

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

REPORT

THE ASAHI GLASS FOUNDATION

September 1996

Contents

Foreword.....	1
I. Facts about the Fifth Annual “Questionnaire on Environmental Problems and the Survival of Humankind”	2
II. Summary of Questionnaire Results	3
1. Humanity in Crisis	4
2. Lifestyle Changes.....	9
3. Progress on Environmental Issues since the Earth Summit	10
4. Preservation of Biological Diversity	13
5. Realizing a Sustainable Society	14
6. Global Warming.....	17
III. Comments from Respondents	19
IV. Questionnaire as Distributed to Respondents	26

Foreword

This report contains the results of the fifth annual “Questionnaire on Environmental Problems and the Survival of Humankind” conducted by the Asahi Glass Foundation.

Four years have passed since the United Nations Conference on Environment and Development, or Earth Summit, held in Rio de Janeiro. Although international interest in and enthusiasm for environmental issues seem to have waned since then, we believe that the search for solutions to environmental problems has taken on an ever greater urgency. Consequently, we are pleased that we were able to obtain the enthusiastic participation of many informed respondents who answered our questionnaire.

As in past years, this year’s questionnaire was designed to gauge the perceptions of respondents, mainly specialists from both governmental organizations (GOs) and nongovernmental organizations (NGOs) concerned with global environmental problems, regarding the progress of efforts to conserve the environment since the Earth Summit. The questionnaire was also aimed at grasping regional differences with regard to these problems. This year we are also examining global warming, measures for bringing about a sustainable society, and the preservation of biological diversity.

The Foundation would like to thank the many members of GOs and NGOs throughout the world who took the time to respond. In addition, the Foundation is grateful to Professor Akio Morishima of the Faculty of Law of Sophia University for again providing invaluable advice throughout the entire duration of the project.

In closing, we welcome the opinions and advice of specialists from many fields of endeavor regarding the questionnaire, so that future surveys may yield even more comprehensive, relevant results.

September 1996
Asahi Glass Foundation

I. Facts about the Fifth Annual "Questionnaire on Environmental Problems and the Survival of Humankind"

Response period: Questionnaires were sent out in April 1996 with a return deadline of July 10, 1996.

Questionnaire respondent pool: Selected from members of GOs and NGOs in the United Nations Environment Program and Asahi Glass Foundation databases.

Questionnaires mailed: 3,197

Questionnaires returned: 589*

Response rate: 18.4%

*Questionnaires returned after July 10, 1996, are not reflected in these results.

Breakdown of respondents by region, sex, and occupational affiliation:

Region	Number of responses	(Percent of total)
Japan	282	(47.9)
Asia (outside Japan)	63	(10.7)
United States & Canada	51	(8.7)
Latin America	35	(5.9)
Western Europe	77	(13.1)
Eastern Europe & the former Soviet Union	16	(2.7)
Middle East	11	(1.9)
Africa	32	(5.4)
Oceania	21	(3.6)
No response	1	(0.2)
Total	589	(100.0)

Sex	Number of responses	(Percent of total)
Male	470	(79.8)
Female	108	(18.3)
No response	11	(1.9)
Total	589	(100.0)

Occupational affiliation	Number of responses	(Percent of total)
Governmental organization	181	(30.7)
Nongovernmental organization	254	(43.1)
Other	137	(23.3)
No response	17	(2.9)
Total	589	(100.0)

Notes: All percentages in this analysis were calculated based on the 589 replies received as of July 10, 1996. All figures contained in the analysis sections of this report have been rounded to the nearest whole number.

II. Summary of Questionnaire Results

1. Humanity in Crisis

The overall average time response of 9:13, 24 minutes later than in the previous year, has extended well into the time range of extreme concern. The average level of concern among respondents from economically advanced areas grew, although Japan again registered a low level of concern when compared with other areas. In general, women showed greater concern than men.

Approximately 90% of respondents replied that they feel humankind will be unable to maintain its existence based on the mass-production and mass-consumption standards of present-day civilization.

When asked to choose major factors that will affect humankind's prospects for survival, respondents from economically developed regions and Asia typically chose explosive population growth, while respondents from developing countries tended to cite the destruction of nature.

In general, respondents said that they expect humanity to become unable to maintain its existence based on the mass-consumption standards of present-day civilization sometime during the middle of the 21st century—during either their children's or grandchildren's lifetimes. Compared with men, women respondents tended to believe that the crisis would come sooner.

2. Lifestyle Changes

The number of respondents who answered that they already have adapted or can adapt a more frugal lifestyle rose slightly over the previous year. Only a small percentage of Japanese respondents answered that they could change their overconsumption-throwaway lifestyles. So although many respondents from Japan answered that they believe humanity cannot continue to sustain its present mass-consumption-oriented existence, these same respondents feel that making a lifestyle change would be difficult.

3. Progress on Environmental Issues since the Earth Summit

Progress in environmental education and in the activities of nongovernmental organizations was rated highly this year. However, many respondents believe that problems such as poverty and overpopulation, the need to change lifestyles, and the need to integrate economic and environmental policies are major issues that remain to be adequately addressed.

For solutions to environmental problems, environmental education was viewed as very important by respondents from around the world. In addition, poverty and overpopulation, as well as the integration of economic and environmental policies, were regarded as important in many regions. Respondents from economically advanced areas tended to see as important the need to change lifestyles, while respondents from developing regions believed that sustainable agricultural and rural development are important.

4. Preservation of Biological Diversity

Many respondents from all regions chose environmental education and the adoption of national strategies. Only respondents from Japan did not rate the adoption of national strategies highly. Respondents from economically advanced countries believe that public policy revisions and new government policies and standards are the key to preserving biodiversity. Respondents from developing areas believe biodiversity can be preserved through the development of technologies that enable the sustainable use of natural resources while supporting local industries.

5. Realizing a Sustainable Society

Over 80% of respondents agreed that, for the realization of a sustainable society, advanced nations should provide assistance to less developed countries to help alleviate the North-South problem.

Respondents from economically developed regions tended to say that changes in mass-production and overconsumption-throwaway-type systems and environmental taxes are necessary. In developing regions, respondents were more likely to cite the development of sustainable technologies as important.

6. Global Warming

Overall, approximately 60% of all respondents were pessimistic about attaining the United Nations Framework Convention on Climate Change (FCCC) target, and Japan had the most pessimistic outlook of all regions surveyed. On the other hand, about 60% of respondents from the United States & Canada were optimistic.

1. HUMANITY IN CRISIS

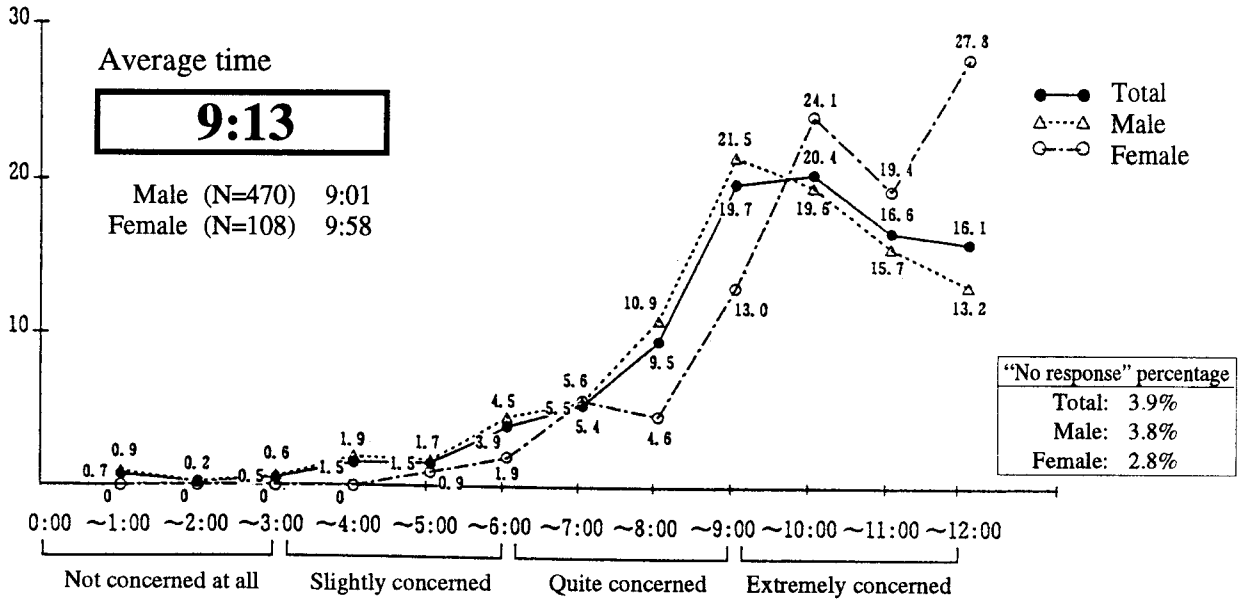
Question 1-1: Indicate with a time your concern about the survival prospects of humankind in light of the deterioration of the environment, taking into consideration the times and associated concern levels listed below.

0:01-3:00 Not concerned at all 3:01-6:00 Slightly concerned 6:01-9:00 Quite concerned 9:01-12:00 Extremely concerned

* N=number of responses

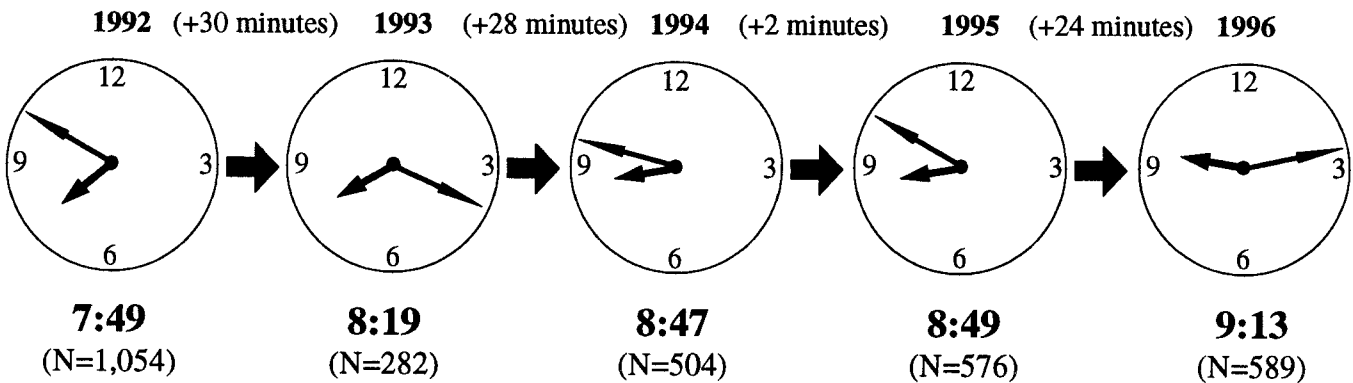
Concern about the Survival Prospects of Humankind

Percent, based on a total of 589 responses



- This year, the average time indicated by respondents was 9:13.
- The majority of responses were concentrated in the 8:00 to 12:00 range ("quite concerned" to "extremely concerned").
- The average time indicated by women was approximately one hour later than the average time indicated by men. More than one-quarter of women chose 12:00, the time indicating the most extreme concern.

Changes in Time from Year to Year



- This year's average time is 24 minutes later than the average time for last year. With the exception of 1995, each year the hands of the clock have advanced approximately half an hour.

