

# **I . 20th Anniversary Events of the Blue Planet Prize**

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# Blue Planet Prize

20th Anniversary

## Stars of the Planet

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In 2012, we celebrate the 20th anniversary of the Blue Planet Prize, awarded to individuals and organizations who have made outstanding contributions to the solution of global environmental problems. We salute these individuals for their great eloquence, as well as for their tireless efforts to ensure a bright future for our planet.



1992

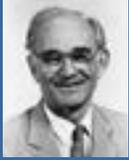


Dr. Syukuro Manabe  
(USA)



International Institute for  
Environment and Development  
(IIED)

1995



Dr. Bert Bolin  
(Sweden)



Mr. Maurice F. Strong  
(Canada)

1998



Prof. Mikhail I. Budyko  
(Russia)



Mr. David R. Brower  
(USA)

2001



Lord (Robert) May of Oxford  
(Australia)



Dr. Norman Myers  
(UK)

2004



Dr. Susan Solomon  
(USA)



Dr. Gro Harlem Brundtland  
(Norway)

2007



Prof. Joseph L. Sax  
(USA)



Dr. Amory B. Lovins  
(USA)

2010



Dr. James Hansen  
(USA)



Sir Bob Watson  
(UK)

1993



Dr. Charles D. Keeling  
(USA)



IUCN-The World Conservation Union

1996



Dr. Wallace S. Broecker  
(USA)



M.S. Swaminathan Research  
Foundation  
(Founded in India)

1999



Dr. Paul R. Ehrlich  
(USA)



Prof. Qu Geping  
(China)

2002



Prof. Harold A. Mooney  
(USA)



Prof. J. Gustave Speth  
(USA)

2005



Prof. Sir Nicholas Shackleton  
(UK)



Dr. Gordon Hisashi Sato  
(USA)

2008



Dr. Claude Lorius  
(France)



Prof. José Goldemberg  
(Brazil)

2011



Dr. Jane Lubchenco  
(USA)



Barefoot College  
(Founded in India)

1994



Prof. Eugen Seibold  
(Germany)



Mr. Lester R. Brown  
(USA)

1997



Dr. James E. Lovelock  
(UK)



Conservation International (CI)

2000



Dr. Theo Colborn  
(USA)



Dr. Karl-Henrik Robert  
(Sweden)

2003



Dr. Gene E. Likens (USA)



Dr. F. Herbert Bormann (USA) (right)

Dr. Vo Quy  
(Vietnam)

2006



Dr. Akira Miyawaki  
(Japan)

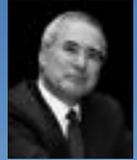


Dr. Emil Salim  
(Indonesia)

2009



Prof. Hirofumi Uzawa  
(Japan)



Lord (Nicholas) Stern of  
Brentford  
(UK)

## Introduction

The Blue Planet Prize was established in 1992 to recognize people for their contributions to solving global environmental problems at a time when there were almost no such awards anywhere in the world. We at the Asahi Glass Foundation are very gratified to arrive at the 20th anniversary of the award in 2012. We are grateful for the unwavering support we have received from people around the world concerned about the environment, who have recommended numerous outstanding candidates for the Blue Planet Prize. We extend our most sincere gratitude to our many supporters around the world for their cooperation.

To commemorate its 20th anniversary, the Foundation took an initiative supporting the past Blue Planet Prize laureates in producing a joint paper detailing proposals for the preservation of the global environment. The paper was presented at international conferences during the year at UNEP, the Planet Under Pressure conference, the United Nations Conference on Sustainable Development (Rio+20), and the IUCN World Conservation Congress, attracting the attention of government officials, environmental experts, and the general public. These presentations also contributed to raising awareness about the Foundation.

Blue Planet Prize winners are, for both the Foundation and for the world, invaluable resources. We at the Foundation acknowledge that one of our most significant missions is to provide these extraordinary people with opportunities in which their achievements might be more fully recognized, and we will dedicate ourselves to this mission.

