



Blue
Planet
Prize

FOR IMMEDIATE RELEASE

July 10, 2019

2019 BLUE PLANET PRIZE: ANNOUNCEMENT OF PRIZE WINNERS

This year marks the 28th awarding of the Blue Planet Prize, the international environmental award sponsored by the Asahi Glass Foundation, chaired by Kazuhiko Ishimura. Two Blue Planet Prizes are awarded to individuals or organizations each year that make outstanding achievements in scientific research and its application, and in so doing help to solve global environmental problems. The Board of Directors decided the following recipients for this year.

1. Prof. Eric Lambin (Belgium) Born in 1962 September 23



Professor, Université catholique de Louvain
George and Setsuko Ishiyama Provostial Professor, Stanford University

He has clarified the land use changes taking place on a global scale, the effects on ecosystems and the effectiveness of policies, using satellite remote sensing technologies and his original method of time-series analysis. From early on, he has pointed out that land use changes are causing adverse effects globally on natural systems. He has explained the relationship between economic activities and land use by linking socioeconomic data. His research activities have significantly influenced how public authorities and private enterprises develop land use policies for conserving forests. Those research findings have provided scientific support for making the most of forest certification programs, for implementing green purchasing commitments, and for promoting green procurement. He has made great contributions by stimulating the adoption of concrete interventions and practices to improve the sustainability of socioeconomic activities from the individual to the global scales.

2. Prof. Jared Diamond (USA) Born in 1937 September 10



Professor, Department of Geography University of California, Los Angeles
Historian, Non-fiction author

His ideas and arguments presented in his trilogy, *Guns, Germs, and Steel*, *Collapse*, and *The World Until Yesterday*, include civilization theory, organizational theory, and society theory, and were created as a result of his exceptional intellectual explorations. They provide deep insight into the roots of today's environmental issues from a very broad perspective, explaining the significance of environmental issues in the history of human civilization from a unique perspective. In *Collapse*, he has listed 12 items as major factors in global environmental issues. He has regarded environmental issues as fundamental to any study of human history. Based on this concept, he has influenced the consciousness of contemporary civilization across nations and generations toward a mindset of thinking about the next steps for civilization. These achievements of Professor Diamond are highly appreciated.

Both recipients will be awarded a certificate of merit, a commemorative trophy and a supplementary award of 50 million yen.

The awards ceremony will be held on December 11, 2019 (Wednesday) at the Palace Hotel Tokyo (Chiyoda Ward, Tokyo). The commemorative lectures by the prize recipients will be held at The University of Tokyo on December 12, at the Kyoto University on December 14.

*This press release may also be viewed on our web site at www.af-info.or.jp from 11:00, July 10, 2019.
The photos of the recipients are available from the web site of the Asahi Glass Foundation.

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Remarks from the Award Recipients upon Notification of their Selection

Prof. Eric Lambin (Belgium)

I am extremely honored to receive this prestigious prize. It is a great encouragement to continue working even harder to better understand changes in land use around the world, and to improve the design and evaluation of policies to promote sustainable land use.

I am indebted to all the senior colleagues in my field, on the shoulders of which I was able to stand. I have also been very fortunate to work with many bright, young people who joined my research team over the years. This prize rewards a collective effort.

Land use is changing rapidly. We need to become smarter in the way we manage land to mitigate climate change, reverse biodiversity loss, maintain the delivery of ecosystem services while at the same time ensuring food security and enabling communities to flourish thanks in part to their attachment to the places they inhabit.

Prof. Jared Diamond (USA)

The English-language expression “out of the blue” means “totally unexpected,” “dropping out of the blue sky.” In fact, the phone call telling me of my winning the 2019 Blue Planet Prize did come to me “out of the blue,” so for me the prize is doubly blue.

But, in another sense, the prize did not come out of the blue at all – because it reflects the research that I have been doing for the last six decades, and my life experiences that impressed on me already as a child the importance of history, geography, and the environment. My studies in New Guinea on birds and people have served for me as a window on understanding our planet. I’ve lived in half-a-dozen countries, where I’ve seen how differences in geography have differently shaped the lives of my friends from those different countries.

I have a special connection to Japan through my Japanese relatives by marriage. My wife Marie and I have repeatedly taken great pleasure in visiting Japan, in coming to understand Japan through the eyes of our relatives, and in learning how Japan’s environment has shaped Japan.