Changes in Average Time by Region

	Number of respondents	1995 → 1996	Time change
Japan	282	8:08 → 8:51	+43 minutes
Asia	63	9:41 → 9:41	0 minutes
United States & Canada	51	8:52 → 9:30	+38 minutes
Latin America	35	9:23 → 9:28	+5 minutes
Western Europe	77	9:02 → 9:46	+44 minutes
Eastern Europe & the former Soviet Union	16	9:29 → 9:12	-17 minutes
Middle East	11	9:09 → 8:30	-39 minutes
Africa	32	9:33 → 9:25	-8 minutes
Oceania	21	9:44 → 9:43	-1 minute
Overseas total	306	9:22 → 9:34	+12 minutes
Male	470	8:46 → 9:01	+15 minute
Female	108	8:57 → 9:58	+61 minutes

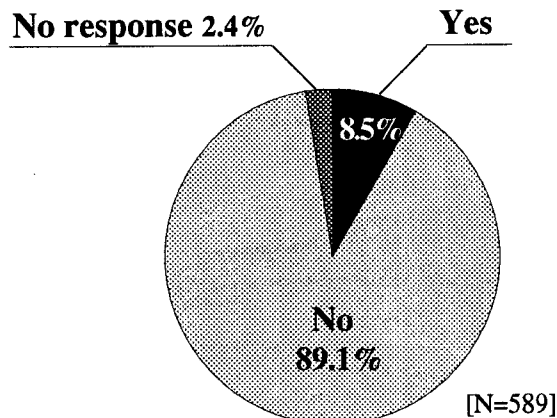
- Regions where the average time indicated was at least ten minutes later than that of the previous year were the economically advanced regions of Japan, the United States & Canada, and Western Europe. Regions where the indicated time receded by ten minutes or more were Eastern Europe & the former Soviet Union and the Middle East.
- Despite the fact that the average time for Japan advanced 43 minutes, Japan recorded the second lowest level of concern, after the Middle East. In addition, the average of all responses from non-Japanese regions was 43 minutes more advanced than the average response from Japan.

Comments

The overall average time response of 9:13, 24 minutes later than in the previous year, has extended well into the time range of extreme concern. The average level of concern among respondents from economically advanced areas grew, but among the developing regions, some areas showed little change and others showed lessened concern. In particular, Japan, the United States & Canada, and Western Europe showed higher levels of concern compared with last year, although Japan again registered a low level of concern when compared with other areas. In general, women showed greater concern than men.

Question 1-2: Do you think that humankind can maintain its existence based on the mass-production and mass-consumption standards of present-day industrial civilization?

* N=number of responses



- Overall, 9% of respondents answered “yes,” and 89% answered “no,” showing strong concern.

		(%)		
		Yes	No	No response
Japan (N=282)		4	94	3
Asia (outside Japan) (63)		19	79	2
United States & Canada (51)		12	88	
Latin America (35)		3	91	6
Western Europe (77)		8	91	1
Eastern Europe & the former Soviet Union (16)		19	81	
Middle East (11)		27	73	
Africa (32)		19	75	6
Oceania (21)		10	86	5
Overseas total (306)		13	85	2
Male (470)		8	89	3
Female (108)		8	90	2

- By region, about 20% of respondents from Asia, Eastern Europe & the former Soviet Union, the Middle East, and Africa answered that yes, humankind will be able to continue to follow its current path of mass production and mass consumption.
- Japan registered the highest percentage of “no” responses, followed by Latin America and Western Europe, showing that concern about the future in Japan is stronger than concern about current conditions.

Comments

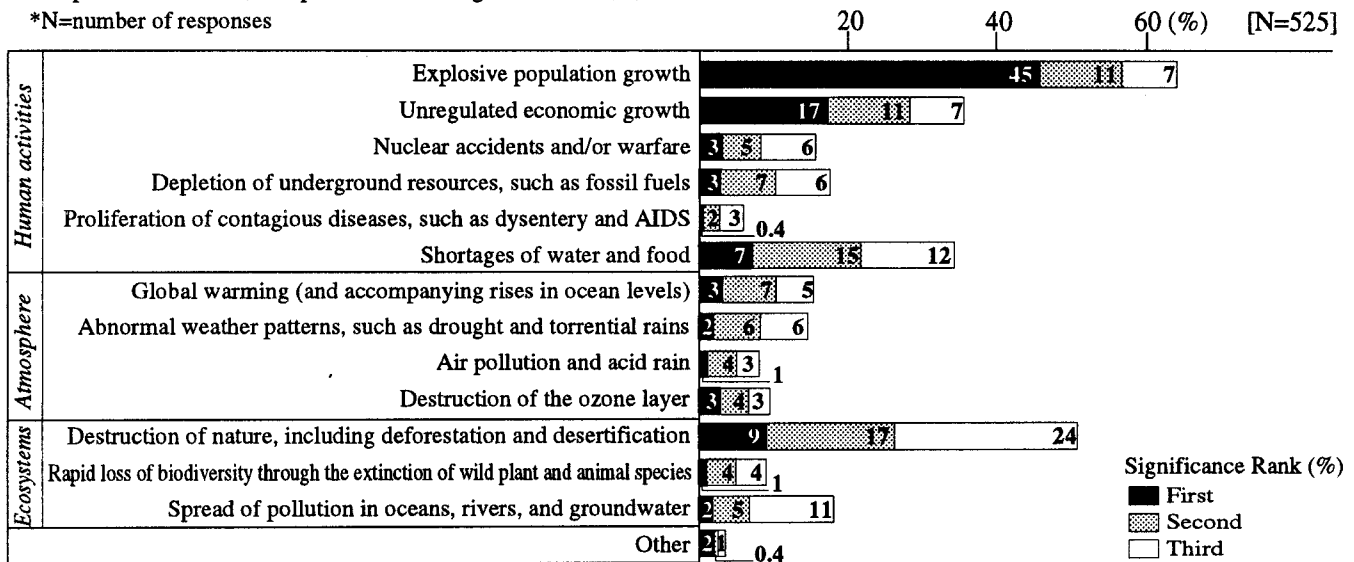
Approximately 90% of respondents replied that they feel humankind will be unable to maintain its existence based on the mass-production and mass-consumption standards of present-day civilization. Although only about 10% of respondents from developed regions said that, yes, humankind will be able to continue to follow its current path, this ratio was approximately 20% for respondents from developing countries, with the exception of Latin America.

Question 1-3: Which of the following factors do you think will most significantly affect humankind's prospects for survival? Please choose three from the list below, ranking the most significant 1, the next most significant 2, and so on.

*Responses to Question 1-3 were taken from only those respondents who answered "no" to Question 1-2.

*Except where stated otherwise, statistical analysis for charts on this page is based on how often a response was chosen, irrespective to the assigned rank of 1, 2, or 3.

*N=number of responses



- By significance, the factors chosen as having the most effect were explosive population growth, unregulated economic growth, and the destruction of nature, in that order. Irrespective of rank, the most often chosen responses were population, the destruction of nature, and unregulated economic growth. Another factor that was chosen often was shortages of water and food.

		Japan (N=264)	Asia (outside Japan) (50)	U.S. and Canada (45)	Latin America (32)	Western Europe (70)	Eastern Europe and the former Soviet Union (13)	Middle East (8)	Africa (24)	Oceania (18)	Overseas total (260)	Male (419)	Female (97)
Human activities	Explosive population growth	57	76	82	59	66	54	50	58	67	68	66	46
	Unregulated economic growth	35	29	44	41	46	31	38	8	33	36	34	39
	Nuclear accidents and/or warfare	17	8	11	9	6	23	50	25	17	12	13	23
	Depletion of underground resources, such as fossil fuels	26	6	4	3	3	8	25	-	6	5	18	6
	Proliferation of contagious diseases, such as dysentery and AIDS	3	8	11	3	9	-	13	8	-	7	6	3
	Shortages of water and food	39	26	18	25	27	39	38	38	28	27	33	35
Atmosphere	Global warming (and accompanying rises in ocean levels)	16	18	13	13	24	8	-	4	6	15	17	9
	Abnormal weather patterns, such as drought and torrential rains	19	-	4	9	11	8	-	25	17	9	15	10
	Air pollution and acid rain	13	12	-	6	3	8	13	8	-	5	9	8
	Destruction of the ozone layer	10	6	2	9	7	31	13	21	6	9	9	13
Ecosystems	Destruction of nature, including deforestation and desertification	45	58	42	63	60	62	13	67	61	56	49	57
	Rapid loss of biodiversity through the extinction of wild plant and animal species	1	26	20	34	14	8	25	13	-	19	9	11
	Spread of pollution in oceans, rivers, and groundwater	13	22	27	19	17	15	25	13	44	22	15	26
	Other	3	8	11	3	1	8	-	-	-	5	4	5

Notes: A circle indicates the most often chosen item within a region.

A square indicates the second most often chosen item within a region.

A diamond indicates the third most often chosen item within a region.

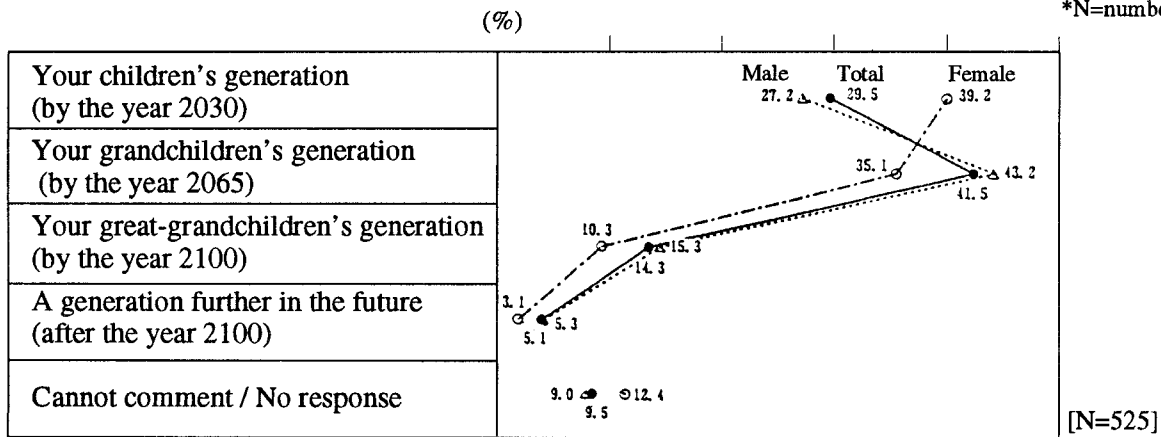
- By region, respondents fell into two basic groups. Respondents from Japan, Asia, the United States & Canada, Western Europe, the Middle East, and Oceania chose explosive population growth most often. Respondents from Latin America, Eastern Europe & the former Soviet Union, and Africa chose the destruction of nature most often. Respondents from the Middle East also viewed nuclear accidents and warfare as extremely important issues.

Comments

When asked to choose major factors that will affect humankind's prospects for survival, respondents from economically developed regions and Asia typically chose explosive population growth, while respondents from developing areas tended to cite the destruction of nature.

Question 1-4: In which generation do you think humanity will become unable to maintain its existence based on the mass-production and mass-consumption standards of present-day civilization?

*N=number of responses



- The largest number of respondents indicated that they believed the crucial moment for humanity would come during their grandchildren's generation (by the year 2065). The second most common response was during their children's generation (by the year 2030). Thus, most respondents believe that humankind will encounter a crisis of survival sometime during the middle of the 21st century.

	children's generation	grandchildren's generation	great-grandchildren's generation	generation further in the future	Cannot comment/ No response
Japan (N=264)	29	46	15	3	7
Asia (outside Japan) (50)	36	36	12	12	4
United States & Canada (45)	29	36	16	7	13
Latin America (32)	34	28	19	6	13
Western Europe (70)	30	44	10	5	13
Eastern Europe & the former Soviet Union (13)	8	46	23	0	23
Middle East (8)	13	50	13	13	13
Africa (24)	25	38	4	13	21
Oceania (18)	33	22	22	11	11
Overseas total (260)	30	37	14	7	12
Male (419)	27	43	15	5	9
Female (97)	39	35	10	5	12

- The percentage of respondents indicating that the crisis for humanity would come during their own children's lifetimes was low for Eastern Europe & the former Soviet Union, the Middle East, and Africa, but constituted one-third of responses for all other regions surveyed.
- For Japan, Western Europe, and Asia, many respondents believe that a crisis of survival would occur during either their children's or their grandchildren's lifetimes.
- For the most part, women believed that a crisis would come sooner rather than later, as compared with men.

