and coastal regions due to rising sea levels
2. Changes in ecosystems
3. Increase in frequency of aberrations in weather and the intensification of climate conditions, e.g. the intensification of typhoons and hurricanes
4. Desertification and continued worsening of soil quality
5. Negative impact on water resources
6. Negative impact on agriculture and food production
7. Other (Please specify: \_\_\_\_\_ )

**3-1-3. The Kyoto Protocol, which aims at the reduction of greenhouse gas emissions, has taken effect. How do you evaluate the effectiveness of the Kyoto Protocol as a measure to prevent global warming? Please circle one item from the following list that best reflects your point of view.**

1. Global warming will be prevented by member countries adhering to the terms of the Kyoto Protocol
2. Global warming will continue even when the goals established in the Kyoto Protocol are met
3. Global warming will continue as it will be difficult for countries to meet the goals established in the Kyoto Protocol
4. The Kyoto Protocol is one point in the effort to curb greenhouse gas emissions, and global warming will only be prevented through additional agreements between countries around the world
5. Other (Please specify: \_\_\_\_\_ )

**3-2. Poverty**

**Poverty is an issue at a global level, as well as in the region and/or country where the problem is taking place. Please check one item in each column in the following chart to indicate your opinion to the following 3 questions, first when considering the issue as a global problem, then from the standpoint of the region/country where you reside.**

**3-2-1. What is your perception on poverty?**

Viewing the problem globally      Viewing the problem in your region/country


1. Significant improvements to the current situation are possible
2. Maintaining the current situation is all one can do
3. Poverty will worsen from the current situation
4. Poverty is not a problem

**3-2-2. What do you think are the causes of poverty when considering the issue?**

Viewing the problem globally      Viewing the problem in your region/country


1. Population growth
2. Insufficient investment towards developing human resources (e.g. absence of educational opportunities)
3. Political and economic environment
4. Discrepancies between the North and South
5. Regional causes (e.g. poor natural environment, lack of natural resources)
6. War and armed conflict
7. Low agricultural productivity as a cause for famine
8. Other (Please specify: \_\_\_\_\_ )

**3-2-3. How do you evaluate the progress of measures to counter poverty?**

Viewing the problem globally      Viewing the problem in your region/country


1. Significant progress
2. Some progress
3. Cannot determine
4. Almost no progress
5. No progress

**3-3. Energy Problems**

**3-3-1. What is the most pressing energy problem in your country? Please circle one item from the following list that best reflects your point of view.**

1. Large amount of energy consumption/wasteful consumption
2. An imbalance in the proportions of energy sources used (e.g. an excessive reliance on fossil fuels)
3. An insufficient supply of energy
4. Inadequacies in energy infrastructure
5. The high cost of convenient sources of energy (electricity, gas, petroleum)
6. Insufficient use of renewable sources of energy
7. Other (Please specify: \_\_\_\_\_ )

**3-3-2. What is your opinion about the supply of energy in your country as a whole? Please circle one item from the following list that best reflects your point of view.**

- |                    |  |
|--------------------|--|
| 1. It is excessive | 2. It is appropriate   |
| 3. It is deficient | 4. It is extremely deficient (i.e., it is an impediment for the economy) |

**3-3-3. When considering the energy problems faced by your country, what changes are you prepared to make about your personal energy consumption? Please circle one item from the following list that best reflects your point of view.**

1. I would like to reduce my energy consumption to less than half of what I currently consume
2. I would like to reduce my energy consumption to 20 percent less of what I currently consume
3. I would like a comparable amount to what I currently consume
4. I would like to have 2 times more energy than what I currently consume
5. I would like to have 10 times more energy than what I currently consume

**3-3-4. What do you think would be the most effective source of energy to replace fossil fuels? Please indicate your opinion by ranking the following sources of energy in order of effectiveness.**

- |                    |     |                                  |     |
|--------------------|-----|----------------------------------|-----|
| 1. Nuclear energy  | ( ) | 2. Wind energy                   | ( ) |
| 3. Solar power     | ( ) | 4. Biomass                       | ( ) |
| 5. Hydraulic power | ( ) | 6. Other (Please specify: _____) | ( ) |

**3-4. The Preservation and Restoration of Ecosystems and Biodiversity**

Please indicate what you regard as important when considering the problem from a global perspective, as well as from the standpoint of the region/country where you reside.

