

RE-3 Senators and Officers Post Travel Disclosure of Travel Expenses

Post Travel Filing Instructions: Complete this form within **30 days** of returning from travel. Submit all forms to the Office of Public Records in 232 Hart Building. **This form is a public disclosure. The form and all attachments will be made publicly available.**

Date/Time Stamp

Certification: *In compliance with the Regulations Governing Privately Sponsored Travel, Senate Rule 35, and the Honest Leadership and Open Government Act of 2007, I certify that I accepted the following gift of privately sponsored travel:*

Private Sponsor(s):

Aspen Congressional Program

Travel Dates:

4/10/23-4/15/23

Name of accompanying family member (if any):

Annie Coons

Relationship to Traveler:

Wife

Total Expenses

Transportation Expenses	Lodging Expenses	Meals Expenses	Other Expenses (Amount & Description)
11,054	1,196.00	1,140.00	

I also certify that attached to this form are all required documents for post travel disclosure, including:

- The final **Private Sponsor Travel Certification Form** with all attachments
- The final invitation
- The final approved itinerary

I certify that all trip information reflected in the attachments above accurately reflects the travel that I accepted. If there were any changes to the trip after I received approval from the Committee, the changes are described in ATTACHMENT 1.

I have made a determination that the expenses set out above in connections with travel described in the Employee Pre-Travel Authorization form, are necessary transportation, lodging, and related expenses as defined in Rule 35.

4/25/23

Date



Signature of Senator/Officer

ATTACHMENT 1 – CHANGES FROM APPROVED PRE-TRAVEL

Note: Material changes to a trip that occur after the Committee has issued an approval letter may invalidate the Committee's approval. Please contact the Committee with any questions regarding changes to an approved trip.

Were there any changes to the pre-approved travel expenses? (Transportation, Meals, Lodging, Other)?

☒ Yes ☐ No

Expense Change

Revised Amount

Explanation

1,036

12,090

Car service to airport and return

Were there any changes to the pre-approved itinerary?

☐ Yes ☒ No

Explanation:

Were there any additional changes to the pre-approved trip?

☐ Yes ☒ No

Explanation:

[Handwritten signature]

Trip Name: Aspen Institute Congressional Program (AICP) Food Security Conference**Organization Information****Organization Name:**

The Aspen Institute, Inc. (Congressional)

Is your organization classified as a §501(c)(3)?☒ Yes ☐ No**If Yes, §501(c)(3) Organization Type:**☐ Private Foundation ☒ Public Charity**Address:**

2300 N Street, NW

City, State, Zip:

Washington, DC 20037

Phone Number:

202-736-5859

Organization URL:<https://www.aspeninstitute.org/>**History of Congressional Travel**

Describe your organization's history of sponsoring congressional travel.

Aspen Institute Congressional Program (AICP) has conducted international and domestic conferences for members of Congress for over 35 years. On occasion, other policy programs of The Aspen Institute, Inc. sponsor conferences that involve members of Congress.

Educational Activities

Describe the educational activities performed by your organization other than sponsoring congressional travel.

The Aspen Institute, Inc. holds numerous educational activities including conferences, roundtable briefings, and other nonpartisan forums on critical issues facing the U.S. and the world. AICP, specifically, offers nonpartisan educational events for members of Congress and senior congressional staff members, with each event offering a leading scholar on a key domestic or international issue.

Lobbyist and Foreign Agent Registration Information**Lobbyist Registration Status (Select one):**

- ☒ I certify that the sponsor is not a federally registered lobbyist and does not retain or employ a federally registered lobbyist.
- ☐ I certify that the sponsor is not a federally registered lobbyist but does retain or employ one or more federally registered lobbyists.

Foreign Agent Registration Status (Select one):

- ☒ I certify that the sponsor is not an agent of a foreign principal and does not retain or employ an agent of a foreign principal.
- ☐ I certify that the sponsor is not an agent of a foreign principal but does retain or employ one or more agents of a foreign principal.

Foreign Government Involvement**Foreign Agent Registration Status (Must select all):**

- ☒ I certify that the sponsor is not a foreign government.
- ☒ I certify that the sponsor is not an entity that is owned or operated by a foreign government.
- ☒ I certify that the sponsor does not receive funding from a foreign government.