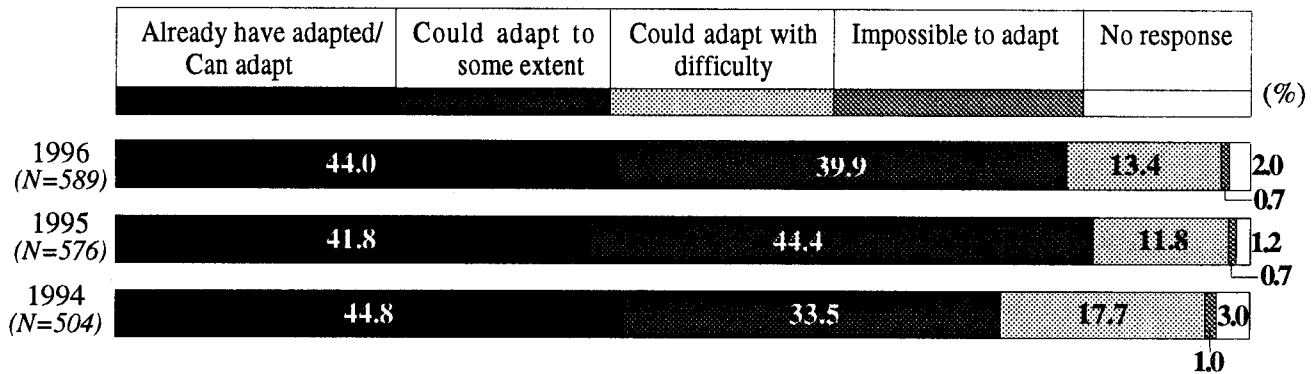
Comments

In general, respondents said that they expect humanity to become unable to maintain its existence based on the mass-consumption standards of present-day civilization sometime during the middle of the 21st century—during either their children's or grandchildren's lifetimes. Compared with men, women respondents tended to believe that the crisis would come sooner.

2. LIFESTYLE CHANGES

Question 2: Lately there is a growing consensus that we should change our overconsumption-throwaway lifestyle. How do you feel about adapting a more frugal lifestyle, e.g., using less electricity, purchasing products that are environmentally sound, or reducing the amount of household garbage? Choose the appropriate response.

*N=number of responses



- The vast majority of respondents support the idea of changing lifestyles, with the percentage of respondents choosing “already have adapted/can adapt” or “could adapt to some extent” at 84%.
- The percentage of respondents who chose “already have adapted/can adapt” rose from 42% in the previous year to 44%. However, the latter figure is nearly the same as the result from two years ago.

“Already Have Adapted/Can Adapt” Responses by Region (%)

	Already have adapted/Can adapt (%)	1996		1995		1994	
		(1)	(2)	(1)	(2)	(1)	(2)
Japan (N=282)	27%	27	53	23	65	29	59
Asia (63)	54%	54	30	53	34	58	9
United States & Canada (51)	80%	80	16	92	8	83	4
Latin America (35)	71%	71	23	75	15	53	25
Western Europe (77)	65%	65	25	63	29	50	32
Eastern Europe & the former Soviet Union (16)	13%	13	56	7	36	29	24
Middle East (11)	36%	36	46	50	31	-	-
Africa (32)	38%	38	47	39	36	45	17
Oceania (21)	67%	67	14	46	41	73	14
Overseas total (306)	60%	60	28	56	29	55	18
Male (470)	42%	42	42	38	48	42	36
Female (108)	55%	55	34	56	33	55	26

Notes: Column (1) indicates percentage of “already have adapted/can adapt” responses.
Column (2) indicates percentage of “could adapt to some extent” responses.

- Regions with the highest percentage of respondents choosing “already have adapted/can adapt” were the United States & Canada, followed by Latin America, Oceania, and Western Europe.
- Women had a higher percentage of “already have adapted/can adapt” responses than men.

Comments

The number of respondents who answered that they already have adapted or can adapt a more frugal lifestyle rose slightly over the previous year. Only a small percentage of Japanese respondents answered that they already have or could change their overconsumption-throwaway lifestyles. So although many respondents from Japan answered that they believe humanity cannot continue to sustain its present mass-consumption-oriented existence, these same respondents feel that making a lifestyle change would be difficult.

3. PROGRESS ON ENVIRONMENTAL ISSUES SINCE THE EARTH SUMMIT

Question 3-1: Since the Earth Summit held in Rio de Janeiro in June 1992, to what extent has progress been achieved in the areas described below. For each item, choose the best response, considering the situation *in your own country only*.

	[Number of responses: 589]					1996 (A)+(B)	1995 (A)+(B)
	(A) Significant progress (%)	(B) Some progress	Cannot determine	Almost no progress	No progress		
1. International cooperative efforts	4	44	22	26	5	47	48
2. Poverty and overpopulation	2	18	22	41	17	20	25
3. Lifestyles and consumption patterns	1	20	18	41	21	20	23
4. Local GO and citizens' group activities	6	57	18	16	2	63	62
5. NGO activities	13	62	17	7	2	75	69
6. Industrial sector policies	5	48	23	19	5	53	49
7. Global warming	1	24	26	36	13	25	26
8. Ozone layer protection	11	41	19	20	9	52	52
9. Acid rain reduction	3	24	32	29	11	27	25
10. Forest conservation	5	28	23	34	11	33	37
11. Desertification	2	13	37	33	14	16	20
12. Agricultural and rural development	2	24	24	36	14	26	24
13. Biodiversity	4	31	25	30	10	35	32
14. Protection of oceans	3	22	32	29	14	25	22
15. Protection of fresh water resources	3	25	31	30	11	28	31
16. Hazardous waste disposal	5	35	24	26	10	40	42
17. Recycling systems	5	46	21	20	8	51	46
18. Scientific and technological advancement	7	48	27	14	5	55	53
19. Environmental education	12	52	20	12	4	64	64
20. Environmental assessment system	5	30	29	26	11	35	
21. Integration of economic and environmental policies	1	18	22	37	23	18	

Notes: Figures surrounded by a circle indicate a rise of four percentage points or more from the previous year.

Figures surrounded by a triangle indicate a decrease of four percentage points or more from the previous year.

In cases where no answer has been indicated by a respondent, a response of "cannot determine" has been recorded.

- Items in which many respondents believed progress to have occurred were activities by NGOs, activities by local governments and citizens' groups, environmental education, scientific and technological advancements, and environmental efforts by the industrial sector.
- Conversely, few respondents indicated that they believed progress had been achieved in the implementation of economic policies that adequately reflect environmental policies, basic problems such as poverty and overpopulation, and efforts to alter lifestyles. With the exception of ozone layer protection, respondents felt there was little progress in areas involving concrete issues related to the environment, such as countering global warming, combating desertification, or protecting the oceans.
- Compared with results from last year, the percentage of respondents who indicated progress in activities by NGOs rose six percentage points. The response rate increased five percentage points for recycling systems and four percentage points for industrial sector environmental policies.
- The percentage of respondents who indicated progress in solving poverty and overpopulation problems fell five percentage points from the previous year. In addition, the response rate fell four percentage points for both forest conservation and desertification.

Progress on Environmental Issues by Region

	Japan		Asia (outside Japan)		U.S. and Canada		Latin America		Western Europe		Eastern Europe and the former Soviet Union		Middle East		Africa		Oceania	
	1996 (282)	1995 (248)	1996 (63)	1995 (62)	1996 (51)	1995 (25)	1996 (35)	1995 (48)	1996 (77)	1995 (79)	1996 (16)	1995 (14)	1996 (11)	1995 (16)	1996 (32)	1995 (62)	1996 (21)	1995 (22)
1. International cooperative efforts	43	38	(57)	58	(55)	60	46	54	40 < 51	(50) > 36	46	44	(63)	68	(62) > 50			
2. Poverty and overpopulation	14	15	43	52	22	20	37	29	8	17	13	21	18	19	44	45	19	< 41
3. Lifestyles and consumption patterns	16	20	21	26	29 < 48	20 > 10	26	35	19 > 7	27	19	13	15	43	36			
4. Local GO and citizens' group activities	(52)	54	(65)	69	(77)	68	(74)	67	(79) > 67	(69) > 57	(55) < 81	(75) > 65	(86)	82				
5. NGO activities	(67) > 55		(83)	84	(86) > 76	(83)	92	(82)	75	(81) > 71	(73)	81	(88)	79	(86)	82		
6. Industrial sector policies	(53)	55	48	47	(57)	60	43 > 31	(55)	51	44 < 64	(64) < 81	47 > 31	(71) > 36					
7. Global warming	19	18	32	29	31 < 60	23	25	26	33	25	29	18	19	47 > 27	38	36		
8. Ozone layer protection	(52)	58	41	40	(65)	68	34	29	(69)	68	38	43	36	44	(53) > 34	43	50	
9. Acid rain reduction	22	19	18	23	(51)	52	26	21	46	47	38 < 64	27	25	13	7	19	23	
10. Forest conservation	14	19	(56)	58	35 < 52	(51)	48	38	33	44	50	36 < 56	(81) > 63	(86) > 55				
11. Desertification	4	9	33	36	12	16	23	19	8	6	0 < 29	46 < 63	(88) > 55	33 > 23				
12. Agricultural and rural development	8	7	(57) > 44		37 > 20	43 > 31	21	27	25 < 36	(55) > 38	(69) > 57	(62) > 41						
13. Biodiversity	16	11	46	47	49	40	(51)	56	42	38	(56)	50	(64) > 44	(75) > 53	(67)	68		
14. Protection of oceans	13	14	30	29	43	36	40 > 23	26	24	31 > 21	(55) > 31	44 > 24	48	50				
15. Protection of fresh water	12	12	33	40	43 < 56	37 > 23	34	42	(63)	64	(73)	69	(66) > 48	(52) < 68				
16. Hazardous waste disposal	38	38	38	36	45 < 60	31	23	49	57	(50) > 29	36 < 75	34	40	48 < 68				
17. Recycling systems	48	45	37	40	(94) > 68	23	31	(70)	71	31	29	46	50	34 > 21	(57)	59		
18. Scientific and technological advancement	(50)	57	(52)	50	(71)	64	46	42	(61)	58	(50)	57	(82) > 50	(50) > 37	(71) > 50			
19. Environmental education	49	49	(71) < 90	(88) > 72	(77)	85	(66) > 56	(94) > 57	(91) > 81	(88) > 77	(91) > 77							
20. Environment assessment system	21		48		43		37		39	(75)	(64)	(63)	(62)					
21. Integration of economic and environmental policies	11		25		14		29		22	44	9	38	33					

Notes: Figures show the sum of "Significant progress" and "Some progress" responses.

Percentage figures for 1996 greater than 50% have been circled. The No. 1 response for each region has been marked with a double circle.

Where results for 1995 and 1996 differ by more than 10 percentage points, a greater than/less than sign has been included.

- Items that were rated highly by nearly every region, garnering a response rate of more than 50% in nearly every case, were activities by local governments and citizens' groups, activities by nongovernmental organizations, science and technology's contributions toward solving environmental problems, and environmental education.
- Conversely, four items that consistently had response rates of below 50% by respondents from all regions were poverty and overpopulation, lifestyle changes, global warming, and the integration of economic and environmental policies.

Comments

Progress in environmental education and in the activities of nongovernmental organizations was rated highly this year. However, many respondents believe that poverty and overpopulation, the need to change lifestyles, and the need to integrate economic and environmental policies are major problems that remain to be adequately addressed.

Question 3-2: From the 21 items in Question 3-1, choose the three that you believe are most important for solving environmental problems *in your own country only*.