**3-4-1. What do you consider as the most important environmental issues requiring a response with regards to preserving and restoring ecosystems and biodiversity? Please check two items in each column in the following chart that you consider most significant.**

As a global issue      As an issue in your region/country


1. Decrease of habitats, including deforestation and agricultural land development
2. Decrease of species
3. Destruction of traditional ecosystems due to the introduction/ invasion of foreign species
4. Negative impact of pollutants created by human activities, including the overuse of nutrients and fertilizers
5. Decrease of resources for agricultural and marine production
6. Other (Please specify: \_\_\_\_\_ )

**3-4-2. On which of the following will the item you chose in question 3-4-1, have the greatest influence? Please check one item in each column in the following chart that best reflects your point of view.**

Effect at a global level      Effect in your region/country


1. Deterioration and decrease of freshwater resources
2. Deterioration of air and water quality
3. Increasing frequency of abnormal regional and local weather conditions
4. Pest epidemic
5. Acceleration in the extinction of species and the disappearance of biodiversity
6. Other (Please specify: \_\_\_\_\_ )

**3-4-3. What do you think is the primary cause of the destruction of ecosystems and biodiversity? Please check one item in each column in the following chart that best reflects your point of view.**

Cause on a global level      Cause in your region/country


1. Climate change as a natural occurrence
2. Unrestricted land development
3. Excessive consumption and emission of chemical substances
4. Excessive hunting and fishing
5. Other (Please specify: \_\_\_\_\_ )

**3-4-4. How do you evaluate the progress of measures to preserve and restore ecosystems and biodiversity? Please check one item in each column in the following chart that best reflects your point of view.**

Viewing the problem globally      Viewing the problem in your region/country


1. Significant progress
2. Some progress
3. Cannot determine
4. Almost no progress
5. No progress

### 3-5. Population Problems

**3-5-1. In your opinion, what population problem needs to be solved at a global level? Please circle one item from the following list that best reflects your point of view.**

1. Explosive population growth in developing countries
2. Because population growth is expected to stop in the future, it is not particularly a problem (Please go to question 4)
3. Other (Please specify: \_\_\_\_\_)

**3-5-2. What are the most concerning consequences of the population growth? Please circle two items from the following list that you consider most significant.**

- |                                  |   |
|----------------------------------|---|
| 1. Escalation of poverty         | 2. Proliferation of slums in urban areas  |
| 3. Food shortage                 | 4. Destruction of the natural environment |
| 5. Air and water contamination   | 6. Water shortage                         |
| 7. Spreading of epidemics        | 8. Decline in economic power              |
| 9. Other (Please specify: _____) |   |

**3-5-3. How do you evaluate the progress of measures to counter population growth at a global level? Please circle one item from the following list that best reflects your point of view.**

- |                         |                  |                     |
|-------------------------|------------------|---------------------|
| 1. Significant progress | 2. Some progress | 3. Cannot determine |
| 4. Almost no progress   | 5. No progress   |                     |

### 4. Environmental Problems and Their Priority <Local Issues>

The questionnaire last year probed respondents about environmental problems requiring prioritization from the perspective of the region of the world where they reside. The following chart details the priority of environmental issues by region.

Area	1st priority	%	2nd priority	%	3rd priority	%
Japan	Waste management	78	Urbanization	49	Energy	35
Asian Four	Waste management	80	Urbanization	70	Acid rain & air pollution	40
Eastern Europe & former Soviet Union	Waste management	62	Urbanization	43	Ecosystem	36
Middle East	Waste management	60	Urbanization	40	Desertification	30
Western Europe	Urbanization	63	Waste management	42	Ecosystem	41
U.S. & Canada	Urbanization	57	Global warming	34	Energy	31
Africa	Poverty	51	Waste management	31	Desertification	28
Rest of Asia	Poverty	32	Waste management	31	Population	29
Latin America	Deforestation	50	Poverty	44	Ecosystem	31
Oceania	Global warming	50	Ecosystem	46	Ocean & fresh water	31

<From page 13 of *Results of the 14<sup>th</sup> Annual "Questionnaire on Environmental Problems and the Survival of Humankind"*>

#### 4-1. Acid Rain and Air Pollution

**4-1-1. Have acid rain and air pollution become environmental problems in the region/country where you reside? Please circle one item from the following list that best reflects the situation.**

