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**Commission for Environmental Cooperation (CEC) of North America**

**XIXth Regular Session of the CEC Council  
and meetings of the Joint Public Advisory Committee (JPAC)**

**9–11 July 2012**

Intercontinental New Orleans  
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**Summary Record<sup>1</sup>**

The Joint Public Advisory Committee (JPAC) of the Commission for Environmental Cooperation (CEC) of North America held its Regular Session 12-02 on 9, 10 and 11 July 2012, in New Orleans, Louisiana, United States. The first two days of the Session consisted of a public workshop on the theme of community and ecosystem resilience. The output of the workshop was a publicly available guide that will support government and local leaders in taking action on critical issues affecting the communities of North America and beyond. The results of the workshop will be considered as possible Advice to the Council.

The third day of the Session, also open to the public, was dedicated to receiving reports from the National and Governmental Advisory committees and to discussing their Letter of Advice to Council. Also, JPAC presented the results of the workshop and the guide to the public.

This Summary Record reports on each agenda item, records all decisions made by the Committee and identifies action items and responsibilities. (Please refer to Annex A for the agenda and Annex B for the list of participants.)

Previous summary records, advice from JPAC to Council, and other JPAC-related documents may be obtained from the JPAC liaison officer or through the CEC's website, at <[www.cec.org](http://www.cec.org)>.

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<sup>1</sup> Disclaimer: Although this summary was prepared with care, readers should be advised that while JPAC members have approved it, it has not been reviewed nor approved by the interveners and therefore may not accurately reflect their statements.

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**Workshop: Resilient Communities in North America**

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**Monday, 9 July 2012****Opening and Introductory Remarks, by JPAC Chair Martín Gutiérrez Lacayo**

JPAC Chair Martín Gutiérrez Lacayo welcomed participants to the public meeting. He provided an overview of the Commission for Environmental Cooperation (CEC), explaining that it was established almost twenty years ago, following the creation of the North American Agreement on Environmental Cooperation (NAAEC), as a parallel agreement to the North American Free Trade Agreement (NAFTA). The three countries, Canada, United States and Mexico, were engaged in a dialogue to create an integrated trade region, but they also identified the need for creating mechanisms where environmental rights would be represented.

The Chair explained that the CEC has three bodies: the Council, composed of the highest-level government environmental authorities from each of the three countries; the Secretariat, which is based in Montreal; and the Joint Public Advisory Committee (JPAC). JPAC is comprised of five citizens from each country, who represent various communities. JPAC's role encompasses three objectives: firstly, to provide technical information that is pertinent to the topics that are being discussed in the region of North America and to prepare Advice to Council in relation to the five-year operational plan; secondly, to actively represent citizens by working toward a dialogue on how to improve the environment in the region; and finally, to ensure transparency and the efficient use of resources within the CEC.

Noting all the changes in the political environments of the three countries, the Chair stated that JPAC had the challenge of becoming more creative so as to involve citizens in an active discussion that would allow practice to become policy. He mentioned that this workshop was the first time that JPAC was using a different approach, one in which participants were going to interact directly with JPAC members in an exchange of gathered expertise. He then asked that each member of JPAC introduce him/herself to the audience, noting that new JPAC members had just joined the committee. Biographies of JPAC members are available on the CEC website, at <[www.cec.org/jpac](http://www.cec.org/jpac)>.

Mr. Gutiérrez Lacayo then invited everyone to actively participate as equals in developing a document within the next two days on how cities may become more flexible and how people may adapt to environmental issues and phenomena. He mentioned how the city of New Orleans was evidence of resilience. He referred briefly to the agenda and then gave the floor to the facilitator.

**Greg Judelman, Chief Design Officer, The Moment**

Greg Judelman briefly introduced himself and his team from the innovation studio The Moment, presented the mockup of the cover of what would be the workshop's outcome document, and provided an overview of the process that would be used to develop it. All participants would produce the contents of this document together, during the next two days. He pointed out the provisional name of the document on the cover, and the authors, who are the participants of this workshop.