Areas Most Important in Respondents' Own Countries by Region

(%)	Japan N=282	Asia (outside Japan) N=63	U.S. and Canada N=51	Latin America N=35	Western Europe N=77	Eastern Europe and the former Soviet Union N=16	Middle East N=11	Africa N=32	Oceania N=21
1. International cooperative efforts	21	13	6	14	9	13	-	13	14
2. Poverty and overpopulation	12	(44)	(24)	(51)	13	13	(27)	(63)	19
3. Lifestyles and consumption patterns	(44)	21	(43)	26	(55)	25	9	9	(29)
4. Local GO and citizens' group activities	5	16	10	11	12	-	9	9	14
5. NGO activities	14	8	4	6	4	6	(27)	6	10
6. Industrial sector policies	22	13	22	9	17	(44)	18	3	14
7. Global warming	11	2	10	-	18	-	-	-	10
8. Ozone layer protection	4	2	-	3	5	-	-	3	5
9. Acid rain reduction	0	2	-	-	1	6	-	-	-
10. Forest conservation	4	19	8	11	3	19	18	16	14
11. Desertification	0	3	-	6	3	6	9	9	-
12. Agricultural and rural development	9	(30)	14	23	25	(31)	9	(44)	24
13. Biodiversity	4	13	8	9	8	-	-	6	5
14. Protection of oceans	2	2	-	3	3	-	9	-	-
15. Protection of fresh water	2	13	14	9	10	19	(27)	6	5
16. Hazardous waste disposal	9	3	12	-	9	19	(27)	6	5
17. Recycling systems	28	8	2	3	13	19	18	-	-
18. Scientific and technological advancement	15	8	12	9	10	6	9	6	5
19. Environmental education	(30)	(37)	(24)	(46)	(26)	(31)	(36)	(38)	(33)
20. Environment assessment system	12	13	16	14	4	13	27	16	10
21. Integration of economic and environmental policies	(42)	24	(51)	(40)	(46)	(31)	18	25	(29)

*N=number of responses

Notes: The above figures show the number of times the item was chosen as a percentage of total responses. In the chart above, a "0" is used to express the range of 0.1%–0.4%. A dash shows figures below 0.1%. The circles indicate items with the top three percentage figures per region. The No. 1 response for each region has been marked with a double circle.

- Items that were regarded as important in nearly every region were efforts to solve the problems of poverty and overpopulation, efforts to alter lifestyles and consumption patterns, environmental education, and the integration of economic and environmental policies.
- Respondents from developing regions rated finding solutions to poverty and overpopulation as the most significant item and also showed strong interest in sustainable agriculture. Efforts to alter lifestyles and consumption patterns were rated highly by respondents from developed areas. In addition, respondents from Eastern Europe & the former Soviet Union rated environmental protection policies of the industrial sector as most important.

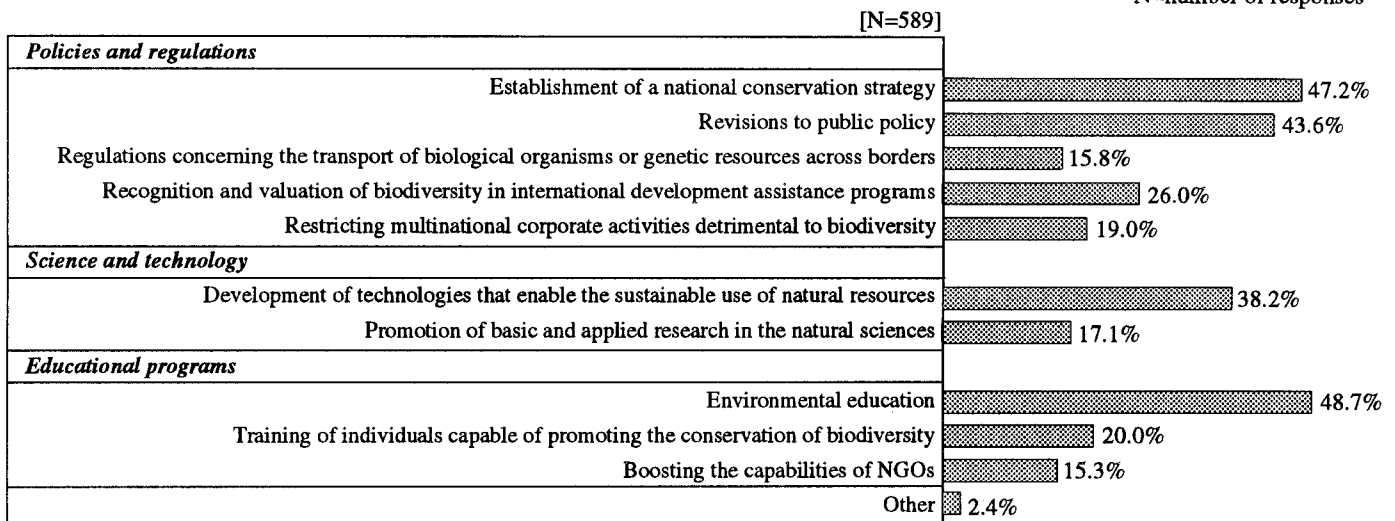
Comments

Environmental education was viewed as very important by respondents from around the world. In addition, poverty and overpopulation, as well as the integration of economic and environmental policies, were regarded as important in many regions. Respondents from economically advanced areas tended to see as important the need to change lifestyles, while respondents from developing regions believed that sustainable agricultural and rural development are important.

4. PRESERVATION OF BIOLOGICAL DIVERSITY

Question 4: What measures do you feel will be necessary to preserve biological diversity *in your own country*? Choose three.

*N=number of responses



- Overall, environmental education, the establishment of national conservation strategies, revisions to public policy, and the sustainable use of natural resources for the advancement of local industries were the measures chosen by the most respondents.

Policies and regulations	Region									
	Japan (N=282)	Asia (outside Japan) (63)	U.S. and Canada (51)	Latin America (35)	Western Europe (77)	Eastern Europe and the former Soviet Union (16)	Middle East (11)	Africa (32)	Oceania (21)	
Establishment of a national conservation strategy	30 (68)	53 (83)	52 (50)	50 (64)	69 (69)	64 (69)	69 (53)	81 (52)		
Revisions to public policy	51 (22)	49 (14)	55 (44)	55 (44)	44 (55)	34 (55)	19 (34)	19 (14)		
Regulations concerning the transport of biological organisms or genetic resources across borders	22 (22)	16 (2)	14 (5)	6 (6)	36 (36)	13 (13)	14 (14)			
Recognition and valuation of biodiversity in international development assistance programs	38 (10)	16 (16)	18 (18)	13 (13)	9 (9)	19 (19)	19 (19)			
Restricting multinational corporate activities detrimental to biodiversity	22 (22)	18 (29)	14 (18)	6 (6)	9 (9)	9 (9)	-			
Science and technology										
Development of technologies that enable the sustainable use of natural resources	21 (64)	47 (69)	44 (69)	27 (69)	53 (53)	52 (52)				
Promotion of basic and applied research in the natural sciences	22 (22)	5 (20)	17 (13)	13 (13)	9 (9)	9 (9)	19 (19)			
Educational programs										
Environmental education	45 (45)	54 (51)	37 (49)	75 (75)	55 (55)	56 (56)	52 (52)			
Training of individuals capable of promoting the conservation of biodiversity	25 (25)	19 (12)	11 (12)	13 (13)	27 (27)	22 (22)	29 (29)			
Boosting the capabilities of NGOs	12 (12)	25 (14)	17 (17)	6 (6)	27 (27)	22 (22)	10 (10)			
Other	1 (1)	5 (5)	6 (6)	4 (4)	6 (6)	3 (3)	5 (5)			

Notes: The above figures show the number of times the item was chosen as a percentage of total responses. The circles indicate items with the top three percentage figures per region. The No. 1 response for each region has been marked with a double circle.

- By region, the establishment of national conservation strategies was rated highly by respondents from all regions except Japan. Japan and Western Europe rated revisions to public policy most highly, and respondents from developing regions chose the sustainable use of natural resources for the advancement of local industries.

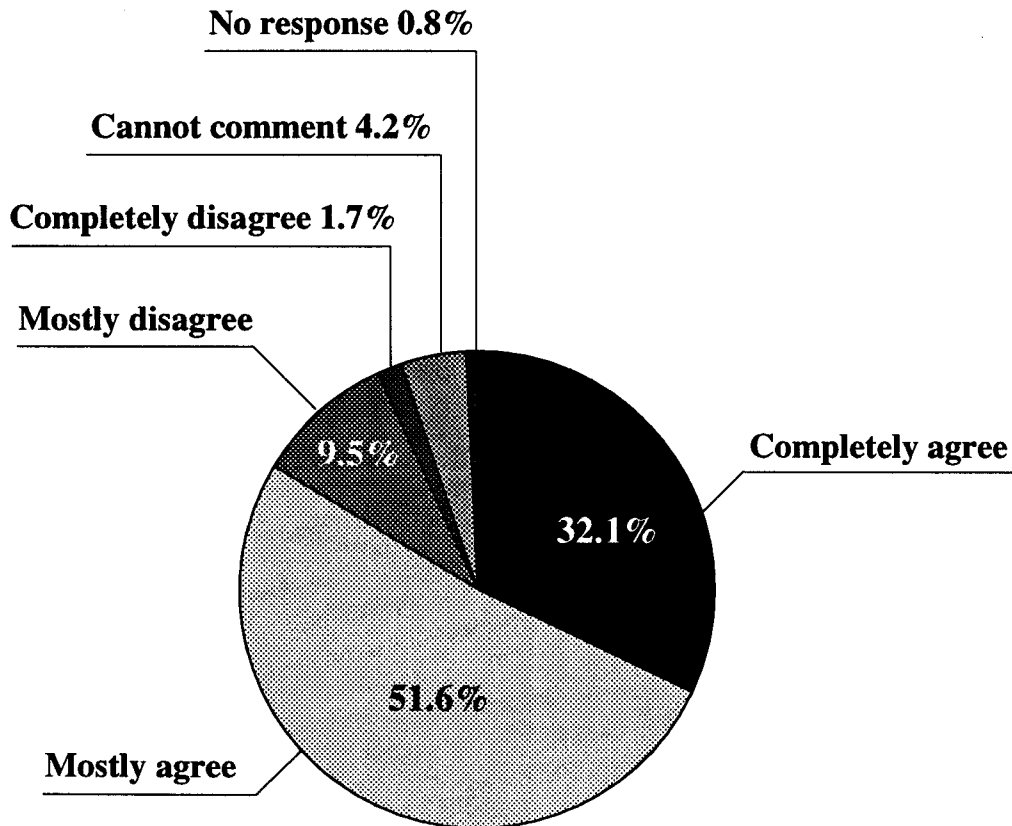
Comments

Many respondents from all regions chose environmental education and the adoption of national strategies. Only respondents from Japan did not rate the adoption of national strategies highly. Respondents from economically advanced countries believe that public policy revisions and new government policies and standards are the key to preserving biodiversity. Respondents from developing areas believe biodiversity can be preserved through the development of technologies that enable the sustainable use of natural resources while supporting local industries.

5. REALIZING A SUSTAINABLE SOCIETY

Question 5-1: "For the realization of a sustainable society, we must eliminate the unequal distribution of resources. Therefore, economically advanced nations must halt their current course of excessive expansion and build a new society based on the conservation and recycling of resources. These advanced nations should also provide assistance to less developed countries to help alleviate the North-South problem."