1. Acid rain only (Please go to question 4-3-2)

2. Air pollution only (Please go to question 4-3-3)
3. Both acid rain and air pollution (Please go to both 4-3-2 and 4-3-3)

**4-1-2. Please answer following three questions if you selected “acid rain only” or “both acid rain and air pollution” in the previous question.**

**4-1-2-1. In what area does acid rain have the most impact in the region and country where you reside? Please circle two items from the following list that you consider most significant.**

1. Destruction of forests and the negative impact on forest ecosystems
2. Impact on agricultural products
3. Impact on water resources and marine products
4. Corrosion of buildings and ruins
5. Direct impact on human health
6. Other (Please specify: \_\_\_\_\_ )

**4-1-2-2. What do you think is the cause of acid rain in the region/country where you reside? Please circle one item from the following list that best reflects your opinion.**

1. Pollution created in other countries
2. Thermal power generation and industrial smoke generated domestically
3. Vehicular emissions
4. Other (Please specify: \_\_\_\_\_ )

**4-1-2-3. How do you evaluate the progress of measures to counter acid rain in the region/country where you reside? Please circle one item from the following list that best reflects your point of view.**

- |                         |                  |                     |
|-------------------------|------------------|---------------------|
| 1. Significant progress | 2. Some progress | 3. Cannot determine |
| 4. Almost no progress   | 5. No progress   |                     |

**4-1-3. Please answer the following question if you selected “air pollution only” or “both acid rain and air pollution” in question 4-3-1.**

**4-1-3-1. What do you think is the cause of air pollution in the region/country where you reside? Please circle one item from the following list that best reflects your opinion.**

1. Pollution created in other countries
2. Thermal power generation and industrial smoke generated domestically
3. Vehicular emissions
4. Other (Please specify: \_\_\_\_\_ )

**4-1-3-2. How do you evaluate the progress of measures to counter air pollution in the region/country where you reside? Please circle one item from the following list that best reflects your point of view.**

- |                         |                  |                     |
|-------------------------|------------------|---------------------|
| 1. Significant progress | 2. Some progress | 3. Cannot determine |
| 4. Almost no progress   | 5. No progress   |                     |

## **4-2. Poverty**

**4-2-1. What do you think are the causes of poverty when considering the issue?**

1. Population growth
2. Insufficient investment towards developing human resources (e.g. absence of educational opportunities)
3. Political and economic environment
4. Discrepancies between the North and South
5. Regional causes (e.g. poor natural environment, lack of natural resources)
6. War and armed conflict
7. Low agricultural productivity as a cause for famine
8. Other (Please specify: \_\_\_\_\_ )



**4-2-2. What is the most detrimental outcome poverty has caused in Latin America? Please circle one item from the following list that best reflects your point of view.**

1. Poor living environments
2. Famine and malnutrition
3. Hindering economic development
4. Increases in crime
5. Other (Please specify: \_\_\_\_\_ )

**4-2-3. How do you evaluate the progress of measures to counter poverty?**

1. Significant progress
2. Some progress
3. Cannot determine
4. Almost no progress
5. No progress

**4-2-4. What is your perception of poverty?**

1. Significant improvements to the current situation are possible
2. Maintaining the current situation is all one can do
3. Poverty will worsen from the current situation
4. Poverty is not a problem

**4-3. Issues Related to Ocean and Fresh Water Supply**

**4-3-1. Please circle two items from the following list as what you consider to be issues related to ocean and fresh water supply in Oceania requiring prioritization.**

1. Contamination of the ocean from toxic chemical substances
2. Changes in marine ecosystems caused by global warming
3. Diminishing marine resources for fisheries
4. Degradation and depletion of freshwater resources
5. Other (Please specify: \_\_\_\_\_ )

**4-3-2. What detrimental effects are issues related to ocean and fresh water supply causing in Oceania? Please circle one item from the following list that best reflects your point of view.**

1. Damages to fisheries caused by diminished marine resources
2. Degradation of resources for fisheries and tourism caused by the destruction of coral reefs
3. Desertification of the continental shelf
4. Negative impact to human health from marine products contaminated with toxic chemical substances
5. Other (Please specify: \_\_\_\_\_ )

**4-3-3. How do you evaluate the progress in Oceania of measures taken to respond to issues related to ocean and fresh water supply? Please circle one item from the following list that best reflects your point of view.**