For the same period as the Blue Planet Prize, the Foundation has conducted a unique survey concerning the global environment called “Questionnaire on Environmental Problems and the Survival of Humankind.” The survey, now famed for its “The Environmental Doomsday Clock,” has also contributed by raising public consciousness of environmental problems. The survey also celebrated its 20th anniversary by announcing its results overseas at IUCN World Congress for the first time.

# 1. Announcement of BPP Laureates Joint Paper

## 1-1 Background

The Blue Planet Prize was born of the deeply-felt principles of Hideaki Yamashita, chairman of the Asahi Glass Foundation when it went through reform, who felt a profound desire to contribute as much as possible to the welfare of humankind through the activities of the foundation. The Prize was established in 1992 as the world's largest international environmental award, its objective "to recognize individuals or organizations who have made significant contributions to the discovery, forecasting, evaluation, and resolution of global environmental problems, and to express the gratitude of the human race for their achievements."

The value of the award is in direct proportion to the accomplishments of the laureates. In the 20 years since the award was established, the individual and organizational laureates have consisted of scientists and experts who have played pioneering roles in environmental issues faced by mankind, as well as those who have achieved prominence on a global scale through the implementation of solutions. These issues have included global warming, depletion of the ozone layer, biodiversity loss, energy problems, environmental hormones, sustainable societies, population problems, environmental law, government policy, and the economy. Through the awarding of the Prize, the Foundation has accumulated an immense intangible asset in the accomplishments of the laureates. Upon reaching the 20th anniversary milestone, we wish to revisit the origins of the award, to continue elevating its significance, and to return to society this intellectual asset that we have been fortunate to accumulate.

The Foundation came to believe that this intangible asset could produce the most powerful effect if all of the past laureates were to come together. For that reason, we began to contact the laureates from mid-2010. Beginning in mid-2011, Secretary General Tetsuro Yasuda visited Dr. Julia Marton-Lefèvre, Director General of the International Union for Conservation of Nature (1992 laureate, Switzerland, henceforth IUCN), Dr. Camilla Toulmin, Director of International Institute for Environment and Development (1995, UK, henceforth IIED), Dr. Russell Mittermeier, President of Conservation International (1997, USA, henceforth CI), and Sir Bob Watson (2010, UK). Secretary General Yasuda consulted with the laureates, sought their opinions and advice, and requested their cooperation in bringing to life this intellectual asset. In addition, he held discussions with representatives from the Stockholm Environment Institute, a renowned environmental research organization in Sweden, and the Potsdam Institute for Climate Impact Research in Germany, who provided valuable advice about the direction in which the asset could be best utilized.

We were fortunate to receive encouragement from Sir Watson, who advised us that we would be able to "distribute an appealing environmental declaration to the world, as the laureates are outstanding environmental experts," and provided suggestions on the production of a paper authored by the laureates. In addition, the four laureates Yasuda visited in 2011 provided an extremely constructive suggestion, that "in order to capitalize on the assets of the Blue Planet Prize, it would be best for the laureates to issue a joint paper from a broad perspective," and promised their active cooperation and support in its production and

release. Further, Sir Watson generously agreed to play a central role in the production of the paper, acting as the point of contact for each laureates as they authored their portions and brought them together.

## 1-2 London Preparatory Meeting by BPP Laureates

The Foundation grew convinced that the most effective use of this intangible asset that it had accumulated over 20 years would be the transmission to the world of a policy proposal toward the resolution of environmental problems, in the form of a joint paper by past laureates. The Foundation held multiple consultations with laureates about the details of the paper, including its contents and presentation. Twenty-one laureates agreed to participate.

There were multiple candidates for the presentation venue of the joint paper. They included the Rio+20 Conference that was to be held the following June, as well as the IUCN World Conservation Congress to be held in South Korea that same September. In the end, it was decided to first present the paper at the 12th Special Session of UNEP Governing Council, consistent with Sir Watson's proposal.

Being mindful of the upcoming Rio+20 Conference where world leaders would discuss the construction of a sustainable society, the paper adopted as its overall theme, policies towards a sustainable society. In the summer of 2011, the laureates began authoring contributions from each of their expert perspectives.