He explained the agenda and stated that the first day of the workshop would consist of two keynote presentations in the morning by Craig Applegath, and a panel of experts in the afternoon. He also mentioned that group work sessions would take place at the different tables, at various times of the day. He would provide different templates for each group to fill out according to the

instructions that he would give in due course. These templates would record each group's ideas and they would be posted on boards around the room so as to be shared with the rest of the audience. Everyone would also have a chance to make comments on other tables' work by posting sticky notes to the templates. At the end of the day, participants would have explored the concept of resilience and defined particular key topics.

The second day of the workshop would consist of similar work as in day one. Participants would dive deeper into those particular topics defined on the previous day. This work would allow the team from The Moment to gather all the results and turn them into the output document, which would be presented to the audience in the morning of the third day and to the government ministers afterwards. Mr. Judelman noted that the CEC would be communicating online via Twitter throughout the workshop, and invited the Chair to introduce the keynote speaker.

**Presentation by Craig Applegath, founding member of Resilient City: What challenges will we face in our communities?**

Craig Applegath thanked the Chair and led off his presentation by mentioning that he couldn't imagine a better city in which to hold this workshop. He said that he had thirty minutes to give the audience some sense on what resilience is and that he would be available to respond to any questions during the time assigned to group work. His presentation is available online at <<http://cec.org/council2012>>.

Over the last 20 or 30 years, the discourse on sustainability and environmentalism has been about the harm that humans have caused to the planet. There is now a new discourse evolving around how that harm is starting to have repercussions on humans, how to reduce it, and how to at the same time build resilience to present and future shocks and stresses.

Mr. Applegath suggested that our carbon-based cities should evolve into regenerative cities within the next 20 years, in order to repair some of the damage that is being caused. The end state would hopefully be what he referred to as symbiotic cities, in which we would give back as much as we take. He added that, in the meantime, resilience would help to "hold the fort."

After giving some definitions of the concept of resilience, Mr. Applegath explained how resilience is an emergent property of a system, which can't be measured until after an impact, shock or stress happens. He emphasized that we can put in place strategies and approaches that would build resilience. He then listed the top ten shocks and stresses that cities and communities may face, which fall into the types: economic, environmental, energy supply/price, and infrastructure failures.

It is important to know what is behind these shocks and stresses. There are six key drivers: climate change, population growth/migration, energy supply, environmental degradation, regional resource conflicts, and socio-political conflicts. Climate change and population growth/migration are the two most important drivers that will cause shocks and stresses over the next 25 years.

Climate change will have an impact on agriculture, since the increasing temperature will cause desertification of the regions of the earth where rice, corn and wheat are produced. Population growth and migration are going to have an impact on cities in the future. With world population projected to increase by 2 billion in the next 25 years, it is expected that 3.1 billion people will migrate to cities by 2050. That means that cities need to build resilience now in order to deal with such an increase. Mr. Applegath added that the key drivers mentioned interact with each other and tend to multiply each other's effects.

Finally, Mr. Applegath explained each of the six attributes of resilience: flexibility, redundancy, diversity, decoupling, decentralization, and environmental integration. He then opened the floor to questions from the audience.

Question/Comment: Diane Takvorian thanked the speaker for a very enlightening presentation. She pointed out that not all communities would start working on resilience from the same place and asked how he would incorporate the issue of cumulative impacts into the methodology that he had just presented.

Response: Mr. Applegath replied that resilience is certainly a cumulative thing. If a community has economic resources at its disposal, then it can solve a lot of problems. But building resilience is not easy, it is something that is done over a long period of time, and it has been neglected. We haven't really thought about how we can make decisions that not only have such tangible effects as having a positive impact on the GDP [gross domestic product] of the micro-economy of a community, but also have positive effects on the GDP which would build resilience in the community. He then added that the principles he tried to elucidate were overarching and that he would explain how to build resilience strategies during his next presentation.