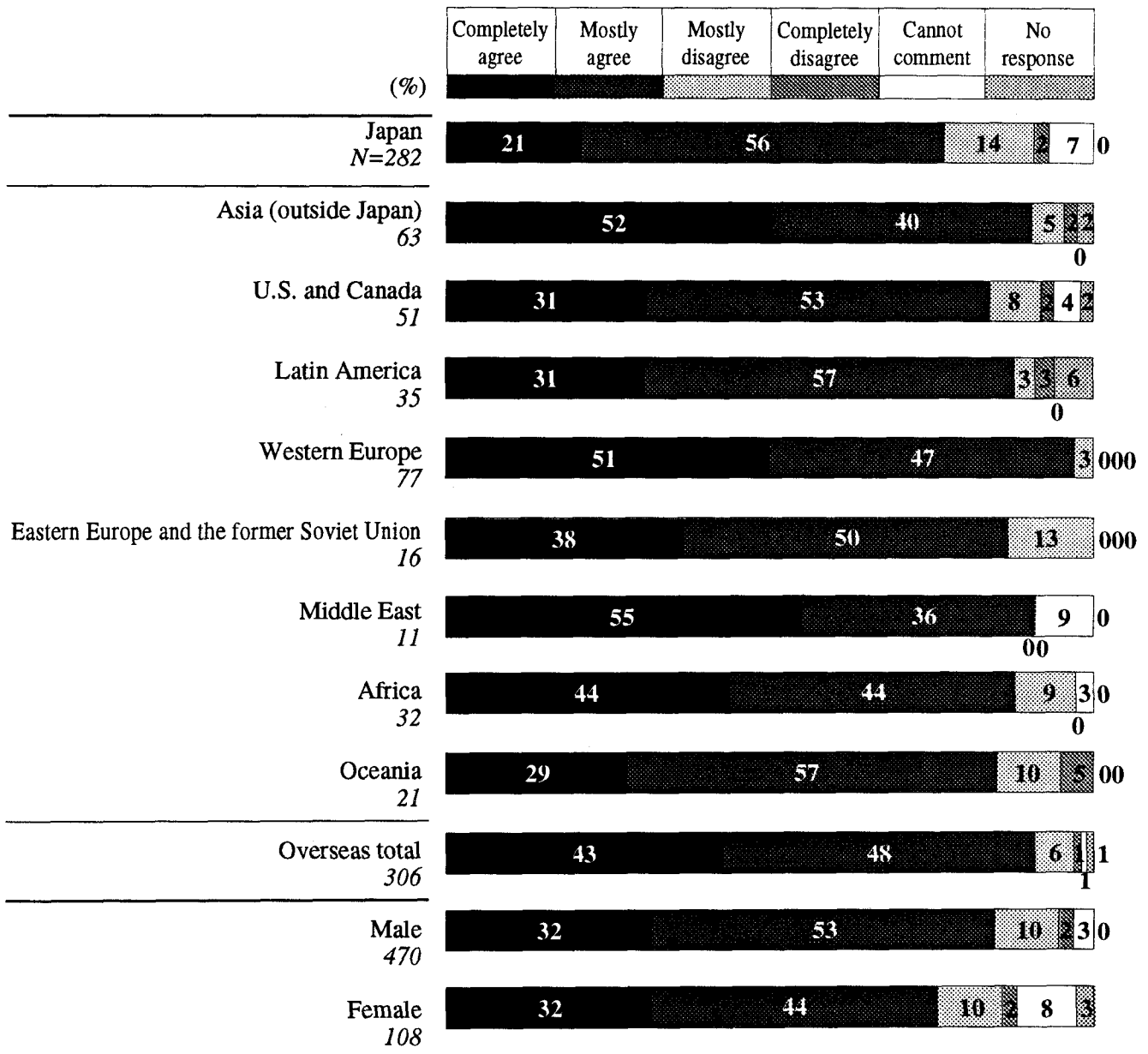
The above statement describes one way to seek the attainment of a sustainable society. What do you think of this statement?



[Number of responses: 589]

- Regarding the above statement on attaining a sustainable society, 32% of respondents answered that they completely agree, and 52% of respondents said that they mostly agree, resulting in an overall total of 84% of respondents indicating some level of agreement. On the other hand, 11% of respondents answered that they either mostly disagreed or completely disagreed.

**Agreement and Disagreement on
Sustainable Society Statement
by region (%)**



*N=number of responses

- The percentage of responses from developing regions indicating agreement was fairly high.
- In developed regions, the high percentage of responses indicating agreement from Western Europe stood out. Japan had the lowest percentage of agreement responses.

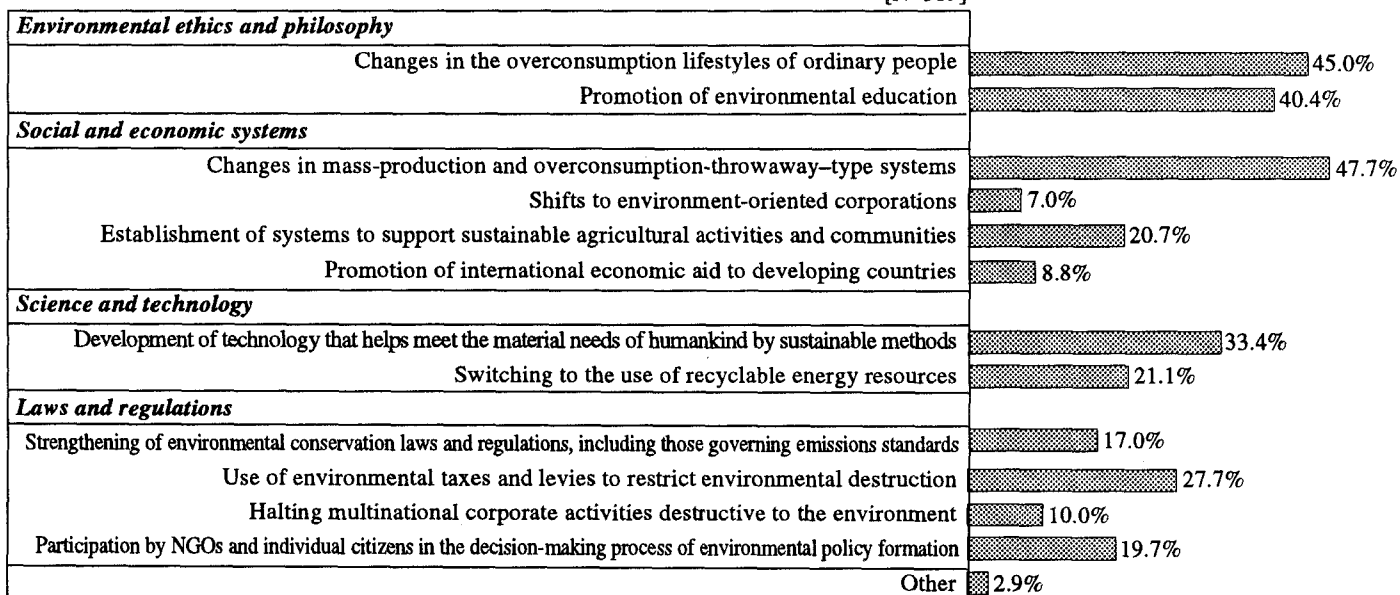
Comments

Over 80% of respondents agreed that, for the realization of a sustainable society, advanced nations should provide assistance to less developed countries to help alleviate the North-South problem.

Question 5-2: What factors do you think are most important for bringing about a sustainable society? Choose three.

[N=589]

*N=number of responses



- Items that were selected with the most frequency were changes in mass-production and overconsumption-throwaway-type systems, changes in the overconsumption lifestyles of ordinary people, and the promotion of environmental education.

(%)

	Japan (N=282)	Asia (outside Japan) (63)	U.S. and Canada (51)	Latin America (35)	Western Europe (77)	Eastern Europe and the former Soviet Union (16)	Middle East (11)	Africa (32)	Oceania (21)
Environmental ethics and philosophy									
Changes in the overconsumption lifestyles of ordinary people	53	30	33	40	55	31	36	16	38
Promotion of environmental education	31	65	41	54	31	50	64	69	48
Social and economic systems									
Changes in mass-production and overconsumption-throwaway-type systems	62	27	37	34	47	25	27	25	38
Shifts to environment-oriented corporations	7	6	6	3	8	25	9	6	5
Establishment of systems to support sustainable agricultural activities and communities	13	35	26	29	20	19	27	38	38
Promotion of international economic aid to developing countries	8	10	2	14	5	19	36	9	14
Science and technology									
Development of technology that helps meet the material needs of humankind by sustainable methods	27	41	35	40	34	50	27	56	33
Switching to the use of recyclable energy resources	28	14	10	14	21	13	9	19	10
Laws and regulations									
Strengthening of environmental conservation laws and regulations, including those governing emissions standards	11	32	20	23	10	31	55	13	29
Use of environmental taxes and levies to restrict environmental destruction	33	8	33	14	40	25	27	9	10
Halting multinational corporate activities destructive to the environment	10	10	18	14	12	-	9	6	-
Participation by NGOs and individual citizens in the decision-making process of environmental policy formation	13	33	26	23	14	6	9	53	38
Other	3	5	8	-	-	-	-	3	10

Notes: The above figures show the number of times the item was chosen as a percentage of total responses. The circles indicate items with the top three percentage figures per region. The No. 1 response for each region has been marked with a double circle.

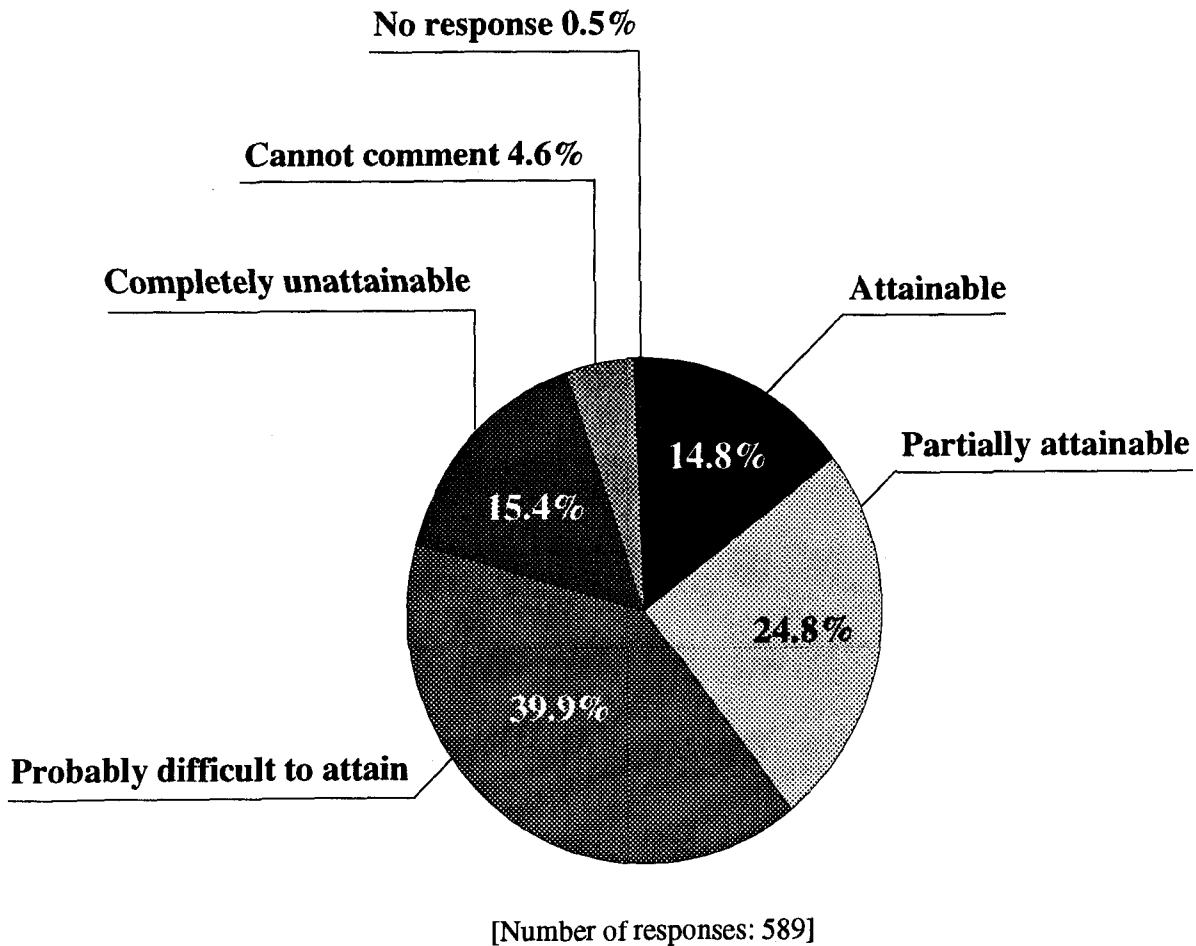
- In this case as well, environmental education was a popular answer, chosen by respondents from around the world. In addition, respondents from Japan, Western Europe, and the United States & Canada indicated that they believe changes in mass-production and overconsumption-throwaway-type systems and environmental taxes are important. These latter two items were not chosen as frequently by respondents from developing regions.

Comments

Respondents from economically developed regions tended to say that changes in mass-production and overconsumption-throwaway-type systems and environmental taxes are necessary. In developing regions, respondents were more likely to cite the development of sustainable technologies as important.