After six months dedicated effort to authoring the paper by the laureates, a meeting was held for three days beginning February 8th, 2012, in order to bring the chapters together into a joint paper. IIED, with its headquarters in London, generously oversaw the necessary human and equipment related logistics for the venue and the meeting.



Fifteen laureates attended the meeting, and held discussions over three days towards the completion of the paper. They included inaugural Blue Planet Prize Laureate Dr. Syukuro Manabe (1992, USA); Dr. Camilla Toulmin of IIED; Dr. Will Turner, Vice President of CI; Dr. Julia Marton-Lefèvre, General Director of IUCN; Dr. Simon Stuart, Chair of the Species Survival Commission of IUCN; Professor Paul Ehrlich (1999, USA); Dr. Karl-Henrik Robèrt (2000, Sweden); Lord Robert May of Oxford (2001, UK); Professor Harold Mooney (2002, USA); Dr. Gordon Hisashi Sato (2005, USA); Dr. Emil Salim (2006, Indonesia); Professor José Goldemberg (2008, Brazil); Lord Nicholas Stern of Brentford (2009, UK); Sir Bob Watson; and Mr. Bunker Roy, Founder of Barefoot College (2011, India).

### BPP Laureates Gathered in London

Lord May, Prof. Mooney, Dr. Robèrt



Sir Watson, Prof. Ehrlich

Dr. Toulmin, Dr. Stuart, Dr. Turner  
(IIED) (IUCN) (CI)



Dr. Salim, Dr. Sato



Prof. Goldemberg,  
Dr. Marton-Lefevre  
(IUCN) Dr. Manabe



Prof. Goldemberg, Lord Stern



Mr. Roy, Dr. Salim

To capitalize on this rare meeting of world-renowned scientists and experts in London, a press conference was held on February 10th, the final day of the meeting, with the help of the public relations department of IIED. The Asahi Glass Foundation Secretary General Yasuda moderated the conference and began by introducing the organization and the Blue Planet Prize, after which Sir Watson and Dr. Toulmin launched into an explanation of the key messages of the joint paper.

The press conference date was decided upon with very short notice. Nonetheless, environmental journalists from highly respected publications like The Guardian and the London bureau of the Yomiuri Shimbun were in attendance, and asked insightful questions. The laureates took turns providing detailed responses based on their expertise, which resulted in a profound and lively exchange between the laureates and environmental journalists on the construction of a sustainable society.



**Press Conference in London**

After three long days of discussions, the joint paper began to take shape. In addition to the joint paper itself, the working group decided to include individual papers. With the approval of the laureates who were unable to attend the meeting, Sir Watson generously agreed to finalize the editing of the paper.

To conclude the meetings in London, a gathering was held for the laureates in the evening. Although many of them were already acquainted through international meetings, it was the first time that they had all been brought together as Blue Planet Prize winners, creating a strong sense of affinity among them. With the joint paper nearing completion, many of them expressed the desire for similar meetings to be held in the future to bring the laureates together and to allow for a forum to discuss solutions to environmental problems.

The Foundation extends its deep gratitude to all the laureates who gave their warm understanding and dedicated efforts in producing the joint paper.

## 1-3 Announcement of the Joint Paper by BPP Laureates

### Announcement at UNEP, Nairobi

The 12th Special Session of the UNEP Governing Council was held on February 20, 2012, at UNEP headquarters in Nairobi, Kenya.

Sir Watson presented in a resounding voice the joint paper, “Environmental and Development Challenges: The Imperative to Act,” in front of officials who had gathered from around the world. “The policies currently being pursued risk destroying the ecosystem, which is indispensable for people to live a healthy, fulfilling, and human life,” he said. “To solve these problems, what is needed is not technological development but solutions through human wisdom,” he continued forcefully. “What allows for optimism is that there remains room for policymakers in each country to courageously and



**UNEP Notice of BPP Joint Paper**



constructively address these problems.” He was greeted with a sea of applause from a room full of participants.

The joint paper advocates a transformation in the governing system, which, instead of utilizing GDP as a measure of wealth, would review the role of government subsidies and would place humanity and consideration for the environment at its core.