Question/Comment: A member of the public asked if, in terms of resilience, having more people in cities is what we wanted to have. She also commented that the document that was going to be produced could be an opportunity to grapple more with changing the way we measure progress.

Response: Mr. Applegath said that this was actually one of the key approaches that he would talk about during his next presentation. By way of preamble, he explained that increasing the densities and population size of cities was one solution to the problem of accommodating that expected world increase of two billion people. We need to create strategies for incorporating the population in a way that is economically and ecologically feasible.

Question/Comment: A member of the public commented that he hadn't seen in the attributes of resilience anything regarding social organization and asked the speaker what he thought about it.

Response: Mr. Applegath said that, being an urban designer and architect, he tended to speak in terms of physical buildings and infrastructure. However, resilience is ultimately about individual people and how they are going to live in a community. All of the attributes of resilience are attributes that are scalable from the individual through the community, to a city and to the planet.

Mr. Applegath thanked all for the comments and questions.

**Group work: Share a story with your table—How have you personally experienced or witnessed the shocks and stresses that Craig Applegath described in his presentation?**

Greg Judelman took the floor again and asked everyone to form groups of five or more around a table. He explained that the first exercise would consist of people sharing their personal stories about how shocks and stresses are affecting them and their communities. He instructed the people to introduce themselves to their group and then pick one story from each table that would be written down on poster/template number 1. Later on, he mentioned that a picture of each storyteller would be taken. Please refer to Annex C for templates with group work questions.

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**Presentation by Craig Applegath, founding member of Resilient City: What opportunities do we have to create resilient communities?**

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Mr. Applegath shared his thoughts about the previous group work and said that in this presentation, he would explain at least ten areas for building resilience that he had identified and he would explore five approaches to increasing the resilience capacities of our communities and cities. He quickly presented ten strategies for building resilience, as follows: Public Health, Education and Training, Governance, Economy, Justice/Public Order/Security, Building Fabric and Transportation, Energy Infrastructure, Food Production Infrastructure, C.I.T. [Communication Information Technology] Infrastructure, and Water and Waste Infrastructure. He clarified that they were not the only opportunities, though. He then proceeded to explain the five approaches.

*Planning for growth and density.* Mr. Applegath reminded everyone that this idea had been mentioned by one of the participants, and that while some people might think about it as a bad thing, it was one of the most important resilience-building approaches that we have. He pointed out that 50 percent of today's population lives in cities, which number will become between 70 and 80 percent by 2050. He identified two main causes: population growth itself within the cities, and the third great migration, which is migration of rural peoples into the cities (see the book *Arrival City*, by Doug Saunders).

He then explained that there were also two positive aspects to this. First, the larger and denser a city is, the less energy it consumes per capita; and second, as you increase the size of the city, you get exponential growth in innovation, which is an important condition for building resilience.

Mr. Applegath indicated that high-rise densities were something that we had to learn to do well and that a density in the order of 50–60 dwelling units per hectare was the kind of density that made sense. In relation to the above, he called attention to the work of Ed Glaeser, an urban economist who advocates increased density and higher buildings and maintains that by this means all the world's population could be fit into the land area of the State of Texas.

*Low-carbon economy.* Mr. Applegath stated that low-carbon energy is going to be key, firstly because energy demand continues to increase, and secondly because of current external disruptions in the electrical power infrastructure. He underlined the fact that zero-carbon energy is nearing net parity, the bottom line being the cost of coal. He also mentioned that photovoltaic energy (PV) would reach net parity within the next five years, and while there was still the issue of storage of energy, liquid-metal batteries would boost that power. He then suggested that nuclear power could also be the answer to the low-carbon energy we needed, and that while nuclear power is mainly produced from uranium, there were now examples of nuclear plants producing energy from thorium, which is much richer in energy, less expensive and produces waste that is less harmful than that from uranium. He also stated that it was very difficult to make nuclear weapons from it, compared to transforming uranium into plutonium.