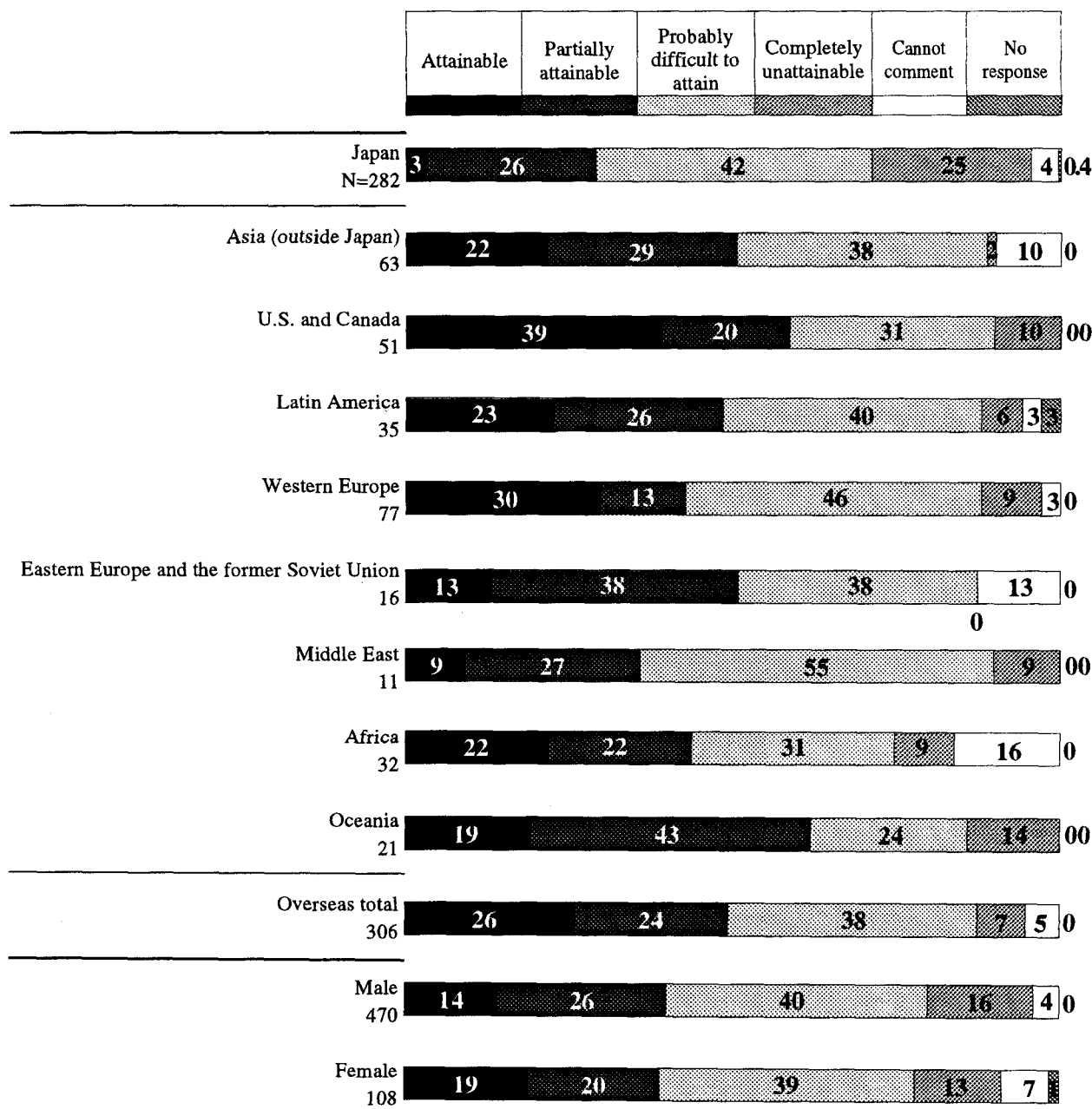
6. GLOBAL WARMING

Question 6: If we are to successfully create a sustainable society, we must endeavor to stop global warming, a phenomenon that could have far-reaching effects on humankind. The objective of the United Nations Framework Convention on Climate Change (FCCC) is to stabilize concentrations of greenhouse gas in the atmosphere at safe levels. As the first step toward this objective, the FCCC calls for developed countries to stabilize their emissions of carbon dioxide at 1990 levels by the year 2000. How do you view the attainability of this targeted first step?



- Respondents who believed the target is either attainable or partially attainable accounted for 40% of the total. On the other hand, 55% said either that the target was probably difficult to attain or completely unattainable, showing that more than half of the respondents are pessimistic about this issue.

**Respondents' Views on the
Attainability of the FCCC's Carbon Dioxide Emissions Stabilization Target
by region**



*N=number of responses

- Regions with a high percentage of “attainable” responses were the United States & Canada, with 39%, and Western Europe, with 30%. Japan, with 3%, was the least optimistic. Even the sum of Japan’s total of “attainable” and “partially attainable” response percentages was lower than the “attainable” response percentages in the United States & Canada and Western Europe.
- Japan’s response of 25% for “completely unattainable” was much larger than of other regions, more than 10 percentage points higher than the next largest, which was Oceania’s response of 14%. With the exception of Japan and Oceania, all regions scored under 10%.

Comments

Overall, approximately 60% of all respondents were pessimistic about attaining the FCCC’s target, and Japan had the most pessimistic outlook of all regions surveyed. On the other hand, about 60% of respondents from the United States & Canada were optimistic.

III. Comments from Respondents

This section contains a selection of respondents' comments to questions one through seven. Each comment is accompanied by the respondent's name, organization, country, and office registration number. Where the respondent has requested anonymity, only his or her gender, if indicated, is denoted by an M or F.

1. Comments pertaining to question 1-2, which concerns humankind's existence based on the mass-production and mass-consumption standards of present-day industrial civilization

Not if existence implies more than mere survival.

Dr. Eldredge Bermingham, Smithsonian Tropical Research Institute, USA 034

The existing natural resources are incompatible with the present mass-consumption standards.

M, Instituto da Conservacao da Natureza, PORTUGAL 050

There are still very numerous unexploited possibilities of the production development, based on scientific progress oriented to a more intensive and adequate use of the natural resources of the world.

Ungoreanu Alex, Alex I. Coza University, Iasi, Romania, ROMANIA 096

The amount of resources are limited and population is growing very fast, although with conscience and technology we could get the equilibrium.

Armando Rojas, Ministry of Science and Technology, COSTA RICA 125

Look at all the "dead" cities of the world....

Anil Chitrakar, IUCN - Nepal, NEPAL 133

Present-day industrial civilization doesn't even maintain the current population. Majorities are starving.

Aggrey Mwuguji, Central government, KENYA 171

Something will have to give!

Carole Douglas, Greenline Group Pty. Ltd., NEW ZEALAND 188

AIDS and other diseases will reduce the population level.

Robert L. Randall, The Rain Forest ReGenerating Institute, USA 194

Industrialization is inevitable to sustain the population explosion which is also inevitable.

Haruna A. Warkani, Economic Community of West African States (ECOWAS), NIGERIA 215

If humankind adopts the Path of Sustainable living or Buddha's 'MIDDLE PATH'.

M, Dasholi Gram Swarajya Mandal, INDIA 284

We will be unable to prevent further environmental deterioration unless the pursuit of profits ceases to be the primary motive for industrial activity. In addition, revolutionary change in human lifestyles is needed if we are to rectify the consumerist bias of society.

Masatoshi Abiko, Environmental Conservation Division, Culture and Environment Department, Yamagata Prefectural Government, JAPAN J006

The problem of garbage disposal will cause city life to grind to a halt.

Takeishi Kaihotsu, former Senior Vice President, Forest Culture Association, JAPAN J019

The threat to humankind's long-term survival is certain, so the question itself appears to be mistaken.

Tomokazu Tokuda, Managing Director, Nissan Science Foundation, JAPAN J056

If the onslaught on the natural environment stemming from air pollution, acid rain, and the depletion of ozone continues at the present rate, humanity is likely to end soon. Give up the relentless pursuit of material comforts and convenience now!

Yoshiki Iwakura, Director, General Affairs Division, The Commemorative Foundation for the International Garden and Greenery Exposition, Osaka, Japan, 1990, JAPAN J068

The earth will perish if population growth continues unabated and all humanity strives for the same level of prosperity, but it seems unlikely that people will be content with their present standards of material well-being.

F, Agricultural Development Corporation Department, Japan International Corporation Agency, JAPAN J128

The fact that people are obsessed with economic growth suggests an extremely low level of awareness of the main problem at hand.

Shuichi Aki, Senior Vice President, Central Research Institute of Electric Power Industry (CRIEPI), JAPAN J186

We are heading for real trouble unless we abandon our self-centered ideologies.

Masaitsu Ito, Advisor, Reforestation Development Division, Department of Forestry and Fisheries, Iwate Prefectural Government, JAPAN J191

Japanese environmental expert Saburo Kato believes that it will be at least 10 years before humanity seriously begins to feel the effects of environmental degradation. However, I believe that the evidence is already appearing around us. I believe that the clock indicated in the previous question points to a protracted period of increasing damage and suffering rather than the extinction of humanity.

Hiroki Yamamoto, Bureau Manager, The Foundation for Earth Environment, JAPAN J200

2. Comments pertaining to question 1-3, which concerns significant factors which affect humankind's prospect of survival

Spiritual ignorance, separation of humanity from nature, lack of love, compassion for all people, races, species.

Patrick Madden, WSAA, USA 008

The industrial culture has to change drastically, and the concept of development must be given new meaning.

P. Macgaard, Folkecenter for Renewable Energy, DENMARK 068

GREED!! Efforts to bridge the gap between knowledge and policy making is also necessary for humankind's prospect for survival....

Lily Venizelos, MEDASSET - Mediterranean Association to Save the Sea Turtles, GREECE 077

We must change the concept "to have is to be happy".

F, Casa de la Paz, CHILE 117

There is an important factor not included, and it is the attitude of people toward these matters.

Armando Rojas, Ministry of Science and Technology, COSTA RICA 125

Humankind is too arrogant to accept that it has made a mistake.

Anil Chitrakar, IUCN - Nepal, NEPAL 133

Population must be curbed if we are to survive in the next century. Air pollution is now a reality as countries aim towards industrialization. Loss of biodiversity is worse than a nuclear explosion.

Henrylito D. Tacio, Mindanao Baptist Rural Life Center, PHILIPPINES 142

Nuclear pollution (testing and warfare) is the biggest threat and this should be stopped at all costs.

M, Department of Town and Country Planning, FIJI 182

Knowledge: Ignorance of true principles of life.

Pankaj Bhatia, Tata Energy Research Associate, INDIA 275

History has shown that upheaval is most likely to occur when the extent of a problem is very large.

Hiromitsu Miyahara, Honda Foundation, JAPAN J013

The ability to solve these problems will hinge on how successful we are at changing the fundamental basis of society. In so doing, we must abandon the goal of maintaining our standard of living, which is the driving force behind present-day industrial society.

M, Suntory Foundation, JAPAN J027

We need to devise a system of controls to counterbalance the pursuit of prosperity.

Yoshihiro Kohda, Executive Secretary, International Society for Mangrove Ecosystems (ISME), JAPAN J065

Potential conflicts arising from explosive population growth in the developing world and the attendant shortages of water and food are more pressing issues than environmental problems.

Kazuyuki Kono, Chief Staff, Environmental Protection Division, Department of Environment, Shizuoka Prefectural Government, JAPAN J090

We live in a world in which humanity has the ability to bioengineer life—even human life. On the other hand, this field contains many unknowns. Foodstuffs is an obvious example.

Shuichi Miyabe, Forest Engineer, Overseas Division, Japan Forest Technical Association, JAPAN J156

It is impossible to prevent the developing countries from achieving economic growth—or, more specifically, from catching up economically with the industrialized world.

M, Nature Conservation Bureau, Environment Agency, JAPAN J206

3. Comments pertaining to question two, which concerns the adaptation of a more frugal lifestyle

We have just one child. We take the bus to work. We do not use fertilizers/pesticides. We buy what we need (we don't "stop" aimlessly).

Andre Desrochers, Universite Laval (Quebec), CANADA 027

Own no car. Do not heat all rooms in winter. Do not cook for one person only. Recycle as much as possible.