In particular, the paper advocates the following seven points to governments of the world<sup>1</sup>:

- Replace GDP as a measure of economic activity and substitute measures of the five forms of capital: built, financial, natural, human and social, i.e., a measure of wealth that integrates economic, environmental and social dimensions.
- Eliminate subsidies in sectors such as energy, transportation and agriculture that create environmental and social costs, which currently go unpaid.
- Tackle overconsumption, and address population pressure by empowering women, improving education and making contraception accessible to all.



**Announcement of Joint Paper at UNEP, Nairobi**

<sup>1</sup> Please see Attachment 1 for a list of the laureate authors as well as the Executive Summary of the joint paper. The paper is available in its entirety on the Asahi Glass Foundation website, [www.af-info.or.jp](http://www.af-info.or.jp)

- Transform decision making processes to empower marginalized groups, and integrate economic, social and environmental policies instead of having them compete.
- Conserve and value biodiversity and ecosystem services, and create markets for them that can form the basis of green economies.
- Invest in knowledge — both in creating and in sharing it — through research and training that will enable governments, business, and society at large to understand and move towards a sustainable future.



**BPP Laureates Joint Paper**

The presentation of the joint paper at a United Nations venue, with the participation of countless government officials, policymakers, environmental experts, and journalists from around the world was a highly significant event in terms of broadening awareness and deepening international understanding of the Asahi Glass Foundation and the Blue Planet Prize.

Preceding the presentation of the joint paper at UNEP headquarters, the Foundation issued a press release. Titled, “Top scientists urge end to policy and governance failures to tackle social and environmental crises” it targeted media outlets around the world as well as environmental non-profit organizations, and was made possible with the support of the public relations departments at UNEP, IIED, and CI. The press release introduced the following comment on the joint paper by Achim Steiner, Executive Director of UNEP and Under-Secretary-General of the United Nations.



**The Guardian  
Reporting the Joint Paper**

“The paper by the Blue Planet Prize laureates will challenge governments and society as a whole to act to limit human-induced climate change, the loss of biodiversity and the degradation of ecosystem services in order to ensure food, water energy and human security. I would like to thank Professor Watson and colleagues for eloquently articulating their vision on how key development challenges can be addressed, emphasizing solutions; the policies, technologies and behaviour changes required to grow green economies, generate jobs and lift people out of poverty without pushing the world through planetary boundaries.”



**Presenters, Dr. Sendashonga, Dr. Toulmin, Sir Watson**

A panel discussion on the joint paper was held at UNEP as a side-event with Sir Bob Watson, Dr. Camilla Toulmin, and Dr. Cyriaque Sendashonga of the IUCN as presenters. While there were some concerns about attendance given the high number of programs scheduled during the same timeframe, the panel discussion attracted nearly a full audience due to the high name recognition of the prizewinners and the high level of interest in the paper.

Sir Watson served as the moderator of the discussion, while Dr. Toulmin and Dr. Sendashonga alternated in providing an overview of the joint paper. With the Executive Summary of the joint paper in hand, attendees continuously voiced their opinions and asked questions, resulting in an enthusiastic exchange of opinions between the laureates and the attendees.



**Panel Discussion on the Joint Paper at UNEP**

### **Announcement at Planet Under Pressure, London**



The Foundation also secured the opportunity to present a joint paper at the international conference, “Planet Under Pressure: New Knowledge Towards Solutions,” which took place from March 26th to 29th, 2012, in London. This conference was held with the support of organizations like UNESCO and the International Council for Science. More than 3,000 world-renowned scientists gathered at the conference, including members of the American Association for the Advancement of Science and Nobel Prize laureates, who discussed global environmental problems from various perspectives.

Part of the reason the Foundation participated was that the conference presented an excellent opportunity to continue transmitting the joint paper to the world. As a sponsor of the opening reception, the Foundation’s name was displayed on the conference web site and its materials were distributed on-site. The

conference presented a rare public relations opportunity abroad for the Foundation.