For all these reasons, I am thrilled to receive the Blue Planet Prize. The prize symbolizes what I have learned from life, and what I have tried to teach and to give back to life.

Report on the Selection Process (28th Annual Prize, 2019)

A total of 500 nominators from Japan and 788 nominators from other countries recommended 150 candidates. The fields represented by the candidates, in order of number, were ecology (29), environmental economics and policy making (26), atmospheric and earth sciences(20).

The candidates represented 33 countries; 23 nominations, 15 percent of the total, were from developing countries.

After individual evaluation of the 150 candidates by each Selection Committee member, the committee was convened to narrow down the field. The results of their deliberation were examined by the Presentation Committee. The Board of Directors formally resolved to award the Prize to **Prof. Lambin**, and to **Prof. Diamond**.

The Laureates

1992	Dr. Syukuro Manabe (USA) International Institute for Environment and Development (UK)	2006	Dr. Akira Miyawaki (Japan) Dr. Emil Salim (Indonesia)
1993	Dr. Charles D. Keeling (USA) IUCN—The World Conservation Union (headquartered in Switzerland)	2007	Professor Joseph L. Sax (USA) Dr. Amory B. Lovins (USA)
1994	Professor Dr. Eugen Seibold(Germany) Mr. Lester R. Brown (USA)	2008	Dr. Claude Lorius (France) Professor José Goldemberg (Brazil)
1995	Dr. Bert Bolin (Sweden) Mr. Maurice F. Strong (Canada)	2009	Professor Hirofumi Uzawa (Japan) Lord Nicholas Stern of Brentford (UK)
1996	Dr. Wallace S. Broecker (USA) The M.S. Swaminathan Research Foundation (India)	2010	Dr. James Hansen (USA) Dr. Robert Watson (UK)
1997	Dr. James E. Lovelock (UK) Conservation International (head-quartered in the USA)	2011	Dr. Jane Lubchenco (USA) Barefoot College (India)
1998	Professor Mikhail I. Budyko (Russia) Mr. David R. Brower (USA)	2012	Professor William E. Rees (Canada) and Dr. Mathis Wackernagel (Switzerland) Dr. Thomas E. Lovejoy (USA)
1999	Dr. Paul R. Ehrlich (USA) Professor Qu Geping (China)	2013	Dr. Taroh Matsuno (Japan) Professor Daniel Sperling (USA)
2000	Dr. Theo Colborn (USA) Dr. Karl-Henrik Robèrt (Sweden)	2014	Prof. Herman Daly (USA) Prof. Daniel H. Janzen (USA) and Instituto Nacional de Biodiversidad (INBio)
2001	Lord (Robert) May of Oxford (Australia) Dr. Norman Myers (UK)	2015	Professor Sir Partha Dasgupta FBA FRS (UK) Professor Jeffrey D. Sachs (USA)
2002	Dr. Harold A. Mooney (USA) Professor J. Gustave Speth(USA)	2016	Mr. Pavan Sukhdev (India) Prof. Markus Borner (Switzerland)
2003	Dr. Gene E. Likens (USA) and Dr. F. Herbert Bormann (USA) Dr. Vo Quy (Vietnam)	2017	Prof. Hans J. Schellnhuber (Germany) Prof. Gretchen C. Daily (USA)
2004	Dr. Susan Solomon (USA) Dr. Gro Harlem Brundtland (Norway)	2018	Prof. Brian Walker (Australia) Prof. Malin Falkenmark (Sweden)
2005	Professor Sir Nicholas Shackleton (UK) Dr. Gordon Hisashi Sato (USA)	2019	Prof. Eric Lambin (Belgium) Prof. Jared Diamond (USA)

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Profile of the 2019 Blue Planet Prize Recipient

Prof. Eric Lambin (Belgium)

Major Research and Activities

Professor Lambin is an environmental scientist and geographer who is conducting advanced research on the interactions between human activities and the environment in terms of land use all over the world. He has undertaken research activities for the pursuit of sustainable land use at the interface between the natural and social sciences. In the early 1990s, Professor Lambin developed a method for quantifying ecosystem dynamics in terms of land cover by detecting land-cover changes using time series of satellite remote sensing^{*1} data. This method enabled detailed time-series analysis on continental to global scales. Using the method, Professor Lambin demonstrated the importance of interannual land surface changes, which had hitherto been ignored in previous research. By combining such remote sensing data with ground-level data on how people make land-use decisions, Professor Lambin advanced studies on subjects including tropical deforestation, forest fires, and desertification,^{*2} in cooperation with anthropologists, ecologists and infectious disease experts. He energetically continued his steady research on themes such as the clarification of relationships between land-use changes and mosquito-borne infectious diseases,^{*3} and went on to chair the international Land-Use and Land-Cover Change (LUCC) Project.^{*4}