*Local food production.* Mr. Applegath mentioned that it was important to build a resilient food supply system because of the increase in the number of people on the planet, the potential decrease in arable land, and also the need to confront disruptions in transportation and power supply. This approach doesn't mean that everything has to be produced close to the cities. Two acres of arable land are required to provide food per omnivore person, which means that a city like Toronto would then require 6 million acres to meet its food demand. He suggested that one possible strategy that cities might want to consider is vertical food production, and he then introduced the food production proposal of Gordon Graff. This technology is basically the same

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as the well-known food production technology of hydroponics, with the addition of the concept of integration with the process of wastewater treatment so as to produce energy from the latter.

*Modularization and communication information technology (C.I.T.) integration of key infrastructure systems.* Mr. Applegath recalled one of the largest power outages in the history of North America, to demonstrate the fragility of our key infrastructure systems and how a small incident could affect many cities on a large scale. He referred to “Moore’s Law,” which basically states that many things in the technology economy grow exponentially [note: actually Gordon Moore, co-founder of Intel, postulated in 1965 that the number of transistors on a CPU chip would double every two years]. Taken more generally, this law is a predictor of how fast technology is growing in acceptance and how it integrates our lives. Citing as his example how the Internet connects everything together, Mr. Applegath explained that infrastructure integration, such as smart electricity grids, would be a strategy for collecting information that would create resilience in our systems, from flexibility and decentralization.

*“Hardening” infrastructure and building fabric.* The frequency and intensity of severe weather events is increasing, so we have to harden infrastructure to cope with that. We can learn from lessons of the past and explore the concept of integrated durability, but also we can learn from the present and start designing and building additional weather protection for existing and new buildings, for example.

Mr. Applegath concluded his presentation by recalling the ten opportunities and five approaches to build resilience, and opened the floor to questions.

Question/Comment: Nelly Correa, of JPAC, asked Mr. Applegath whether he was implying that the world was not populated enough yet. She was thinking of the statement he made about how all the world’s population might fit in the state of Texas and thereby reach the ideal density.

Response: Mr. Applegath explained that the population would increase by 2 billion people over the next 20 years, so we must find the best way to accommodate these people. The least problematic way to respond to this reality is by inhabiting already populous places, because cities have the least per-capita demand on our planet. He added that there is the question of how we begin to stop other negative impacts on the environment, and that one of the many ways to do it is by growing food locally in cities.

Question/Comment: A member of the public mentioned that he would add building ecosystem resilience to the approach, so as to ensure the life-supporting systems that we all require. He suggested that the presentation considered cities as if they were in a bubble.

Response: Mr. Applegath replied that indeed cities are part of an ecosystem and how we integrate them with the environment is essential to building resilience. He apologized for the time limitations and explained that the five approaches that he explored were not the only ones.

**Group work: Share a story with your table—How have you or your community started to respond to these shocks and stresses?**

Greg Judelman took the floor again and facilitated group work on template number 2.

**Panel I discussion, with Q&A: What could happen if we don't act to create more resilient communities?****Facilitated by Jonathan Waterhouse, JPAC Member for the US**

Jonathan Waterhouse welcomed the panel (biographies are available at the CEC website, <[www.cec.org](http://www.cec.org)>) and stated that each panelist would have 10 minutes for his/her presentation. He then turned the floor over to the first panelist.

- **Madeleine Redfern, Mayor of Iqaluit, Nunavut, Canada**

Madeleine Redfern opened her presentation by explaining where her city was located and that her communities had been undergoing a transition over the last 60 years. This transition from nomadic people to a society that is now living in a permanent settlement has been beneficial for some people but less so for others. She then cited a quote that explained what they have gone through: “Despite the predictions of Inuit eventual demise, subsistence economies continue to demonstrate considerable resilience and remain integral to the health and well-being of Inuit communities.”

She stated that words had different meaning for different people. Thus, according to her people, while the Canadian Government may have had good intentions bringing them to live in permanent housing and providing them with services such as education and health, they had basically done that from their own perspective of what they thought being a Canadian is. However, her people suffered from the great pressure to give up many aspects of their culture. Despite all those pressures they had been resilient and 85 percent of the people in Nunavut are Inuit and 75 percent speak Inuktitut. She remarked that when you don't create resilient communities, you're not able to stand up those external pressures.