1. Significant progress
2. Some progress
3. Cannot determine
4. Almost no progress
5. No progress

**4-4. Deforestation**

**4-4-1. What is the most significant effect deforestation has caused in Latin America? Please circle one item from the following list that best reflects your point of view.**

1. Abnormal weather conditions and climate change
2. Soil erosion, landslides, flooding
3. Changes to animal and plant ecosystems
4. Negative impact on fisheries (fresh and saltwater), diminishing marine production
5. Other (Please specify: \_\_\_\_\_ )

**4-4-2. What do you think is the leading cause of deforestation in Latin America? Please circle two items from the following list that you consider most significant.**

1. Excessive and/or illegal harvesting of wood
2. Development (mining, road construction)
3. Expanded use of land for agricultural purposes

4. Insufficient forestation planning and/or forest management
5. Forest fires
6. Other (Please specify: \_\_\_\_\_ )

**4-4-3. How do you evaluate the progress in Latin America of strategies to respond to problems created by deforestation? Please circle one item from the following list that best reflects your point of view.**

- |                         |                  |                     |
|-------------------------|------------------|---------------------|
| 1. Significant progress | 2. Some progress | 3. Cannot determine |
| 4. Almost no progress   | 5. No progress   |                     |

**4-5. Desertification and Deterioration of Soil Quality**

**4-5-1. Within the issue of desertification and the deterioration of soil quality, what is the most important problem that needs to be prioritized in Africa? Please circle one item from the following list that best reflects your point of view.**

1. Reduction and degradation of water resources
2. Salinization of irrigation water and soil
3. Increase in sand-fall
4. Other (Please specify: \_\_\_\_\_ )

**4-5-2. What is the effect of desertification and deterioration of soil quality in Africa, or what outcomes do you expect these problems to cause? Please circle one item from the following list that best reflects your point of view.**

1. Life threatening
2. Declines in agricultural production
3. Reductions in space for human habitation
4. Increased occurrence of abnormal weather conditions
5. Other (Please specify: \_\_\_\_\_ )

**4-5-3. What do you think is the cause of desertification and the deterioration of soil quality in Africa? Please circle one item from the following list that best reflects your point of view.**

**A. Man-made causes**

1. Excessive grazing
2. Excessive extraction
3. Uncontrolled development
4. Abandonment of agricultural land by farmers and their migration to urban areas
5. Other (Please specify: \_\_\_\_\_ )

**B. Unavoidable natural causes**

1. Wind erosion
2. Water erosion
3. Climate change
4. Other (Please specify: \_\_\_\_\_ )

**4-5-4. How do you evaluate the progress of measures to counter desertification and the deterioration of soil quality in Africa? Please circle one item from the following list that best reflects your point of view.**

- |                         |                  |                     |
|-------------------------|------------------|---------------------|
| 1. Significant progress | 2. Some progress | 3. Cannot determine |
| 4. Almost no progress   | 5. No progress   |                     |

**4-6. Waste Materials/Recycling**

**4-6-1. In the region/country where you reside, what problem regarding issues of waste material management should be prioritized for a response? Please circle two items from the following list that you consider most significant.**

1. Household waste, e.g. municipal solid waste
2. Industrial waste
3. Bulk waste, e.g. automobiles
4. Toxic and hazardous substances
5. Radioactive waste materials
6. Other (Please specify: \_\_\_\_\_ )

**4-6-2. In your opinion, what is the most detrimental effect waste materials create in the region/country where you reside? Please circle one item from the following list that best reflects your point of view.**

1. Life threatening
2. Degrades living environments
3. Negatively impacts health and well being
4. Hinders economic development
5. Other (Please specify: \_\_\_\_\_ )

**4-6-3. The 3R (Reduce, Reuse, Recycle) Initiative designed to promote a society that embraces recycling by balancing the needs of the environment and the economy has been proposed and introduced internationally. Of the three Rs, how do you evaluate the level of recycling endeavors within the region/country where you reside? Please circle one item from the following list that best reflects your point of view.**

1. Recycling efforts are active
2. Some efforts to recycle materials are in progress
3. Recycling has only just begun
4. All waste materials are thrown away and there is no recycling
5. Other (Please specify: \_\_\_\_\_ )