In subsequent studies based on field investigations, Professor Lambin showed that countries that had shifted from deforestation to reforestation were also increasing their imports of timber and agricultural products. In some cases, this timber was logged illegally abroad and smuggled into the country. By analyzing land use and forest conservation at a global scale, Professor Lambin found that traditional approaches to land use sustainability were insufficient.^{*5} He and his colleagues studied how accounting for the imports and exports of agricultural and forestry products could lead to more sustainable land use. These findings then led to new research on the concrete implementation of forest and crop certification programs,^{*6} the establishment of green purchasing by private companies,^{*7} and the effects of green procurement by various organizations. Through those initiatives, Professor Lambin and his colleagues advocated for the need for greater coordination between sustainability initiatives by governments, NGOs and private companies^{*8}. This caused governments, private enterprises, and individuals to take concrete actions, which led to the promotion of sustainable land use, for example via nature-friendly CSR procurement by enterprises^{*9}. In parallel with his academic research, Professor Lambin is also devoting a great deal of energy to awareness-raising activities. He has written broad audience books^{*10} and is constantly communicating to the public on the importance of sustainability by formulating convincing arguments, for example on the strong ties between sound natural ecosystems and human happiness.

Academic and Career Background

A Professor Lambin studied geography and philosophy at the Université catholique de Louvain, and obtained a Master degree in Geographical Sciences from this university. Subsequently, he initiated a project for analyzing land-use patterns based on satellite remote sensing images and field observations. During this project, he conducted extensive fieldwork in Burkina Faso, in the African Sahel. At that time, Professor Lambin realized that he could not ascertain the actual land-use conditions from satellite images alone. Based on the understanding that the lifestyle of people in a given area must also be considered to understand land-use patterns, Professor Lambin visited villages from multiple ethnic groups by a motorcycle in the African Sahel. He gathered information about the use of land, such as irrigated farmland and forests. He published his research findings as a doctoral dissertation in 1988,^{*11} and obtained a doctoral degree. He then participated to a major NASA^{*12} project at Boston University, U.S. He worked on developing an algorithm for quantifying land cover changes at continental to global scales. This experience led him to the development of a method for quantifying land-cover changes and the dynamics of the ecosystem based on continental-scale time series of remote sensing data.^{*13}

Professor Lambin returned to his alma mater in 1995, where he conducted research aimed at understanding the main factors causing land use and cover changes, and the effects those changes produce on ecosystems. By combining remote sensing data with ground-level data on how people make land-use decisions, Professor Lambin conducted studies in cooperation with ecologists, anthropologists and infectious disease experts. He applied new analytical approaches to study a wide range of themes, including the effects of economic globalization on deforestation, desertification in semi-arid regions, and the impact of land-use changes on mosquito-borne, infectious diseases. Professor Lambin's vision of interdisciplinary research on human-

environment interactions led him to actively participate to an international network of scientists, called the Land-Use and Land-Cover Change (LUCC) Project, which he chaired for six years from 1999.

After those experiences based on many case studies worldwide, Professor Lambin published several studies from 2009 to 2010 showing that countries that had shifted from deforestation to reforestation were also increasing their imports of timber and agricultural products from neighboring nations. Those papers influenced how governments and enterprises approach green procurement and sustainable sourcing of agricultural and forestry products. Land use governance in the globalization era has since become Professor Lambin's main focus of research, with special attention to the synergies between public and private policies to produce changes at scale.

Notes:

***1 Remote sensing**

Remote sensing is a technology for studying objects from remote locations without touching them, mainly by using electromagnetic waves. All matter emits electromagnetic waves in the form of light and infrared radiation according to its temperature. The land surface also reflects and scatters solar radiation according to the type and condition of the surface. Remote sensing is a technology for studying the type and condition of objects using the electromagnetic waves they emit and reflect. Since Professor Lambin started using this technology in the 1980s, it has now become an important mean of environmental observation. Remote sensing has been applied to a broad range of fields, including the understanding of vegetation distribution, the measurement of landscape structures and changes, the estimation of water quality and temperature in bodies of water, and the observation of weather conditions, such as clouds and rain.