Purpose and Details**Provide a brief description of the trip.**

The purpose of the trip is to provide a deeper look into the issue of food security in the United States and the world. The focus will be on how food insecurity impacts the U.S. and the rest of the world from a humanitarian, economic, environmental and global security perspective. Experts from across the world and the U.S. and leaders in food security will highlight the challenges ahead as political instability, environmental changes, a growing world population and less space to grow nutritional food can impact every nation's future growth if workable solutions are not developed and implemented.

Explain how the purpose of the trip relates to your organization's mission.

The Aspen Institute, Inc., is a non-profit organization, and its broad mission is conducting nonpartisan forums and the exchange of ideas on issues impacting the U.S. and the world. AICP is a program of the Aspen Institute, Inc. that provides nonpartisan educational conferences and educational forums for members of Congress and senior congressional staff members. The food security conference will examine the critical nature of global food security and how it relates to global political stability and the environment and how U.S. policy can impact these issues.

Is your organization the only sponsor for this trip?☒ Yes ☐ No**If No, describe your organization's role in planning the trip.**

If there are multiple sponsors, each sponsor must submit Organization Information (Page 1 of the Private Sponsor Travel Certification Form) and a Signature Page Form.

Grantmaking Organizations (Optional)

If you have a Grantmaking Organization, you must attach a Grantmaking Organization Certification Form.

1. The Rockefeller Foundation**2.****3.**

With or Without Regard to Congressional Participation (Select one):

- ☐ The trip is arranged or organized without regard to congressional participation.
- ☒ The trip is arranged or organized with regard to congressional participation.

Lobbyist/Foreign Agent Involvement in Planning, Organizing, Requesting or Arranging

- ☒ The trip will not in any part be planned, organized, requested, or arranged by a registered lobbyist or agent of a foreign principal, other than de minimis involvement.

Lobbyist/Foreign Agent Financing (Must select all):

- ☒ The trip will not be financed in any part by a registered lobbyist or agent of a foreign principal.
- ☒ No funds or in-kind contributions were earmarked directly or indirectly for the purpose of financing this specific trip from a registered lobbyist or agent of a foreign principal or from a private entity that retains or employs one or more registered lobbyists or agents of a foreign principal.

Lobbyist/Foreign Agent Accompaniment

Complete if all sponsors are §501(c)(3) organizations (Select one):

- ☒ The trip is limited to three days (for trips inside the continental United States) or seven days (for trips outside the continental United States), and no lobbyist or agents of a foreign principal will accompany the Member, officer, or employee at any point throughout the trip.
- ☐ The trip is limited to a one-day event (exclusive of travel time and one overnight stay) and no registered lobbyists or agents of a foreign principal will accompany the Member, officer, or employee on any segment of the trip.
- ☐ The trip is limited to a one-day event (exclusive of travel time and two overnight stays) and no registered lobbyists or agents of a foreign principal will accompany the Member, officer, or employee on any segment of the trip.

Complete if any of the sponsors is not a §501(c)(3) organizations (Select one):

- ☐ The trip is limited to three days (for trips inside the continental United States) or seven days (for trips outside the continental United States), and no lobbyist or agents of a foreign principal will accompany the Member, officer, or employee at any point throughout the trip.
- ☐ The trip is limited to a one-day event (exclusive of travel time and one overnight stay) and no registered lobbyists or agents of a foreign principal will accompany the Member, officer, or employee on any segment of the trip.
- ☐ The trip is limited to a one-day event (exclusive of travel time and two overnight stays) and no registered lobbyists or agents of a foreign principal will accompany the Member, officer, or employee on any segment of the trip.

Certification of No Recreational Activity and No Alcohol (Must select all):

- ☒ Travel expenses paid for will not include expenditures for recreational activities.
- ☒ Travel expenses paid for will not include expenditures for alcohol, except as permitted by the Regulations Governing Privately Sponsored Travel.

Will members and staff from the House of Representatives receive invitations?

- ☒ Yes ☐ No

Travel Details (Submit additional pages as needed)

Trip Start Date/Time:

April 10, 2023

Trip End Date/Time:

April 15, 2023

Will the traveler be accompanied by a family member for whom the sponsor will pay travel expenses?