At the opening address, Sir Watson presented the joint paper to a large audience. The presentation of the joint paper at a large conference attended by several thousand world-renowned scientists, following the presentation at UNEP, significantly contributed to the international publicity efforts of the Asahi Glass Foundation and the Blue Planet Prize.



**Sir Watson Announcing the Joint Paper  
at Planet Under Pressure**



## 2-1 Press Announcement of 2012 BPP Winners

The establishment of the Blue Planet Prize and the winners of the founding year were announced at the United Nations Conference on Environment and Development (the Rio Earth Summit) in Rio de Janeiro in 1992. Therefore, the Foundation felt that it would be most fitting to commemorate its 20th anniversary by announcing the 2012 winners and hosting a symposium on the joint paper by BPP laureates at the Rio+20 Conference.

The press announcement of the 2012 Blue Planet Prize winners was held on June 17th at the event center of the Japan Pavilion at the Rio+20 Conference. The three 2012 winners, Professor William E. Rees, Dr. Mathis Wackernagel, and Dr. Thomas E. Lovejoy attended the press announcement. This marked the first time that all prizewinners themselves attended the announcement.

With a large screen placed in the front of the conference room and banners commemorating the 20th anniversary of the Blue Planet Prize on each side of the stage, the press announcement took place in a beautiful setting.



**Japan Pavilion**

The press announcement was moderated by the Asahi Glass Foundation Secretary General Yasuda. Foundation Chairman Tetsuji Tanaka began the announcement with opening remarks introducing the Asahi Glass Foundation and the Blue Planet Prize. He was followed by Dr. Yoshihiro Hayashi, Chairman of the Prize's Selection Committee, who announced the winners and explained the rationale for their selection. After introducing all the winners,

The press announcement was moderated by the Asahi Glass Foundation Secretary General Yasuda. Foundation Chairman Tetsuji Tanaka began the announcement with opening remarks introducing the Asahi Glass Foundation and the Blue Planet Prize.



**Press Announcement at Rio+20**



Dr. Hayashi invited each of them to the podium and shook their hands, to congratulatory applause and cheers.

The three winners each gave acceptance remarks. The winners were unanimous in expressing their great pleasure in joining the list of highly-esteemed laureates, adding a new page to the 20-year history of the Blue Planet Prize.

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This was followed by a question and answer session.

Each winner responded through the prism of their expert perspective to the numerous questions that were presented by the audience, resulting in a prolific exchange of opinions that was fitting for the announcement of the winners.

The news of the announcement was widely covered by numerous television, newspaper, magazine, and online media outlets, centering primarily around the Brazilian press, resulting in the largest overseas press coverage since the inception of the Blue Planet Prize.



**Articles Reporting the Conference**



**2012 winners and Chairman Tanaka**

## 2-2 Commemorative Lecture by BPP Laureates



**Commemorative Lecture at Rio+20**

The press announcement was followed by a symposium on the theme of the joint paper, with Professor Goldemberg, Sir Watson, Dr. Mittermeier, and Dr. Cyriaque Sendashonga serving as presenters. After Foundation Secretary General Yasuda introduced the four, each of the laureates individually gave a presentation.

The presentations were followed by a question and answer period, in which the panelists carefully responded to questions from their expert perspectives, resulting in an active exchange of opinions with the audience.



**Q&A after Lecture**



**Presenters, Dr. Sendashonga (IUCN), Dr. Mittermeier (CI), Prof. Goldemberg, Sir Watson**



**Mr. Shunichi Samejima, Senior Executive Director of Asahi Glass Foundation**



**Reception Party after the Press Announcement**

### 3. Announcement of 2012 Survey Results at IUCN World Congress

# A Wake-up Call from Mother Earth!!

## THE ENVIRONMENTAL DOOMSDAY CLOCK

The clock continues to show that environmental experts are "extremely concerned" about the future of our planet.



The Environmental Doomsday Clock



[www.af-info.or.jp](http://www.af-info.or.jp)

Crisis time of every corner of the earth region 2012



For the past 21 years, the Asahi Glass Foundation has conducted an annual survey to gauge the sense of crisis regarding the survival of the human race. To date, we have surveyed nearly 15,000 respondents in 175 countries.