***2 Studies on subjects, including deforestation, forest fires, and desertification**

Professor Lambin clarified the causes of land-use and land-cover changes and the effects those changes produce on the ecosystem using the so-called "people-to-pixel" approach. See Reference [15] for the relationships between deforestation and land-cover changes, Reference [16] for the relationship between forest fires and land-use changes, and Reference [17] for the relationship between land-use changes and desertification.

***3 Studies on the relationship between the epidemic of mosquito-carried infectious diseases, and land use and economic activities**

Professor Lambin jointly studied with epidemiologists the relationship between land-use changes and vector-borne diseases. Through these studies, he clarified that land-use changes significantly affect the level of contact between humans and vectors, becoming the main cause of the spread of infectious diseases carried by organisms. See References [18] and [19] for related literature.

***4 Land-Use and Land-Cover Change (LUCC) Project**

The International Geosphere-Biosphere Programme (IGBP), which aimed to comprehensively elucidate the global environment by grasping it as an integrated earth system, and the International Human Dimension Programme on Global Environmental Change (IHDP), which sought to clarify the role of humans in the global environment and their relationship with socioeconomic changes, launched the Land-Use and Land-Cover Change (LUCC) Project as a joint research program in 1994. The objective of LUCC – now called the Global Land Programme – is to study land-use and land-cover changes mainly resulting from human activities that significantly affect global environmental changes. The LUCC project mainly addressed the following three research themes:

1. Land-Use Dynamics—Comparative Case Study Analysis
2. Land-Cover Dynamics—Direct Observations & Diagnostic Models
3. Regional & Global Models—Framework for Integrative Assessments.

The IGBP and the IHDP synthesized the scientific knowledge obtained through LUCC's activities up to 2005 into the following book, published in 2006:

Land-Use and Land-Cover Change: Local processes and Global Impacts. Lambin, E.F. and H.J. Geist (Eds). The IGBP Series, Springer-Verlag, Berlin, 2006, 222 pp. (A synthesis of LUCC science)

***5 Cases in which countries that shifted from deforestation to forest conservation increased their imports of timber and agricultural products from other countries**

Professor Lambin, with his former PhD student Patrick Meyfroidt, pointed out the reality that countries which shifted from deforestation to forest conservation simultaneously increased their imports of

agricultural and forestry products. Professor Lambin therefore advocated for the need to prevent illegal timber trade and to account for exports and imports of those products when designing sustainable land use policies. See References [20] and [21] for related literature.

***6 Forest certification programs**

Forest certification programs are initiatives mainly taken in the private sector to support sustainable forest management through the selective consumer purchase of sustainably produced timber. In these programs, independent third-party organizations certify forests that are under proper management based on standards that cover the three aspects of the environment, the economy, and society. Certification organizations label these products accordingly.

Forest certification programs require chain of custody certification (CoC certification), through which parties involved in the circulation of labeled timber and wood products receive certification for a system for handling timber and wood products from certified forests separately from their counterparts at each stage of circulation until those products reach customers.

Forest certification organizations include the Forest Stewardship Council (FSC, started in 1994), the Programme for the Endorsement of Forest: Certification Scheme (PEFC, established in 1999), and the Sustainable Green Ecosystem Council (SGEC, established in 2003). (Source: Forest Partnership Platform website operated by the Ministry of the Environment).

The practical use of forest certification is mentioned in green purchasing acts and an international standard for CSR procurement (ISO 26000).

***7 Green purchasing acts**

In Japan, the Act on Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Act No. 100 of 2000) stipulates that the state and other public institutions take the lead in selecting for purchase goods and services that least burden the environment. The Forestry Agency has prepared Guidelines for Demonstrating the Legality and Sustainability of Lumber and Wood Products, which summarize points to note when the suppliers of lumber and wood products seek to demonstrate their legitimacy and sustainability. These Guidelines present the following three methods:

1. A method for making practical use of forest certification.
2. A method for demonstrations by business operators certified by industry associations.
A demonstration chain is formed as a result of the certification of proper initiatives taken by individual business operators through lumber-related industry associations that have prepared a code of conduct independently, and the handover by certified business operators of a certificate of legitimacy and the like to business operators in the following stage.
3. A method for demonstrations through original initiatives taken by business operators.
The method by which individual business operators independently grasp and demonstrate distribution channels from logging to delivery.