☒ Yes ☐ No

Transportation (Member/Officer/Employee: \$ 5527 Accompanying Family Member: \$ 5527)

Transportation Type	Class	Amount
commercial airline	business	\$11,054

Details (optional)

Lodging (Member/Officer/Employee: \$ 1196 Accompanying Family Member: \$ 0)

Check-In	Check-Out	Facility	City	State	Country
4/11/23	4/15/23	Bellagio Center	Bellagio		Italy

Nights	Cost/Night	Cost Exceed Per Diem (Yes/No)	If Yes, please explain why expenses over the per diem rate are reasonable and necessary.
4	\$299	no	

Check-In	Check-Out	Facility	City	State	Country
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Nights	Cost/Night	Cost Exceed Per Diem (Yes/No)	If Yes, please explain why expenses over the per diem rate are reasonable and necessary.
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Check-In	Check-Out	Facility	City	State	Country
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Nights	Cost/Night	Cost Exceed Per Diem (Yes/No)	If Yes, please explain why expenses over the per diem rate are reasonable and necessary.
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Meals (Member/Officer/Employee: \$ 570 Accompanying Family Member: \$ 570)

Date	Breakfast	Lunch	Dinner	Incidentals	Total	City	State	Country	Cost Exceeds Per Diem (Y/N)
4/11/23			\$61	\$30		Bellagio		Italy	N
4/12/23	\$23	\$38	\$61	\$30		Bellagio		Italy	N
4/13/23	\$23	\$38	\$61	\$30		Bellagio		Italy	N
4/14/23	\$23	\$38	\$61	\$30		Bellagio		Italy	N
4/15/23	\$23					Bellagio		Italy	N

If costs exceed the federal per diem, please explain why expenses over the per diem rate are reasonable and necessary.

Reasonable Miscellaneous Expenses

(Member/Officer/Employee: \$ _____ Accompanying Family Member: \$ _____)

Expense Type	Amount	Notes
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Additional Details (optional)

PRIVATELY SPONSORED TRAVEL

SPONSOR SIGNATURE PAGE

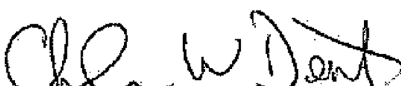
I hereby certify that the information submitted in connection with the trip listed below is true, complete, and correct to the best of my knowledge and belief.

Trip Name: AICP Food Security Conference
Travel Date(s): April 10-April 15, 2023
Travel Destination(s): Bellagio, Italy

Sponsor: Aspen Institute, Inc. (Congressional Program)

Charlie Dent
(printed name of sponsor representative)

VP-Aspen Institute, Inc.
(title)


(signature of sponsor representative)

March 7, 2023
(date)

Grantmaking Organization Certification Form

Instructions: If a sponsor receives funds from a grantmaking organization, the sponsor must disclose this on the *Private Sponsor Travel Certification Form*, and the grantmaking organization must complete the *Grantmaking Organization Certification Form*. The completed *Grantmaking Organization Certification Form* must be submitted to the Senate Select Committee on Ethics by the trip sponsor at least 30 days prior to the travel departure date.

Grantmaking Organization: The Rockefeller Foundation

Private Sponsor: Aspen Institute Congressional Program

Trip Name: Bellagio Center Conference

Travel Date(s): April 11-15, 2023

Destination(s): Bellagio, Italy

In compliance with the *Regulations Governing Privately Sponsored Travel*, I certify the following:

- ☒ The grantmaking organization is a § 501(c)(3) organization.
- ☒ The grantmaking organization is not a lobbyist, lobbying firm, or foreign agent, nor an entity that retains or employs a lobbyist or foreign agent.
- ☒ The grantmaking organization provides funds under an established grant program, or in a manner that is otherwise consistent with the mission and practices of the organization.
- ☒ The grantmaking organization is not involved, directly or indirectly, in organizing and conducting the trip. This includes selecting participants for a trip.
- ☒ The grantmaking organization does not directly pay or reimburse travel expenses for any Senate Member, officer, or employee.