Ms. Redfern commented that growth might bring opportunities, but if you don't bring resilience to everyone, there will be a growing disparity. She also noted the importance of having policy that meets the needs of the people so that societies don't become apathetic. As an illustration, she referred to big mining projects in the Arctic.

She concluded her presentation by sharing the following recommendation to address the situation: “We need to continue to strengthen Inuit culture and governance, and to ensure healthy communities are based on the principle that the Inuit must be fully empowered to decide their own future. They can find the strength and resilience in our own heritage, based on our own values, principles and priorities. And we must be given or take the capacity to decide for ourselves, how our heritage will shape our communities and our way of life.”

- **Fernando Aragón, *consultor externo* (exterior consultant), Centro Mario Molina**

Fernando Aragón greeted everyone and said that he would be sharing some findings he observed in Mexico City. He stated that to the extent that we build knowledge and frame issues, we will think about the solutions and responses that would be adequate.

In the case of Mexico, while public institutions are more or less strong and provide civil protection from or prevention of disasters, these issues are being framed in a single way. Mr. Aragón said that he would use the example of a flood and channel rupture in the outskirts of Mexico City to analyze the process of knowledge-building.

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He explained that it is important to review the environmental history of how vulnerability was produced in that area, so as to see how vulnerability is not something that happens in a very short time frame. He listed the four policy discourses on the causality of the flood— inadvertence by ignorance, inadvertence by carelessness, accidental, and structural and noted that structural causality was the discourse mostly being considered in this workshop.

He mentioned that there are some characteristic elements to these four discourses, and some elements were in more than one discourse. The most important thing was that those elements would determine which practices would be put in place. As an example, if a disaster were considered to be a result of a failure in a drainage system, the logical response would be related to hydraulic engineering. He stated that engineering responses are important to building resilience.

Mr. Aragón finished his presentation by saying that the purpose was to provide this model or map of discourses and responses, so as to promote resilience from public policy.

- **Dr. Maureen Lichtveld, Freeport-McMoRan Chair of Environmental Policy, Tulane University**

Dr. Lichtveld thanked everybody and welcomed people to her city. She began her presentation by delivering three key messages: First, she stated that the health of the ecosystem and that of its communities were linked, and that you could not have one without the other. Second, she indicated that it took the system and not individual people to create resilience. Finally, she said that the sum of individual resilience factors wasn't equal to a resilient community.

She then presented some costs of disasters on different US regions, between the years 2001 and 2010. She continued by stating that the differences between natural and technological disasters have direct implications for resilient communities. Technological disasters have four factors that make them somehow different from natural disasters: duration of the effects is longer for technological disasters, they are unexpected, there is no low point, and there is loss of control for communities.

Dr. Lichtveld also presented the example of a community dealing with hazardous waste. The first thing that was done was a public health assessment and while they didn't find any concerns from the scientific point of view, the communities had legitimate concerns, which meant that there might be discrepancy between what you scientifically find and what communities were truly experiencing.

She then introduced a summary of a research project conducted in six different cities in the US and the issues these were dealing with, and she listed the factors influencing readiness and capability. For example, in relation to the keynote presentation, they had found that the denser the city is, the more resilient that community becomes. Additional factors included level of isolation versus proximity to large metropolitan area, extent of local infrastructure strength, robustness of local economy, availability of public transportation, consistent access to health and basic services, and special population needs addressed. She added that communities become resilient and recover in different stages.

One of the ways to make communities more resilient is to use the assets within communities and one way to do that is by creating a disaster navigation model. Also, in order to create resilient communities it is necessary to address the threat of disparities. Dr. Lichtveld emphasized the need



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for creating community resilience, what that implied, and that it was more about bridging rather than bonding social capital.

Jon Waterhouse thanked the panelists and turned the floor over to questions and comments from the audience.