**4-6-4. How do you evaluate the progress of measures to respond to problems created by waste materials in the region/country where you reside? Please circle one item from the following list that best reflects your point of view.**

- |                         |                  |                     |
|-------------------------|------------------|---------------------|
| 1. Significant progress | 2. Some progress | 3. Cannot determine |
| 4. Almost no progress   | 5. No progress   |                     |

**4-7. Urbanization/Transportation Problems**

**4-7-1. In the region/country where you reside, what problem regarding issues of transportation should be prioritized for a response? Please circle two items from the following list that you consider most significant.**

1. Congestion and other obstacles to transportation created by an excessive concentration of automobiles
2. Insufficient/poor quality of public transportation and distribution infrastructure, e.g. networks of roads and rail-ways
3. Decline in convenience and comfort of public transportation due to overcrowded conditions
4. Environmental destruction, e.g. air and noise pollution caused by transit vehicles
5. Frequent incidence of accidents and disasters caused by excessive numbers of transportation vehicles
6. No transportation problems in particular
7. Other (Please specify: \_\_\_\_\_ )

**4-7-2. In the region/country where you reside , what problem regarding issues of urban environmental problems should be prioritized for a response? Please circle two items from the following list that you consider most significant.**

1. Increase in waste
2. Air and noise pollution
3. Declining convenience and comfort caused by congestion and overcrowded conditions
4. Disappearance of greenery and natural environments
5. Urban sprawl, and the deterioration of urban environments with the spread of metropolitan areas into suburbs
6. Maintenance of water supply, sewerage, and sanitation systems
7. Other (Please specify: \_\_\_\_\_ )

**4-7-3. From the following list of urban infrastructures, please circle two priority items that have significant relationships with urban environmental problems in the region/country where you reside.**

1. Energy supply
2. Water supply
3. Sewerage processing
4. Development and maintenance of transportation infrastructure, e.g. networks of railways and roads
5. Development and maintenance of waste processing facilities
6. Other (Please specify: \_\_\_\_\_ )

**4-7-4. How do you evaluate the progress of measures to respond to urbanization and transportation problems in the region/country where you reside ? Please circle one item from the following list that best reflects your point of view.**

- |                         |                  |                     |
|-------------------------|------------------|---------------------|
| 1. Significant progress | 2. Some progress | 3. Cannot determine |
| 4. Almost no progress   | 5. No progress   |                     |

**4-8. The Preservation and Restoration of Ecosystems and Biodiversity**

**4-8-1. What do you consider as the most important environmental issues requiring a response with regards to preserving and restoring ecosystems and biodiversity? Please check two items in each column in the following chart that you consider most significant.**

1. Decrease of habitats, including deforestation and agricultural land development
2. Decrease of species
3. Destruction of traditional ecosystems due to the introduction/ invasion of foreign species
4. Negative impact of pollutants created by human activities, including the overuse of nutrients and fertilizers
5. Decrease of resources for agricultural and marine production
6. Other (Please specify: \_\_\_\_\_ )

**4-8-2. For the item you chose in question 3-4-1, which of the following will have the greatest influence? Please check one item in each column in the following chart that best reflects your point of view.**

1. Deterioration and decrease of freshwater resources
2. Deterioration of air and water quality
3. Increasing frequency of abnormal regional and local weather conditions
4. Pest epidemic
5. Acceleration in the extinction of species and the disappearance of biodiversity
6. Other (Please specify: \_\_\_\_\_ )

**4-8-3. What do you think is the primary cause of the destruction of ecosystems and biodiversity? Please check one item in each column in the following chart that best reflects your point of view.**

1. Climate change as a natural occurrence
2. Unrestricted land development
3. Excessive consumption and emission of chemical substances
4. Excessive hunting and fishing
5. Other (Please specify: \_\_\_\_\_ )

**4-8-4. How do you evaluate the progress of measures to preserve and restore ecosystems and biodiversity? Please check one item in each column in the following chart that best reflects your point of view.**

- |                         |                  |                     |
|-------------------------|------------------|---------------------|
| 1. Significant progress | 2. Some progress | 3. Cannot determine |
| 4. Almost no progress   | 5. No progress   |                     |

**5. Feel free to write comments on any topic related to environmental problems. Use additional paper if required.**

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**Results of the 15th Annual  
"Questionnaire on Environmental Problems and the Survival of Humankind"**

**REPORT**

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