Erica Guyer

(Printed name of grantmaking organization representative)

Acting General Counsel Corpora

(Title)



(Signature of grantmaking organization representative)

03/03/2023

(Date)



Strategies to Ensure Global Food Security:

U.S. Policies to Sustain Supply, Relief and Advance Prosperity

April 10-15, 2023 | Bellagio, Italy

AGENDA

MONDAY, APRIL 10:

U.S. participants depart the U.S. today. *Sen. Chris Coons and his wife, Ann Coons, depart New York at 4:25 pm on Delta 172.*

TUESDAY, APRIL 11:

U.S. participants arrive in Bellagio, Italy late afternoon. *Sen. Chris Coons and Ann Coons arrive Milan at 6:45 am and are transported by bus to Bellagio.*

6-7 PM: Pre-Dinner Remarks:

U.S. Role in Global Food Security

Speaker:

Akinwumi Adesina, *President, African Development Bank*

7-9 PM: Working Dinner

Seating is arranged to expose participants to a diverse range of views and provide the opportunity for a meaningful exchange of ideas. Scholars and lawmakers are rotated daily. Discussion will focus on global food security and the U.S. role.

WEDNESDAY, APRIL 12:

8-8:55 AM: Breakfast

9-9:15 AM: Introduction and Framework of the Conference

This conference is organized into roundtable conversations, a luncheon and pre-dinner remarks. This segment will highlight how the conference will be conducted, how those with questions will be recognized, and how responses will be timed to allow for as much engagement as possible.

Speaker:

Charlie Dent, *Executive Director - Aspen Institute Congressional Program*
Vice President, Aspen Institute, Inc.

9-11 AM: Roundtable Discussion***The Looming World Food Price Crisis***

After the height of the COVID-19 pandemic, supply chain issues, inflation, and Putin's ongoing war in Ukraine, a major agricultural exporter, Americans saw the economic effects of these events firsthand with empty grocery store shelves and high food prices. These impacts have shown that while food security remains a humanitarian issue in developing nations, it also can affect world powers, including the United States.

World food price crises are occurring with increasing frequency. We are in the third since 2008, however this is the first to have a significant impact on retail prices in the U.S. and other high-income countries. In low-income countries consumers have suffered severe impact on their food security in all three price spikes.

The current food price crisis is more pronounced and has a greater impact in all regions of the world because it reflects much more than a regional food production shortfall. When COVID-19 closed the economy, American consumers quickly shifted from two-thirds of their food expenditures going to food consumed away-from-home to two-thirds at-home, and supply chains struggled to adjust to that sudden shift. Food processors, particularly animal slaughtering facilities, struggled to sustain production while trying to make the work environment safe enough for employees to continue to come to work.

Animal diseases that caused loss of farm production capacity in several countries have further amplified food price increases. China lost a significant fraction of its pig population (the largest in the world) to a swine disease, and more recently, avian influenza caused the destruction of a substantial fraction of the U.S. laying hen population, causing the price of eggs to explode.

On top of these forces that were already causing food prices to rise came Putin's invasion of Ukraine, followed by sanctions on economic relations with Russia. Both Russia and Ukraine are important agricultural exporters, and Russia is also a significant supplier of fertilizer, an essential agricultural production input, to the world market.

Both agricultural commodity prices and the cost of agricultural production around the world rose further.

This conference will probe in depth the fundamental forces driving food security at the individual, national and global levels today and in the future, in a world in which all agro-ecosystems are migrating due to climate change.

Speakers:

David Beasley, former *Executive Director, World Food Programme*

Chris Barrett, *Director Dyson School of Applied Economics and Management, Cornell University*

David Lane, *President, Annenberg Foundation Trust*

11-11:15 AM: Break

11:15 AM – 1 PM: Roundtable Discussion

Crisis of Global Malnutrition

According to the Food and Agriculture Organization (FAO) of the United Nations, “food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life.” Adequate nutrition and absence of disease are the two essential conditions for health.

Both overnutrition and undernutrition cause hundreds of millions of premature deaths world-wide each year. The health problems associated with obesity are widely addressed in the media. Under reported is the even larger number of deaths every year from starvation from lack of calories and nutritional deficiency diseases from inadequate intake of all the essential amino acids, vitamins and minerals, particularly vitamin A, iodine, iron and zinc.