Referring to examples in other countries and regions, the U.K. and the E.U. introduced green procurement in 2003 and 2004, respectively.

***8 Systematic mutual participations by governments, NGOs, and enterprises**

For example, REDD+ (Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries) is an international mechanism for controlling climate change through measures to counter the decrease and degradation of tropical forests. Through REDD+, advanced countries provide economic assistance to developing nations in cases where the latter curbed forest decrease and degradation, or maintained or increased carbon stocks through forest conservation.

***9 CSR procurement**

Corporate Social Responsibility (CSR) procurement refers to buyer (corporate) activities for furthering CSR across supply chains while procuring products, raw materials, and other materials by adding CSR factors, such as the environment, working conditions, and human rights, to traditional factors including quality, performance, prices, and delivery deadlines, in cooperation with suppliers “(adapted from An Introduction to Sustainable Procurement [22]”). ISO 26000 (issued in 2010) is an international standard for CSR procurement.

***10 Three books**

In addition to Land-Use and Land-Cover Change: Local Processes and Global Impacts mentioned above, Professor Lambin has published the following broad audience books as part of his activities for raising the awareness of ordinary citizens:

2004: *The Middle Path: Avoiding Environmental Catastrophe* (French edition) (English edition published in 2007)

2009: *An Ecology of Happiness* (French edition) (English edition published in 2011)

2015: *Le consommateur planétaire (The planetary consumer)* (English edition not yet available).

***11 Doctoral thesis**

Professor Lambin summarized his findings in a project analyzing land-use changes he had conducted in Burkina Faso, in the Sahel region of Africa, since 1985, and published a summary as his doctoral thesis (see below) in 1988. According to his profile published in Proceedings of the National Academy of Sciences of the United States of America (PNAS), Professor Lambin adopted an analytical approach, combining remote sensing data with socioeconomic data (people-to-pixels approach) in the above project, and further developed this analytical approach in the course of his subsequent research career.

[Doctoral thesis written by Professor Lambin]

Lambin, 1988. Contribution of Remote Sensing to Agrarian Systems and Rural Land Management in Burkina Faso, Africa 58 (3-88): 337-352.

***12 Joint project with NASA**

The National Aeronautics and Space Administration (NASA) developed a sensor called Moderate Resolution Imaging Spectroradiometer (MODIS) to be equipped on earth observation satellites scheduled for launch at that time (Terra in 1999 and Aqua in 2002). Boston University was involved with other U.S. universities in the design of algorithms to analyze these data. Professor Alan Strahler of Boston University, who was regarded as a remote sensing pioneer in those days, led this project. Professor Lambin mainly developed an algorithm for measuring land-cover changes from MODIS images.

***13 Development of a method for quantifying land-cover changes and the dynamic state of the ecosystem**

See References [23] and [24] for the development of a method for quantifying the dynamic state of the ecosystem by detecting land-cover changes based on continental-scale remote sensing data in a time series.

Academic and Career Record

1983	BA in Geographical Science, Université catholique de Louvain
1985	BA in Philosophy, Université catholique de Louvain
1985	MA in Geographical Science, Université catholique de Louvain
1988	Ph.D. in Geographical Science, Université catholique de Louvain
1989	Visiting Scientist, Institute for Remote Sensing Applications, Joint Research Centre, Ispra, Italy
1991-1993	Assistant Professor, Department of Geography, Boston University, United States
1993-1995	Expert for the European Commission, Institute for Remote Sensing Applications, Joint Research Centre, Ispra, Italy
1995	Assistant professor, Université Catholique de Louvain
1999-2005	Chair of the Scientific Steering Committee, Land-Use and Land-Cover Change (LUCC)
2002-2003	Fellow, Center for Advanced Studies in the Behavioral Sciences, Stanford University
2005-present	Full Professor, Université Catholique de Louvain
2010-present	Department of Earth System Science, School of Earth, Energy & Environmental Sciences, Stanford University
	Full Professor/George and Setsuko Ishiyama Provostial Professor
	Senior Fellow, Woods Institute for the Environment
	Affiliate to the Center on Food Security and the Environment

Selection of Awards Received

2009	Francois Prize in Sciences
2014	Volvo Environment Prize

Prof. Jared Diamond (USA)

Major research and activities

Professor Diamond is a leading modern intellectual. His unique perspective on the significant impact of environmental issues in the birth and collapse of civilizations is a great achievement and one that is highly regarded, not only by related fields but also by the general public. His exceptionally imaginative and unique approach of examining global environmental problems from the perspective of the history of civilization and fundamentally reconsidering it is based largely on his field research in New Guinea since 1964. Professor Diamond's creative and profound thinking, inspired by his study of the traditional societies of New Guinea for over 50 years, penetrates to the core of a variety of problems in human society, including environmental issues.