Bernhard Meier, International Seed Testing Association, SWITZERLAND 075

We use our car once or twice a week. We choose bicycle and mass transportation. I am a lawyer. I don't receive any lawsuit which may have a negative effect on nature. I am giving free and voluntary legal advice to persons who struggle for the protection of environment.

M, Lawyers for Environment - Izmir, TURKEY 189

In India and other developing countries particularly in South Asia it is estimated that more than 520 million people are living below the poverty line and need help in a big way from the industrialized nations to alleviate their poverty and for improving their life. It is the lifestyle and over-consumption pattern of the affluent nation that are causing the greatest troubles globally. It is they who should reduce their consumption pattern and wasteful lifestyle. Use bicycles instead of cars to make life free from hazardous air pollution. Seeing and experiencing may be a better mode of change than mere raising the awareness of the people. Affluent people should accept the lifestyle of poor nations in small groups for a period of 2-3 months. On their return home, they become very effective agents of change in their society for bringing a perceptible change in their lifestyle and consumption pattern.

Kalipada Chatterjee, Development Alternatives, INDIA 204

Reduced energy consumption by 50%, sold one car and reduced use of the other by 50%; do not fly anymore; use regional products if possible; invest in ecological projects; use 20% of income for environmental organization, etc..

Dr. Hans-Christian Mittaj, Voluntarian for Naturshukbund Deutschland, GERMANY/USA 222

- 1) Giving up a second car in our family and using public transport.
- 2) Making a tube of shaving-cream last (quite painlessly) for at least three years
- 3) Saving and reusing wrappings as we did with paper bags in England during both world wars.
- 4) Recycling everything possible and conforming to local regulation (or better) when waste is involved.

Prof. Dr. Nicholas Polunin, Foundation for Environmental Conservation, UK 282

Take a bus - don't have a car of my own, only one car in my home. I drink royal milk.

Clarisa Vega de Ferrera, Ministerio Publico, HONDURAS 289

Have a kitchen-garden for family meals, avoid buying newspapers and pocketbooks, write on both sides of paper, avoid incinerating domestic waste.

Andris Kriris, Environmental State Inspectorate, LATVIA 293

Three things I have eliminated from my life are driving a car, playing golf, and smoking cigarettes.

Kazuo Matsushita, Director General, Department of the Japan Fund for Global Environment, Japan Environment Corporation, JAPAN J047

I have changed my lifestyle in the following ways: I use a bicycle or walk instead of driving a car; I limit usage of soap, shampoo, and detergents; I compost biodegradable garbage at home; I recycle milk cartons and plastic food trays; I do without plastic shopping bags; I reuse bath water in the washing machine; I do without air conditioning as much as possible; I don't buy non-essential goods; and I wear clothes even after they become slightly worn out.

Tsuyoshi Mizuguchi, Vice-Chair of Steering Committee, Secretariat, The Valdez Society, JAPAN J099

I don't have a car or an air conditioner. I refrain from using disposable products as much as possible.

Nobuyoshi Fugono, Visiting Professor, Center for Climate System Research, University of Tokyo, JAPAN J180

We try to educate the public and get people thinking about environmental problems through our magazine. Personally, I refrain from taking taxis, and I don't drive a car. In addition, I don't purchase products with lots of plastic packaging.

M, Energy Journal Corp. Ltd., JAPAN J199

I use soap, shampoo, and laundry detergent that don't contain harmful additives. I recycle milk cartons, and I take my own reusable shopping bag to the grocery store.

Atsuko Kumashiro, Staff, Environment Policy Division, Department of Environment and Public Health, Osaka Prefectural Government, JAPAN J240

4. Comments pertaining to question 5-1, which concerns the realization of a sustainable society

There is no way this can happen as the wealthy and entrenched powers will always strive for greater wealth and power. Expansion leads to wealth and power.

Robin D. Muench, Earth & Space Research, USA 015

I agree with the goal, but think it is somewhat naive. Unequal distribution of resources is acceptable if we come to a better understanding of opportunities/costs and permit more lenient immigration policies.

Dr. Eldredge Bermingham, Smithsonian Tropical Research Institute, USA 034

This usually a good idea but it will be impossible to waver due to explosive population growth and low educational level in less advanced countries.

Anto Raukas, Institute of Geology, ESTONIA 103

Excepting that the advanced nations should provide assistance to less developed countries. Aid does more harm than AIDS. It kills the spirit of self-help, of mutual help.

Dr. Felix A. Ryan, Ryan Foundation International, INDIA 155

My work is based on an almost identical ethos. This should form the basis of any ecological philosophy and be the founding principle for future planning and action.

Carole Douglas, Greenline Group Pty. Ltd., NEW ZEALAND 188

If we all truly believe the globe is a village, then we must act as true villagers; sharing, caring, and collectively committed to sustainable development.

Haruna A. Warkani, Economic Community of West African States (ECOWAS), NIGERIA 215

I think that some of these "less developed countries" might be able to show the rest of "us" how to live with less, and learn to appreciate the basics of food, water, shelter without excess.

Chuck, Earth First! & Sea Shepherd, USA 270

I am all in favor of reducing the North-South divide, but I am opposed to encouraging the spread of consumerist lifestyles. If developing countries do not focus on recycling and conserving resources while pursuing economic advancement, then severe environmental destruction and pollution will nullify the positive aspects of their economic gains.

Tomomi Nakamizo, Technical Staff (Pharmacist), Environment Conservation Division, Health and Environment Department, Saga Prefectural Government, JAPAN J082

Given the current uptrend in human population, the environmental situation is not a zero-sum game, but a situation where everyone loses. Therefore, it shouldn't be the economically advanced countries alone who pay the price, developing countries must shoulder their part of the burden too.

M, Secretariat, Environment Agency, JAPAN J097

Today's economically advanced nations should not be held up as models of economic growth. Instead, both developing and developed countries should work to devise a new model. Therefore, I have some misgivings about the concept of "narrowing the North-South divide."

M, Science and International Affairs Bureau, Ministry of Education, JAPAN J230

I am in agreement with the first part of the statement. However, I think assistance from advanced nations to help alleviate the North-South problem needs to be thought about carefully.

Kanna Mitsuta, Global Environmental Forum, JAPAN J253

To some degree, the gap between the North and the South can't be helped.

M, Minister's Secretariat, Environment Agency, JAPAN J258

5. Comments pertaining to question 5-2, which concerns important factors for bringing about a sustainable society

NGOs should play a pivotal role in bringing about sustainable society through sustainable agriculture and human education regarding environmental protection.

Dr. M. Sadiq Malik, Rural Development Foundation of Pakistan, PAKISTAN 130

In developing countries like India a common man needs security in terms of income, first, then alone can he be coaxed to accept laws regarding environmental destruction and penalties thereof.

Madhu P. Hegda, BAIF Development Research Foundation, INDIA 210

Multinational corporations should be made accountable to the world community.

M, The Norwegian Forum for Environment and Development, NORWAY 214

The ethics and philosophy for existence have to be changed, from the promotion of violence as seen through our films, behaviour and conception of performance or achievements, to the promotions of kindness to ourselves, animals, plants.
Haruna A. Warkani, Economic Community of West African States (ECOWAS), NIGERIA 215

Eliminate the military industry and profits in research, manufacture and testing of weapons.
Regina Birchem, Women's International League for Peace and Freedom, USA 235

With the education many things can change in today's lifestyle for bringing about a sustainable society.
Arouna Yameogo, Association Nationale d'Action Rurale (A.N.A.R.), BURKINA FASO 242

In the long term, we can't escape the fact that human beings are transforming the Earth through relentless propagation. In the short run (1,000 years or so) humankind must use its intellect to devise systems for population control.
Yoichiro Oshio, President, The Commemorative Foundation for the International Garden and Greenery Exposition, Osaka, Japan, 1990, JAPAN J142

I suppose that the introduction of a carbon tax will be inevitable.
M, Geochemical Research Department, Meteorological Research Institute, Meteorological Agency, JAPAN J169

For the realization of a sustainable society, each person must think and act proactively. I think society must begin to support individuals in such endeavors.
Tsutomu Mizutani, Part-time Lecturer, Otomon Gakuin University, Doshisha University, JAPAN J187

I think that environmental education for ordinary people, who are the fundamental building blocks of society, can be very effective in the long run.
Takeshi Abiru, President, The Japan Atomic Power Company, JAPAN J254

6. Comments pertaining to question six, which concerns attainability of the FCCC's carbon dioxide emissions stabilization target

Fossil fuel is still cheap.
Jeffrey Soule, American Planning Association, USA 004

We do our best, but my country is heavily dependent on huge energy production: Harsh (cold) climate, energy consuming main industries, wood processing industries and heavy metal industries.
M, Ministry for Foreign Affairs, FINLAND 056

It is attainable, but governments/industry are not prepared to take the necessary action.
F, Transport 2000, UK 085

The big users like the USA are not likely to comply - money talks! Also, what's the point when major less developed nations are pumping out more and more, e.g., Brazil and China?
M, Greystone Nature Preserve, ZIMBABWE 166

All we lack in Canada is the will to transform our entire social and economic system.
M, Guideposts for a Sustainable Future, CANADA 206

Due to poverty facing most developing countries, I see difficulties for these countries to fully implement measures as required by the FCCC.
M, Environment Division, TANZANIA 208

It is attainable if the political will is present.
Schneider Alice, Institute for Planetary Synthesis, BRAZIL 212

The objective cannot be met without active participation by the US.
M, The Norwegian Forum for Environment and Development, NORWAY 214

With a mosaic on national aspirations, culture, economy and society on the earth, it is difficult to coordinate the efforts for global transformation in such view.
M, Institute for Regional Development Studies, INDIA 277

Where there is a will there is a way.
G. Cowan, Department of Environmental Affairs & Tourism, SOUTH AFRICA 300

Looking at the example of the United States, the world's largest producer of carbon dioxide emissions, I despair of solving this problem.
Hajime Sugimoto, Director of General, The Forest and Village Association, JAPAN J029

In the first place, the UN Framework Convention on Climate Change calls for individual countries to set their own individual targets and does not presume to set targets for the year 2000. Even if this question was worded as such because global environmental problems are difficult for the general public to understand, I have absolutely no sympathy for this level of inaccuracy. It should be clearly understood that the FCCC has absolutely no power to make countries pledge to quantifiable emissions targets.

Toru Miyamoto, Deputy Director, Price Policy Division, Industrial Policy Bureau, Ministry of International Trade and Industry, JAPAN J044

I think that ordinary people are very aware of this problem, but if the government does not take action it will be very difficult to achieve the goal.

Takemitsu Kobayashi, Matsushita Electric Industrial Corporation, JAPAN J064

We must choose between convenience and a sustainable way of living.

Akiko Domoto, a Member of the House of Councilors, JAPAN J115

We are already far above 1990 carbon dioxide emissions levels, so I think that rectifying this situation in the four years that remain until the year 2000 is completely unattainable.

Kenji Mizuma, Engineering/Technical Staff, Air Pollution Control Division, Department of Environment and Public Health, Osaka Prefectural Government, JAPAN J124

At this stage of the game, doing away with our automobile culture would be very difficult.

Yoshiyuki Akahoshi, the Representative of A SEED JAPAN'95, JAPAN J134

If the United States of America does not confront this problem head on, then there is simply no helping the situation. In Japan, the current economic recession means that carbon dioxide emissions are not rising, but as soon as there is a recovery I don't think emissions will be controllable. Each member of society must individually rethink our automobile culture.

Hiroshi Suzuki, Chief, Public Relations and Membership Services, Japanese NGO Center for International Corporation (JANIC), JAPAN J172

Economically advanced countries, while pursuing development and wealth, emitted a great deal of carbon dioxide over the years. Now we must reduce our emissions—we owe it to the Earth.

Masako Miyake, Chief Instructor, Forestry Improvement and Promotion Forestry Division, Department of Agriculture and Forestry, Hanamaki Regional Development Bureau, Iwate Prefectural Government, JAPAN J257

7. Comments on related topics

The achievement of negative population growth should be a top goal... until the point that the earth has reached sustainability. (Population growth must cease. Hopefully, regress.)