There are three essential conditions for individual food security:

- Is there a safe, reliable, and reasonably priced supply of all essential nutrients available from local production or the market year around?
- Does the household (or individual) have sufficient purchasing power to access a nutritionally balanced diet from home-grown sources or the marketplace?
- Is a person healthy enough so the nutrients ingested can be absorbed and used by the body?

Very low-income people spend the largest fraction of their income on food. According to the FAO, before COVID-19 struck an estimated 750 million people (10 percent of the world's population) suffered "severe food insecurity," and 690 million went "hungry." According to the FAO's definition, people suffer "hunger" if they lack sufficient purchasing power to access even 1,800 calories per day, not enough to put in a medium level of physical activity. An estimated 75 percent of the extreme poverty in the world is rural, and most are farmers. The majority are female, and half are children.

War, natural disasters, and economic crises cause a great deal of hunger in the world, but chronic hunger, which is much more widespread, is due mainly to poverty. Emergency feeding programs, such as the World Food Programme, play an essential role in addressing human crises, however to "solve" the world's chronic hunger problem (Sustainable Development Goal #2), the world's poverty problem (Sustainable Development Goal #1) should be solved. For the health of the planet, these goals need to be attained in a sustainable manner. To do this, the entire food system must be involved.

This session will review the response to this crisis and address the longer-term challenge of eliminating global poverty and hunger.

Speakers:

Catherine Bertini, *Professor, Maxwell School, Syracuse University; former Executive Director, World Food Programme*

Tjada D'Oyen McKenna, *CEO, Mercy Corps*

1-2 PM: Working Lunch

Discussion continues between members of Congress and scholars on global malnutrition.

2-4 pm: Individual Discussions

Members of Congress and scholars meet individually to discuss topics raised during the conference. Scholars available to meet individually with members are David Beasley, Chris Barrett, David Lane, Catherine Bertini, and Tjada D'Oyen McKenna.

7-9 PM: Working Dinner

Seating is arranged to expose participants to a diverse range of views and provide the opportunity for a meaningful exchange of ideas. Scholars and lawmakers are rotated daily. Discussions will focus on the world food crisis and global malnutrition.

THURSDAY, APRIL 13:**8-8:55 AM: Breakfast****9 -11 AM: Roundtable Discussion:*****International Trade and Food Security***

The global price of an agricultural commodity is determined by the balance between the volume supplied to the world market by exporting countries and the volume of that commodity purchased from the world market by all importing countries. With its dependency on weather and climatic conditions (rainfall and temperature), agriculture is an inherently risky business. International trade in agricultural commodities is the great balancing wheel that moves farm products from surplus production regions to deficit areas at any point in time. In this sense, international trade is an important food security risk management tool for every country.

With climate change shifting all agro-ecosystems and increasing the frequency of extreme climatic events such as droughts and floods, international trade is likely to take on an even greater national risk management role in the future. International trade needs to be kept as open as politically possible if world markets are to play this balancing wheel and risk management function.

In countries whose natural conditions make it possible to competitively produce more of a commodity than domestic consumers buy - the international market provides larger farm income and the opportunity for the farm sector to make a positive contribution to the country's balance of trade. The U.S. exports about a quarter of its agricultural production, contributing significantly to farmers' income and the U.S. balance of trade.

National food security is the potential for self-sufficiency that is both economically efficient and environmentally sustainable within a given country. The food supply is strategically important to every government. Every country needs to have a reliable, safe and nutritious, reasonably priced supply of food available from some combination of domestic production plus imports minus exports. Political realities prevent any government from putting its citizens in a position of being dependent on imports for its entire food supply.

The volume of future international trade in food and agricultural products will be determined by the dynamic changes that occur in the demand for food relative to the growth in production potential in each country. The world's population is projected to

grow 22 percent from the present eight billion to about 9.8 billion by 2050. Of this, 1.8 billion increase in the number of global mouths to be fed, about 950 million are projected to be in Sub-Saharan Africa, about 500 million in South and Central Asia, and about 200 million in North Africa and the Middle East. The population of East Asia is declining.