Question/Comment: A member of the public mentioned her disappointment at not having a panelist speak about the real situation on the Gulf of Mexico coast. She mentioned that the academic community in New Orleans had been mostly quiet about the massive dumping of chemical poison into the Gulf and asked, how can communities build resilience in this kind of context of mass chemical poison?

Response: Jon Waterhouse expressed his desire to try to give an answer to that concern from his point of view and said that an answer would be to do exactly what the participant had just done, which is give voice to the problem.

Maureen Lichtveld thanked the member for the question and said that the best thing to do from an academic perspective is to bring science to the problem and to try to explain the effects from the scientific point of view. She added that the academic community might not have the answers right away, that it actually takes many years to find them but that they were committed to working with the communities to do it.

Question/Comment: A member of the public asked for clarification of the language of the workshop and mentioned the need for a real democracy, a NAFTA based on the needs of the working class and not of corporations. He also noted the nonconformity between the political environments in Mexico and United States.

Response: Fernando Aragón explained that the workshop was organized to discuss and present solutions from social organizations on issues that are prioritized by the three countries. Accordingly, other topics couldn't be included in this workshop but they were the subjects of discussion in other panels. He also said that, for the purpose of reaching an agreement, he believes that the questions proposed are sparks for discussions that will be developed later on.

Maureen Lichtveld responded that this was a good example of the dissention that technological disasters created in communities. She emphasized that it isn't individuals but communities that are the ones resolving ecosystem or public health issues and that it is very difficult to influence politics, but the conference brings together those who can influence policies whether it is from a scientific or a community perspective.

Madeleine Redfern stated that they recognized the need and the value of the trade partners and she acknowledged that they were going through a time of unprecedented mineral resource exploration. She added that soon they would have a significant amount of resource exploitation in her region. Nonetheless, she stated that they were not anti-development and that they agreed with responsible development. She emphasized that neither of the polarized positions were valuable for them.

Question/Comment: A member of the public asked the panel if they didn't considered that the question of prevention should also be addressed in order to avoid reaching the point of asking how to adapt to adverse circumstances.

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Response: Fernando Aragón said that there is a great lack of knowledge and an uncertainty in vulnerability diagnosis. He explained that in the case of Mexico there is a national system of civil protection, which resulted as a response to the earthquake of 1985. He said that the question was very pertinent to the workshop since it has to be determined if the current status of public policies are strengthening against vulnerability or perpetuating the current situation.

Question/Comment: A member of the public shared a comment concerning the fact that there is resilience from ecosystems towards some natural events; however, there are many projects that maybe shouldn't be undertaken in vulnerable areas and even though local communities were opposed to them, such projects were still carried out. She mentioned that the workshop helped to understand and find arguments to defend the position of opposing those types of projects.

Question/Comment: A member of the public stated that resilience was a valid answer to address disasters but also thinks the CEC could act as a hub in North America to take a hard look at energy infrastructure and its impact on the environment. He mentioned the need for a North American climate change agreement and asked the panel to share their thoughts on the question of staying reactive or being proactive.

Response: Maureen Lichtveld explained that the notion of public health was about public health preparedness. She recalled that when 9/11 happened there was a cultural change that was not sustained, although three recommendations emerged from this event: communication, training communities, and infrastructure. She also stated that it is up to the political will of countries to undertake that climate change agreement proposed by the participant, versus trying to find the ways to say that the science isn't there. She recalled that it took 15 years before it was decided that smoking caused lung cancer and that it is also taking a very long time to decide that climate change has a bad impact in the environment and on people's health.

Question/Comment: A member of the public emphasized that the report to be produced should also address prevention.

Response: Maureen Lichtveld stated that there might be a road map and agenda for the future and that she thought that it was pertinent to address resilience for now. Fernando Aragón added that resilience was the base line for this workshop's discussion.

Question/Comment: A member of the public addressed the first panelist and emphasized that indeed some approaches might work for one community but be inadequate for another. She mentioned the need to create decentralized economic and political systems and then added that diversity also means being truly democratic and enabling communities to be as innovative as possible.