Rosemary Young, Central Florida Earth Alliance/Florida Coalition for Peace and Justice, USA 022

We should always remember about the Evolution of Nature. We are developing together - Nature and Humankind. And we are adapting to each other. So our main task is to understand the process better and to prevent abrupt changes in our activity (including emissions, discharges, global interferences, etc.). To correct our direct environment to provide valid life conditions is the other task.

Viatcheslav V. Pankov, Centre of Practical Geoecology, RUSSIA 095

Golf courses and its environmental and health hazards. Ecotourism - a boon or a bane?

Henrylito D. Tacio, Mindanao Baptist Rural Life Center, PHILIPPINES 142

Specially in India, government wants to do all activities and do not believe in people's power or NGO's, because there is domination of bureaucrats who always make money on the cost of all the programmes. For example, forest department is eating money on the name of environment.

M, Aravali Volunteers Society Rajasthan, INDIA 200

Humankind is certainly or definitely heading towards destroying the planet Earth through greed and thoughtlessness. We have to re-examine our relationship with nature, our use of natural resources and plan where we want to be a thousand years to come. Note that mankind appeared on the earth nearly a million years ago.

R. D. K. Kowu, Environmental Protection Agency, GHANA 236

The alarming rate at which my country, Ghana, is felling its trees for export means if no measures are taken to ban it, by the year 2010, the land would have no trees for export and for home consumption. Particularly the endangered species. We would like all interested parties or organizations to halt these processes for the betterment of our generation. Our NGOs are working hard with our home government.

Brandford Kyere, Kindness Club of Africa (Giraffe), GHANA 240

Vietnam is on the way to enter market economy. Modernizing industries will require a big effort from government on law of environment which is vulnerable to be polluted. At the moment we launch a movement called "green - clean - nice". We hope to have help from NGO, other governments and individuals, to obtain best results.

F, Ministry of Finance, VIETNAM 244

Just as we vigorously struggle when we're suffocating so must we vigorously strive for a healthier planet and way of living.
Malakai Sevudredre, Department of Forestry, FIJI 263

Environmental pollution in Haiti is due basically to the poverty level. The peasants cut the trees for charcoal production or for lack of other energy source for food cooking. Air pollution by the vehicles is related to the leaded gasoline that is the cheapest to import.

Carlo Lafond, Ministry of the Environment, HAITI 288

I am less confident about the future than last year as the financial mechanisms to remediate the problem are not forthcoming. Most of it is froth and does not alter basic world views.

M, Royal Botanic Gardens, UK 290

Civilization and science originally developed from humankind's dreams and aspirations. The fact that this very process has destroyed the environment and endangered the existence of humankind itself is a very sad thing. However, human beings still have hopes and dreams within them. That is what makes us human. While we could continue to pursue development through destruction, I think we should choose a different direction and focus on developing the technology that will make our survival possible. I think our current regrettable situation is not the consequence of our faith in science and civilization, but rather the result of our as yet incomplete scientific prowess. We have been lax in our search for real solutions.

Chieko Fujimori, Nissan Science Foundation, JAPAN J025

Speaking of the environment, I would like to say that the global environment and the natural environment are not being destroyed. No matter how many trees people cut down or how much radioactivity is scattered about, nature will remain. It will definitely remain. What will disappear is humankind. We call those phenomena that endanger humankind's survival "environmental problems." The extinction of wild tigers and the death of trees in mountainous regions—we think of these as problems because they threaten biological diversity and therefore will have negative consequences for humankind. Although animal lovers may want to protect animals because they are helpless against humankind (and I think we should try to protect animals because they have the right to exist on this planet too), even if we only look at the problem in egotistical, anthropocentric terms then trying to save the environment makes sense. However, corporations, which continually seek to maximize their own benefit, are not making wholehearted efforts to save the environment. This doesn't make sense to me, and I don't think we should accept this situation.

Hidehiko Kishi, Friends of the Earth, JAPAN J037

I'm a resident of a municipal housing project. I think that the public organizations that build such projects could do a lot to help create cities that are environmentally friendly. For example, they could promote rooftop gardens or use of rainwater. Even small efforts such as these would help raise environmental awareness among residents.

F, Japan Society for the Promotion of Science (JSPS), JAPAN J132

Various global environmental problems such as climate change, ozone depletion, and acid rain have garnered a lot of attention, but the underlying cause is very simple—these problems all stem from human activities. Although we must act in response to each of these specific problems, we must also devise an entirely new way of judging human actions. I think the solutions to our problems will be found in the human and social sciences.

Ken Amano, Governor, Yamanashi Prefectural Government, JAPAN J139

I think we need to scientifically investigate the relationship between nature and humankind. We have a lot of pat phrases such as "environmentally friendly" and "working together with nature" but I think these expressions are based on an anthropocentric world view and will not help us solve our crisis of existence. Humankind must seek lifestyles that foster nature. We must put an immediate stop to golf course construction and return the land to its natural state.

Toyooki Tanaka, Director, Meteorological Satellite and Observation System Research Department, Meteorological Research Institute, Meteorological Agency, JAPAN J166

In the first place, in Japan ordinary citizens are not used to the idea of assuming responsibility. Although they support the idea of coexistence with nature, they expect the government to take responsibility for action. In particular, in rural areas everyone is used to forcing responsibility onto officials. Where global environmental problems are involved, the active participation of ordinary people and NGOs is necessary. Only citizens can persuade other citizens to be active. When various citizens' groups, with their different viewpoints, complain to local governments, then a big government becomes necessary. This makes true resolution of the problems at hand very difficult. Second, I think that the lack of consistency in the media's reporting of environmental problems is a major issue. One day the public hears about global warming but the next day they hear that gasoline prices in Japan are too high. Soap operas are also problematic in that they contain many scenes of wasteful consumerism.

Manami Fujikura, Kamakura City Office, JAPAN J182

The glaciers in the Himalayas are melting and there is the danger of increased water levels in glacial lakes. In Europe, extreme aridity crumbles stone walls. In Japan, local climate patterns are changing dramatically. As recently announced by the United Nations, water shortages are becoming a serious problem throughout the world. Thus, we can see that global environmental problems have progressed past issues of environmental preservation to the point where they directly affect the basic essentials of life for human beings. We must formulate strategies for guarding these essentials.

Michiko Imai, Le Verseau, JAPAN J221

3-1. Since the Earth Summit held in Rio de Janeiro in June 1992, to what extent has progress been achieved in the areas described in items (1) to (21) below? For each item, circle the best response from (a) to (e), considering the situation *in your own country only*.

Significant progress
Some progress
Cannot determine
Almost no progress
No progress

- (1) International cooperative efforts toward sustainable development in the developing countries (a) (b) (c) (d) (e)
- (2) Efforts to solve basic problems, such as poverty and overpopulation (a) (b) (c) (d) (e)
- (3) Efforts to alter lifestyles and consumption patterns (a) (b) (c) (d) (e)
- (4) Activities by local governments and citizens' groups (a) (b) (c) (d) (e)
- (5) Activities by nongovernmental organizations (a) (b) (c) (d) (e)
- (6) Environmental protection policies of the industrial sector (a) (b) (c) (d) (e)
- (7) Policies to counter global warming (a) (b) (c) (d) (e)
- (8) Policies to protect the ozone layer (a) (b) (c) (d) (e)
- (9) Policies to reduce acid rain (a) (b) (c) (d) (e)
- (10) Policies to conserve forests (a) (b) (c) (d) (e)
- (11) Policies to combat desertification (a) (b) (c) (d) (e)
- (12) Sustainable agricultural development and development of rural communities (a) (b) (c) (d) (e)
- (13) Policies to conserve the earth's biodiversity (a) (b) (c) (d) (e)
- (14) Policies to protect the oceans (a) (b) (c) (d) (e)
- (15) Policies to protect fresh water resources (a) (b) (c) (d) (e)
- (16) Policies for the disposal of hazardous wastes and substances (a) (b) (c) (d) (e)
- (17) Formation of recycling systems (a) (b) (c) (d) (e)
- (18) Science and technology's contributions toward solving environmental problems (a) (b) (c) (d) (e)
- (19) Promotion of environmental education (a) (b) (c) (d) (e)
- (20) Establishment of an environmental assessment system to generate information on which to base comprehensive environmental policy formation (a) (b) (c) (d) (e)
- (21) Implementation of economic policies that adequately reflect (and do not conflict with) environmental policies (a) (b) (c) (d) (e)

3-2. From the above 21 items, choose the three that you believe are most important for solving environmental problems *in your own country only*. Write the item numbers, in any order, in the spaces below.

() () ()

4. What measures do you feel will be necessary to preserve biological diversity *in your own country*? Tick three.

Policies and regulations:

- (1) Establishment of a national strategy for the conservation of biodiversity, and the designation of adequate funding for such a plan
- (2) Revisions to current public policy that may give rise to the loss of biodiversity, as well as the adoption of new government policies and economic standards
- (3) Strengthening of regulations concerning the transport of biological organisms or genetic resources across borders, and the fortification of wildlife sanctuaries
- (4) Recognition and valuation of biodiversity in international development assistance programs
- (5) Restricting multinational corporate activities detrimental to biodiversity

Science and technology:

- (6) Development of technologies that enable the sustainable use of natural resources and are also useful to the advancement of local industries, including service industries such as ecotourism
- (7) Promotion of basic and applied research in the natural sciences

Educational programs:

- (8) Promotion of environmental education
- (9) Training of individuals capable of promoting the conservation of biodiversity
- (10) Boosting the capabilities of NGOs
- (11) Other (Please specify: _____)

5-1. “For the realization of a sustainable society, we must eliminate the unequal distribution of resources. Therefore, economically advanced nations must halt their current course of excessive expansion and build a new society based on the conservation and recycling of resources. These advanced nations should also provide assistance to less developed countries to help alleviate the North-South problem.”

The above statement describes one way to seek the attainment of a sustainable society. What do you think of this statement? Please choose one of the following.

- ⁽¹⁾ Completely agree ⁽²⁾ Mostly agree ⁽³⁾ Mostly disagree ⁽⁴⁾ Completely disagree ⁽⁵⁾ Cannot comment

Comment:

5-2. What factors do you think are most important for bringing about a sustainable society? Please tick three.

Environmental ethics and philosophy:

- ⁽¹⁾ Changes in the overconsumption lifestyles of ordinary people
⁽²⁾ Promotion of environmental education that fosters an appreciation of the harmonious coexistence of living things in nature

Social and economic systems:

- ⁽³⁾ Changes in mass-production and overconsumption-throwaway-type systems
⁽⁴⁾ Shifts to environment-oriented corporations
⁽⁵⁾ Establishment of systems to support sustainable agricultural activities and communities
⁽⁶⁾ Promotion of international economic aid to developing countries

Science and technology:

- ⁽⁷⁾ Development of technology that helps meet the material needs of humankind by sustainable methods
⁽⁸⁾ Switching to the use of recyclable energy resources

Laws and regulations:

- ⁽⁹⁾ Strengthening of environmental conservation laws and regulations, including those governing emissions standards
⁽¹⁰⁾ Use of environmental taxes and levies to restrict environmental destruction
⁽¹¹⁾ Halting multinational corporate activities destructive to the environment
⁽¹²⁾ Participation by NGOs and individual citizens in the decision-making process of environmental policy formation
⁽¹³⁾ Other (Please specify: _____)

Comment:

6. If we are to successfully create a sustainable society, we must endeavor to stop global warming, a phenomenon that could have far-reaching effects on humankind. The objective of the United Nations Framework Convention on Climate Change (FCCC) is to stabilize concentrations of greenhouse gas in the atmosphere at safe levels. As the first step toward this objective, the FCCC calls for developed countries to stabilize their emissions of carbon dioxide at 1990 levels by the year 2000. How do you view the attainability of this targeted first step?

- ⁽¹⁾ Attainable
⁽²⁾ Partially attainable
⁽³⁾ Probably difficult to attain
⁽⁴⁾ Completely unattainable
⁽⁵⁾ Cannot comment

Comment:

7. Feel free to write comments on any topic related to environmental problems.

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REPORT

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