East and South Asia have twice as much of the world's population, and virtually all their potentially arable land is already in production. The Middle East and North Africa have land, but they lack enough fresh water. It is hard to construe a scenario in which these three regions can be self-sufficient in food in the future; East Asia and the Middle East and North Africa are already large agricultural importing regions. Sub-Saharan Africa has roughly equal percentages of the world's population and arable land now, but it is the one region whose population is expected to almost double by 2050. A large source of uncertainty about the world's future food supply-demand balance is how successful Sub-Saharan Africa is in achieving its food production potential, which greatly exceeds present levels.

For the world markets for food and agricultural commodities to successfully fulfill their potential balancing wheel role, there should be rules-of-the-road for trade that keep the flows of trade as fluid as possible. Until the Uruguay Round Agreement in 1995 that created the World Trade Organization (WTO), there were no internationally accepted rules-of-the-road for agricultural trade. The fraction of world agricultural production moving through international markets has more than doubled in the years since the Uruguay Round Agreement came into effect, to the significant benefit of American farmers. In recent years, the United States and other countries have backslid on their commitments to freer movement of agricultural products in world trade.

This session will review the projected growth in international agricultural trade. It will further address the importance of keeping international markets as open as possible so they can play the balancing wheel role that will be needed as consumer demand in certain regions outgrows their agricultural production capacity and as greater variability in climatic conditions causes greater year-to-year fluctuations in individual countries' food production.

Speakers:

Maximo Torero, *Chief Economist, FAO*

Joseph Glauber, *Senior Fellow, International Food Policy Research Institute*

11-11:15 AM: Break

11:15 - 1 PM: Roundtable Discussion:
Global Food Security

Global food security is the extent to which the world can produce enough food containing all of the essential nutrients (calories, amino acids, vitamins and minerals) to feed the world's larger population better than today at reasonable cost without damaging the environment. This challenge must be addressed in a holistic manner in which nutrient-dense foods, e.g. fruits and vegetables that have high vitamin and mineral content, are given high priority. Historically, too much focus has been on grain production which supplies calories, but generally leaves deficiencies in various amino acids, vitamins, and minerals.

All agricultural production, regardless of the production system, conventional, organic, or regenerative, begins with the genetic potential embodied in the plant seed or animal egg. Once a plant germinates or an animal is born, how much of that genetic potential is realized depends on adequacy of nutrition for the species' requirements, prevention of diseases that inhibit its growth, and avoidance of competition for nutrients (from weeds in plants and parasites in animals) and for light in the case of plants.

The two basic resources on which plant growth is based are the land, from which crops receive their required nutrients (nitrogen, phosphate, potassium, and some micronutrients) and water. To these must be added the climatic conditions above the land which determine the levels and variability of temperature and precipitation.

There is little more arable land available worldwide (certainly less than 10 percent) that is not presently forested or subject to erosion or desertification. Loss and degradation of many soils continues. The area of land in food production could be expanded more than this, but only by destruction of forests, with accompanying loss of wildlife habitat, biodiversity, and carbon sequestration capacity, all unacceptable environmental outcomes. The only environmentally sustainable alternative is to increase productivity on the fertile, non-erodible soils already in crop production. Most of that available cropland is in remote areas of South America and Sub-Saharan Africa, where infrastructure is minimal, and soils are inferior in quality to many already in production.

There is an area of land larger than what is in crop production which does not receive enough rainfall for annual cropping.

Land may not be the most binding constraint on future global food production. Water is likely to be even more limiting. In their irrigation farmers account for 70 percent of the world's use of fresh water. With the rapid urbanization underway, cities are outbidding farmers for available fresh water. The world's farmers will likely have access to less fresh water in the future than today. To sustain present food production levels, they will have to increase the "crop per drop," the average productivity of the water they use.

This session will review the natural constraints on the world's farmers' ability to produce enough food in an environmentally benign manner to feed the world's larger population better than today. It will take a holistic approach that recognizes the importance of producing enough of all the essential nutrients to sustain human health.

Speakers:

Robert Thompson, *Former Director, Rural Development, World Bank; Former Assistant Secretary for Economics, USDA*

Maximo Torero, *Chief Economist, Food and Agricultural Organization of the United Nations*

1-2 PM: Working Lunch

Discussion continues between members of Congress and scholars on global food security.