In his seminal works (1) *Guns, Germs, and Steel* (1997), ^{*14} (2) *Collapse* (2005), ^{*15} and (3) *The World Until Yesterday* (2012), ^{*16} Professor Diamond describes human history from a new perspective in (1) and continues this discussion in (2) to examine the path followed by a society that has disappeared from history, resulting in a detailed discussion about how environmental issues have affected the destinies of nations and civilizations. Based on these discussions, he identifies 12 major environmental issues, ^{*17} including those that have become noticeable in recent years. Focusing on the lifestyles of traditional societies far from modern industrialized society, he describes in detail in (3) how the living environment that surrounds them dictates their lifestyles and thinking. Through the above, Professor Diamond examines the significance of re-thinking our way of living in a modern industrialized society.

In his trilogy, Professor Diamond turns his back on the conventional view of Western history to focus on the inseparable connection between environmental issues and the history of human civilization. The questions raised and the suggestions for solutions prospectively highlight important issues faced by modern humans in achieving sustainability. Professor Diamond's work sends us a clear message: a major shift in values—in which we create a new civilization—is essential to solve global environmental issues.

Academic record and professional career

Professor Diamond majored in Biochemical Sciences at Harvard University, U.S., and received a bachelor's degree in 1958. In 1961, he was awarded a Ph.D. in physiology from the University of Cambridge, U.K. He subsequently served as an associate professor and professor at the University of California, Los Angeles (UCLA) School of Medicine, U.S., from 1966 to 2002. Professor Diamond's research on the molecular physiology of the gall bladder was highly acclaimed and he was elected as a Fellow of the American Academy of Arts and Sciences in 1973. In parallel with these research activities as a medical scientist, he conducted fieldwork on birds after a trip to New Guinea in 1964. He has carried out field research on subjects that include ecology, evolutionary biology, ^{*18} and ornithology. ^{*19} Professor Diamond said, "New Guinea changed my life. It was an amazing experience. It was an eye-opener that had a big effect on my outlook." He has continued carrying out field research for over 50 years.

Using the information obtained through his research activities, he has also contributed to environmental protection and ecosystem restoration in New Guinea. Specifically, in cooperation with the governments of Indonesia, Papua New Guinea, and the Solomon Islands, as well as the World Wildlife Fund (WWF), Professor Diamond supervised the planning of the national park system in Papua New Guinea and the Solomon Islands, and directed a variety of field research projects. In addition, as part of his environmental protection activities, he was among the founding members who launched the Society for Conservation Biology ^{*20} in 1985 and has been a board member of the WWF since 1993.

While deepening exchanges with the traditional societies of New Guinea, Professor Diamond developed his research from ecology to human ecology, ^{*21} triggered by questions about the disparities between traditional societies and the modern industrialized nations. The results of the knowledge were published as *Guns, Germs, and Steel* in 1997, *Collapse* in 2005, and *The World Until Yesterday* in 2012.

While teaching at UCLA as Professor of Geography, Professor Diamond actively lectures and writes ^{*22} to enhance the general public's understanding of scientific issues.

Notes:

^{*14} *Guns, Germs, and Steel*

Excerpt from the Japanese translator's afterword: "Why does the world have such an imbalance in wealth and power? Why have humans followed such a different history on each continent? These

questions come to mind when comparing different societies, which are also research topics that have attracted great interest from historians and geographers, yet they remain a mystery. This book attempts to uncover the mystery during the magnificent time frame of human history over the past 13,000 years.”

Awarded the 1998 Pulitzer Prize for General Nonfiction and the 1998 International Cosmos Prize (6th) from the Expo '90 Foundation.

***15 Collapse**

Excerpt from the Japanese translator’s afterword: “Diamond selects societies—those that collapsed in different locations, in different time periods, through different processes; a society (or culture/industry) that is currently dying; and a society that escaped destruction through environmental luck and the wisdom of the inhabitants—to examine the mechanism of civilization collapse and elucidate the universal structure in detail.”