In 1992, the same year that the Asahi Glass Foundation established the Blue Planet Prize, it initiated a survey titled “Questionnaire on Environmental Problems and the Survival of Humankind,” targeting environmental experts around the world. It was the Foundation’s hope that the survey would elevate awareness of the Prize and enhance public awareness of the environment. The survey has gone out each year since then, and like the Blue Planet Prize, has also reached the milestone of its 20th anniversary.

In Japan, the survey results are announced every September at a press conference. The survey has gained a high level of recognition through coverage by multiple media outlets, principally because of the question, continuously surveyed over the past 20 years, concerning the respondents’ level of anxiety about the global environment, as indicated by the time they set on “The Environmental Doomsday Clock.” However, awareness abroad about the Foundation’s survey activities was limited to a segment of environmental experts.

Serendipitously, Dr. Julia Marton-Lefèvre, Director General of the IUCN, suggested that the results of the questionnaire be announced at the press conference of the 23rd IUCN World Conservation Congress in 2012 in Jeju, South Korea. This conference is held every four years at different locations around the world. The IUCN, with its headquarters in Switzerland, counts among its members nation states, government agencies, and nongovernmental organizations. Ten thousand scientists and environmental experts collaborate at the IUCN, which is the world’s largest environmental conservation organization.



**Press Announcement at Jeju**

Global Environmental Strategies, who has supervised the survey since its inception with comments on this year’s survey results. After the press announcement, the presenters from the Foundation responded to questions from attendees at the Media Lounge next to the Media Center, and exchanged opinions.

The press announcement was held at the Media Center of the IUCN World Congress International Convention Center on September 10th. The Asahi Glass Foundation Chairman Tetsuji Tanaka gave opening remarks and a brief explanation of the Foundation and the Questionnaire. Secretary General Tetsuro Yasuda then presented the highlights of the 2012 survey. He was followed by Professor Akio Morishima, Special Research Advisor at the Institute for



**Q&A at the Media Lounge**



**Survey Report Distributed at Jeju**

## 4. 2012 Public Relations Overseas

In 2012, the 20th anniversary year of the Blue Planet Prize and the Questionnaire on Environmental Problems, the Foundation established as one of its objectives increased international recognition of the Foundation itself and its activities. To achieve this goal, we set up booths in the event spaces designated for nongovernmental organizations during the Planet Under Pressure conference in London in March and the Rio+20 Conference in June. We also set a booth displaying our activities at Pontifical Catholic University (PUC) of Rio de Janeiro where IIED held its environmental conference, and the IUCN World Congress in September. This marked the first time that the Foundation had exhibited overseas since the Rio Summit in 1992.



**Planet Under Pressure**



**Rio+20**



**Pontifical Catholic University of Rio de Janeiro**

Our booth offered a multitude of banners, posters, and brochures about past publications, including: “Questionnaire on Environmental Problems—A 20-Year Summary,” (produced to commemorate the 20th anniversary of the survey); the joint paper presented at UNEP; various newsletters; “A Better Future for Planet Earth,”(which is a book produced every five years containing commemorative lectures given by Blue Planet Prize winners); and other recent publications like



**Documents Distributed at the Booth**

**IUCN World Congress**



“Conditions for Survival.” These materials were distributed to conference participants with accompanying explanations about the Foundation’s activities. “The Environmental Doomsday Clock,” on the questionnaire attracted a high level of interest among those visited the booth.

The number of visitors and their expertise varied according to the event. At the Planet Under Pressure conference in London in March, many attendees who visited the booth were affiliated with universities, research institutions, government agencies, international organizations like UNESCO, the World Bank, and the WHO, and nongovernmental organizations from around the world. They expressed a high level of interest in the Foundation’s activities, and promised their cooperation with the Questionnaire.



**Posters Distributed at the Booth**

On the other hand, as the Rio+20 conference and the IUCN World Congress were open to the public, the booths were visited by many elementary and middle school students as well as ordinary citizens along with environmental experts from around the world. “The Environmental Doomsday Clock” poster, which incorporated the Hello Kitty character, was extremely popular with the children, making a modest contribution to increasing their awareness of the environment.