2-4 pm: Individual Discussions

Members of Congress and scholars meet individually to discuss topics raised during the conference. Scholars available to meet individually with members are Maximo Torero, Joseph Glauber, Robert Thompson, Pamela Ronald, and Agnes Kalibata.

7-9 PM: Working Dinner

Seating is arranged to expose participants to a diverse range of views and provide the opportunity for a meaningful exchange of ideas. Scholars and lawmakers are rotated daily. Discussions will focus on U.S. international trade and global food security.

FRIDAY, APRIL 14:

8-8:55 AM: Breakfast

9-11 AM: Roundtable Discussion:

Public and Private Investments in Agricultural Research

There are important roles to be played in reducing future food insecurity by investments by both the public and private sectors, as well as by philanthropy. Economic analysis has demonstrated that investments in agricultural research have a high financial rate of return in both the public and private sectors.

Public support for agricultural research played a major role in the economic development of American and European agriculture. The resulting technologies were made freely available to all, often pushed out through an extension service which served as a two-way conduit of farmers' problems to researchers and solutions back to farmers.

The private sector also played an important role in research on farm machinery, pesticides, and animal pharmaceuticals. To pay for the research (both successes and failures) and to provide a return to owners or shareholders, the resulting technology is embodied in something farmers buy. This is possible only when the intellectual property resulting from the research can be protected by patents or other "do not reproduce for sale" rules. In recent decades, with increased ability to patent biological materials, the private sector has come to play a much larger role in developing new agricultural technologies embodied in plant seeds than previously. In all cases the sales arms of the private sector companies play important roles in technology transfer to farmers.

Despite the high rate of return on both public and private investments in agricultural research and technology transfer, public support for it has been falling in the United States, Europe and other high-income countries (in both domestic research and that financed through their foreign aid). Today the governments of both Brazil and China invest more in agricultural research than the United States. Public support to domestic agricultural research institutions has dropped in recent decades across the high-income countries; the same has happened in their foreign aid.

Agricultural technologies often require very specific local agro-ecological conditions (soil and climate), so additional research is often necessary to adapt a crop to the conditions in a specific region. The tools of agricultural science are highly mobile across countries, but individual varieties or breeds often need additional research to optimize them for other locations than their origins. With all agro-ecosystems migrating away from the Equator and the incidence of extreme climatic conditions increasing, it is going to take more adaptive research just to sustain present productivity levels.

This brings us to the challenge of meeting the agricultural research needs of food-insecure countries which have large numbers of impoverished farmers. Those farmers often lack the purchasing power to access improved seeds even if they are

available, or lack sufficient collateral to access credit, even where credit institutions exist.

To meet future global food demand sustainably will require increases in global food system productivity. Where possible, we will need to make presently unusable soils productive, increase the genetic potential of individual crop and animal species in the face of climate change, increase the productivity of the water used, reduce competition from weeds in crop production and parasites in animal production, and reduce post-harvest losses, all in an environmentally benign manner.

Fortunately, we are in the golden age of the biological and information sciences. The tools of modern science give us the potential to:

- Improve the nutritional content of staple foods (augment the deficient vitamins, minerals, and protein)
- Increase tolerance to adverse growing conditions (e.g. drought, temperature, wetness; salt)
- Internalize resistance to insects and diseases to reduce pesticide use
- Slow down quality deterioration in perishables
- Increase precision in application of fertilizer nutrients and pest control media.

There is huge potential in food science research to enhance future food security. The next frontier includes vertical farming (growing plants in high rise buildings using hydroponics and artificial light), plant-based meats and beverages, cell-cultured meats and milk produced in largest fermentation vessels, and many others. A big question is whether these can be scaled up sufficiently to bring the unit cost of production down sufficiently to be competitive and provide a sufficient return to investors to attract the necessary capital. Many venture capitalists are betting that this is possible.

This session will explore the potential for modern biological and information sciences to contribute to future global food security in an environmentally benign way in a world with changing climate.