***16 The World Until Yesterday**

Excerpt from the Japanese translator’s afterword: “Every human society has experienced a much longer period as a traditional society than it has subsequent to the transition to a modernized society. Recently, we have been facing fast, sweeping changes. The characteristics of humans have been shaped by these traditional lifestyles to become our present form. *The World Until Yesterday* is indispensable to comprehend the evolution of society and the evolutionary process of humans as an organism.

Concepts that were formed in traditional societies, such as human relations, conflict resolution, child-rearing, measures for the elderly, religion, disease control, and politics, can still be applied to modern society. While interweaving his experiences in New Guinea, where he dedicated half of his life, Professor Diamond analyzes anthropological research and literature involved in traditional societies around the world, pursuing unknown human history and the core elements of society.”

***17 Twelve major environmental issues indicated in *Collapse*, Chapter 16**

The most serious environmental issues facing society past and present fall into a dozen groups:

1. Destruction of natural habitats
2. Collapse and decline of fish and shellfish (especially fish) resources, food sources in the wild
3. Loss of wild species and populations, as well as genetic diversity
4. Soil problems

Energy and fossil fuel issues

5. Depletion of fresh water in rivers, lakes, and groundwater all over the world
6. Full human use of the Earth’s photosynthetic capacity
7. Toxic chemicals
8. Effects of introduced species on native species
9. Greenhouse gases
10. Overpopulation
11. Mode of living, lifestyle

Professor Diamond continues as follows (excerption from p496 – p498):

I have described these 12 sets of problems as separate from each other. In fact, they are linked: one problem exacerbates another or makes its solution more difficult. ...People often ask, “What is the single most important environmental/population problem facing the world today?” A flip answer would be, “The single most important problem is our misguided focus on identifying the single most important problem!” That flip answer is essentially correct, because any of the dozen problems if unsolved would do us grave harm, and because they all interact with each other. If we solved 11 of the problems, but not the 12th, we would still be in trouble, whichever was the problem that remained unsolved. We have to solve them all.

***18 Evolutionary biology**

Evolutionary biology is the subfield of biology that studies the evolutionary processes that produced the diversity of life on Earth, starting from a single common ancestor. These processes include natural selection, common descent, and speciation. (from Wikipedia, the free encyclopedia)

***19 Ornithology**

Ornithology is a field of biology which focuses on the study of birds. In addition to the study of birds in terms of aspects such as morphology, physiology, development, distribution, ecology, behavior, heredity, and evolution, research subjects include the use and protection of birds. The study of birds is known to have greatly contributed to the development of modern biology in every aspect; particularly important contributions include evolution, biodistribution, behavioral sciences, and the conservation of nature. For example, studies on the geographical variation of birds are said to have greatly influenced the theory of speciation.

***20 Society for Conservation Biology**

The Society for Conservation Biology (SCB) is a U.S.-based non-profit organization focused on preserving biodiversity. Currently, the SCB consists of 35 branches located worldwide with more than 4,000 members. The society was established in 1985, and the first issue of *Conservation Biology*, a peer-reviewed journal, was published in 1987. Professor Diamond played a leading role in launching the society.

***21 Human ecology**

Human ecology is an interdisciplinary field of study that researches human adaptation to the environment. It also relates to other areas of research such as anthropology, geography, sociology, and demography. In human ecology, researchers understand human survival mainly on a group level and perform comprehensive research on life, food, and demographic aspects. It differs from animal ecology in that an understanding of cultural adaptation is required due to systematized techniques, ideas, and value systems, as well as human social structure.

***22 Dynamic activities**

Professor Diamond is still on the board of directors of World Wildlife Fund USA, and that He is still employed full-time doing teaching and research at the University of California, Los Angeles.

Academic and Career Record

1958	BA in Biochemical Science, Harvard University, U.S.
1961	Ph.D. in physiology from the University of Cambridge, U.K.

Selection of Awards Received

1998	Pulitzer Prize for General Nonfiction: <i>Guns, Germs, and Steel</i>
1998	International Cosmos Prize
1999	National Medal of Science in Biology
2001	Tyler Prize for Environmental Achievement
2002	Lewis Thomas Prize
2006	Dickson Prize in Science
2013	Wolf Prize in Agriculture