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Exhibiting a booth at an international conference allowed the Foundation to directly explain its activities to visitors from around the world, increasing recognition of the organization by building human relationships, and laying a foundation to capture more such opportunities in the future.



Blue  
Planet  
Prize

*Environment and Development Challenges:*

*The Imperative to Act*

— *Executive Summary* —

*20 February 2012*

*The Blue Planet Prize Laureates*

**af** THE ASAHI GLASS FOUNDATION

The Blue Planet prize laureates who contributed to the paper are (in no special order):

- **Professor Sir Bob Watson**, Chief Scientific Adviser of the UK Department for Environment, Food and Rural Affairs (Defra)
- **Lord (Robert) May of Oxford**, former Chief Scientific Adviser to the UK Government and President of Royal Society of London
- **Professor Paul Ehrlich**, Stanford University
- **Professor Harold Mooney**, Stanford University
- **Dr. Gordon Hisashi Sato**, President, Manzanar Project Corporation
- **Professor José Goldemberg**, secretary for the environment of the State of São Paulo, Brazil and Brazil's interim Secretary of Environment during the Rio Earth Summit in 1992
- **Dr. Emil Salim**, former Environment Minister of the Republic of Indonesia
- **Dr. Camilla Toulmin**, Director of the International Institute for Environment and Development
- **Mr. Bunker Roy**, Founder of Barefoot College
- **Dr. Syukuro Manabe**, Senior Scientist, Princeton University
- **Dr. Julia Marton-Lefevre**, Director-General of the International Union for the Conservation of Nature
- **Dr. Simon Stuart**, Chair of the Species Survival Commission of the International Union for the Conservation of Nature
- **Dr. Will Turner**, Vice President of Conservation Priorities and Outreach, Conservation International
- **Professor Karl-Henrik Robèrt**, Blekinge Institute of Technology, Founder of The Natural Step
- **Dr. James Hansen**, NASA Goddard Institute for Space Studies Lord (Nicholas) Stern of Brentford, Professor, The London of Economics
- **Dr. Amory Lovins**, Chair and Chief Scientist, Rocky Mountain Institute
- **Dr. Gene Likens**, Director of the Carey Institute of Ecosystem Studies
- **Dr. Gro Harlem Brundtland**, former Prime Minister of Norway and Director-General of the World Health Organization, now Special Envoy on Climate Change for UN Secretary General Ban Ki-moon.
- **Dr. Susan Solomon**, Senior Scientist, Aeronomy Laboratory, National Oceanic and Atmospheric Administration
- **Dr. M. S. Swaminathan**, M. S. Swaminathan Research Foundation

## Key Messages

- We have a dream – a world without poverty – a world that is equitable – a world that respects human rights – a world with increased and improved ethical behavior regarding poverty and natural resources - a world that is environmentally, socially and economically sustainable, where challenges such as climate change, loss of biodiversity and social inequity have been successfully addressed. This is an achievable dream, but the current system is deeply flawed and our current pathway will not realise it.
- Population size and growth and related consumption patterns are critical elements in the many environmental degradation and social problems we currently face. The population issue should be urgently addressed by education and empowerment of women, including in the work-force and in rights, ownership and inheritance; health care of children and the elderly; and making modern contraception accessible to all.
- There is an urgent need to break the link between production and consumption on the one hand and environmental destruction on the other. This might necessitate a drop in material living standards for a time sufficient to allow us to overcome world poverty. Indefinite material growth on a planet with finite and often fragile natural resources will eventually be unsustainable. Unsustainable growth is promoted by environmentally-damaging subsidies in areas such as energy, transportation and agriculture and should be eliminated; external environmental and social costs should be internalized; and the market and non-market values of ecosystem goods and services should be taken into account in decision-making.
- The immense environmental, social and economic risks we face as a world from our current path will be much harder to manage if we are unable to measure key aspects of the problem. For example, governments should recognise the serious limitations of GDP as a measure of economic activity and complement it with measures of the five forms of capital: built, financial, natural, human and social, i.e., a measure of wealth that integrates economic, environmental and social dimensions. Green taxes and the elimination of subsidies should ensure that natural resources are available to directly protect poor people rather than deploying subsidies that often only benefit the better off.
- The present energy system, which is heavily dependent on fossil fuels, underlies many of the problems we face today: exhaustion of easily accessible physical resources, security of access to fuels, and degradation of health and environmental conditions. Universal access to clean energy services is vital for the poor, and a transition to a low carbon economy will require rapid technological development in efficient energy use, the development of environmentally sound low-carbon renewable energy sources and carbon capture and storage. The longer we wait to transition to a low carbon economy the more we are locked into a high carbon energy system with consequent environmental damage to ecological and socio-economic systems, including infrastructure.