Speakers:

Pamela Ronald, *Professor of Plant Pathology, University of California, Davis*

Agnes Kalibata, *President, Alliance for a Green Revolution in Africa; Former Minister of Agriculture, Rwanda*

11-11:15 AM: Break

11:15 AM-1 PM: Roundtable Discussion:***Investments and Rural Development***

Emergency feeding programs will be needed to respond to food insecurity resulting from war, natural disasters and politically imposed famine; however, they will not solve the chronic food insecurity experienced by 10 percent of the world's population. To solve chronic food insecurity, a reliable supply of foods that contain enough energy and essential amino acids, vitamins, and minerals to maintain health should be available from local production or markets. Availability is the necessary condition for eliminating hunger, but to eliminate hunger people should have sufficient purchasing power to access the available food. Since the extreme poor spend most of their meager incomes on food, the purchasing power of their income is determined mainly by the price of food.

An estimated 75 percent of the extreme poverty in the world is in rural areas, and most of the poor are farmers.

Poverty is the motivation for a great deal of migration of the rural poor to higher income countries, and billions of dollars of the income they earn there get remitted back to their home countries each year. The large number of these migrants working in the U.S. and Europe, both documented and undocumented, has caused a significant political backlash against immigration. Moreover, few low-income country governments have the budgetary capacity or political motivation to make large income transfers to their low-income farmers.

A much more attractive long-term solution is to increase low-income farmers' income from the marketplace. The agricultural sector in many low-income countries is significantly underperforming relative to its potential. Current crop yields fall short of their agronomic potential consistent with economic efficiency and environmental sustainability. In Sub-Saharan Africa, for example, average crop yields are estimated to be only 25 percent of their agronomic potential using presently available technology.

The first means of reducing farmers' poverty is to increase productivity of the crops they are already growing. Next, farmers can change what they are producing to higher value-per-acre crops, e.g. fruits, vegetables, or nuts, or add livestock, poultry or aquaculture, to their product mix. Another way is for farmers to acquire more land or other income-generating assets, such as education, in particular literacy, numeracy, and agronomic and animal husbandry skills and management skills to manage a larger farm. The next step is for significant numbers to leave farming completely and become employed in the non-farm sector. When this happens, both those who leave and those

who stay behind in farming and can gain access to more land have the potential to earn higher incomes. In very low-income countries the fraction of the workforce engaged in farming is often over 50 percent, while in the highest income countries it is in the very low single digits.

The private sector needs to build the agricultural input and product marketing, storage, and processing infrastructures (including cold chain to reduce post-harvest losses of perishables) which are critical to successful agricultural development. The track record of the public sector in these areas is not positive. The best role for the public sector is to define and enforce the rules-of-the-road for investment and commerce.

There are no quick fixes to rural poverty and associated hunger or to the underperformance of agriculture relative to its potential in low-income countries. Immense amounts of capital investment will be needed. The capital investment requirements to provide the essential rural public goods (rural roads, agricultural research and extension, and rural education and health services) vastly exceed the capacity of most low-income governments. This is where foreign aid, lending by international development banks, and philanthropy can play a critical role in supplementing low-income countries' own resources.

This session will review the roles that need to be played by the public and private sectors to achieve significant reductions in poverty and hunger in the world. Particular emphasis will be put on rural areas, where the largest concentrations of poverty and hunger exist. The magnitude of the investments needed by the public, private and philanthropic sectors will be discussed.

Speakers:

Rajiv Shah, *President, the Rockefeller Foundation*

Robert Paarlberg, *Professor Emeritus of Political Science, Wellesley College*

1-2 PM: Working Lunch

Discussion continues between members of Congress and scholars on investments and rural development.

2:30-3:15 AM: Roundtable Discussion:

Key Conference Takeaways with the Rapporteur

Policy Reflections (Members of Congress only)

All attendees can remain in the meeting room however this session is for discussion for only Members of Congress to talk about ideas and policies.

7-9 PM: Working Dinner

Seating is arranged to expose participants to a diverse range of views and provide the opportunity for a meaningful exchange of ideas. Scholars and lawmakers are rotated daily. Discussion will focus on public and private investments in rural development and agricultural research.

SATURDAY, April 15:**8:15 AM: Participants depart for the airport to return to the U.S.**

Sen. Chris Coons and Ann Coons depart Milan, Italy at 12:30 pm on Delta 185 and arrive in New York at 3:40 pm