- GHG emissions are one of the greatest threats to our future prosperity. World emissions (flows) are currently around 50 billion tonnes of carbon dioxide-equivalent (CO<sub>2</sub>e) per annum and are growing rapidly. As the terrestrial and oceanic ecosystems are unable to absorb all of the world's annual emissions, concentrations (stocks) of GHG emissions in the atmosphere have increased, to around 445ppm of CO<sub>2</sub>e today and increasing at a rate of around 2.5ppm per year. Thus we have a flow-stock problem. Without strong action to reduce emissions, over the course of this century we would likely add at least 300 ppm CO<sub>2</sub>e, taking concentrations to around 750 ppm CO<sub>2</sub>e or higher at the end of the century or early in the next. The world's current commitments to reduce emissions are consistent with at least a 3oC rise (50-50 chance) in temperature: a temperature not seen on the planet for around 3 million years, with serious risks of 5oC rise: a temperature not seen on the planet for around 30 million years. Given there are some uncertainties present in all steps of the scientific chain (flows to stocks to temperatures to climate change and impacts), this is a problem of risk management and public action on a great scale.
- Biodiversity has essential social, economic, cultural, spiritual and scientific values and its protection is hugely important for human survival. The rapid loss of biodiversity, unprecedented in the last 65 million years, is jeopardising the provision of ecosystem services that underpin human well-being. The Millennium Ecosystem Assessment concluded that 15 of the 24 ecosystem services evaluated were in decline, 4 were improving, and 5 were improving in some regions of the world and in decline in other regions. Measures to conserve biodiversity and make a sustainable society possible need to be greatly enhanced and integrated with social, political and economic concerns. There is a need to value biodiversity and ecosystem services and create markets that can appropriate the value of these services as a basis for a 'green' economy.
- There are serious short-comings in the decision making systems at local, national and global levels on which we rely in government, business and society. The rules and institutions for decision making are influenced by vested interests, with each interest having very different influence over how decisions are made. Effective change in governance demands action at many levels to establish transparent means for holding those in power to account. At the local level public hearings and social audits can bring the voices of marginalized groups into the forefront. At national level, parliamentary and press oversight are key. Globally, we must find better means to agree and implement measures to achieve collective goals. Governance failures also occur because decisions are being made in sectoral compartments, with environmental, social and economic dimensions addressed by separate, competing structures.
- Decision makers should learn from ongoing grass-root actions and knowledge in areas such as energy, food, water, natural resources, finance and governance. This is key, not the least in rural communities with a view to the management, control and ownership of these resources. There is a need to scale-up the grass roots actions by bringing together a complementary top-down and bottom-up approach

to addressing these issues. Global cooperation can be improved by building on on-going regional cooperation to deal with common sustainable development issues.

- Effective training programs should be implemented to multiply the number of competent decision makers in business and government. They must learn how to integrate programmes and policies within sustainability constraints, to understand the business case thereof, and acquire the skills to strategically move towards such sustainability goals.
- All of the problems mentioned above demand we increase investments in education, research and assessments of knowledge.
- If we are to achieve our dream, the time to act is now, given the inertia in the socio-economic system, and that the adverse effects of climate change and loss of biodiversity cannot be reversed for centuries or are irreversible (for example, species loss). We know enough to act, but the current scientific uncertainty means that we are facing a problem of risk management on an immense scale. Failure to act will impoverish current and future generations.