Question/Comment: A member of the public asked Madeleine Redfern how could her community be supported in facing the effects of mining in her region?

Response: The panelist stated that there was a need for understanding environmental and development risks. She acknowledged the fact that mining brought benefits, but also stated that there were many known negative effects. There should be a social and economic assessment, and also there is the need for putting into place mitigation measures so as to avoid harm to people, especially social harm, before it happens.

Question/Comment: A member of the public mentioned that he noticed throughout the presentations that there was a problem of lack of resources that had been identified, so he

suggested that the business communities could play an important role in an effective and positive way. He mentioned the importance of understanding the relationship with industries and said that they could actually provide the resources which governments didn't really have to implement some of the actions that were needed. He added that it was important to identify how to bring the business community along in a responsible way so there was shared value and to identify opportunities of mutual collaboration.

Jon Waterhouse thanked the panel and the public for all the questions and comments and wrapped up the discussion by inviting all the participants to take the opportunity to create linkages among themselves, since he was convinced that grassroots could make what governments sometimes cannot.

### **Group work—Instructions by Greg Judelman, Chief Design Officer, The Moment**

The facilitator explained the next exercise and asked participants to choose one of the four contexts on which the analysis would be focused. He asked the audience to work in groups to answer questions on templates number 3 and 4 (please refer to Annex C).

### **Plenary: Sharing group work**

Greg Judelman asked each table to share some of the ideas with the rest of the audience.

- *Table 1: Small urban areas.* This group focused on forced transitional communities, due to development or other reasons. They mentioned that, to address the core issues of justice, there was the need for appreciating and valuing local and traditional knowledge. Also, another big issue was doing ecological restoration, which, as they explained, meant looking at our own human imprint and starting to look at responsible ways to reduce its affect on the environment.
- *Table 2: Large urban areas.* One of the main themes discussed at this table was environmental injustice and the density of population. They also identified and discussed inequalities and marginalization of and lack of participation by those most affected by decisions, in the decision-making process.
- *Table 3: Small urban areas.* This table considered the theme of immigration in and out of urban areas, which will generate many issues such as economic disparities and cultural heritage loss, and issues related to accessing infrastructure services.
- *Table 4: Natural ecosystems.* The table focused on protection within urban context. They identified the issue of urban sprawl taking away the ability to respond. Also, the problem of isolating cities and the fact that it wouldn't be very holistic if rural and coastal areas are not included.
- *Table 5: Rural areas:* These participants identified the issue of younger people moving to urban areas and the fact that new generations are losing knowledge related to rural areas. They also looked at the cost of inputs, which in the end would have an impact on the price of food.
- *Table 6: Natural ecosystems.* Two main themes were identified: degradation of ecosystems and the disturbance of hydrological patterns and precipitation patterns. The members mentioned that this disturbance of life cycle of species affects food security.
- *Table 7: Agricultural areas.* This table emphasized the importance of these areas in food supply. They talked about the importance of regional diversity and the unique aspect of local communities; a crucial factor is that these local communities can become so distressed that

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they lose culture and traditional knowledge. The members also talked about the concept of living with water and not controlling Mother Nature but embracing her.

- *Table 8: Urban areas.* These people focused on natural hazards and addressed the fact that, after a disaster, infrastructures went back to where they were. The table also talked about consumption and the importance to determine what we value that matters. They mentioned that it was also important to favor green infrastructure and to avoid construction in unsafe areas.
- *Table 9: Rural areas.* The table found that these areas are characterized by extreme poverty. In the case of Mexico, rural areas are where the richest natural areas are located. They found other issues such as deforestation and migration due to population explosion. They identified that there should be education, if densities are really to be taken as an opportunity.

Mark Kuznicki from The Moment wrapped up the interventions and listed the main topics of concern from the tables, as follows:

- Ecological restoration
- Valuing local and traditional knowledge
- Urgent needs of forced transitional communities
- Environmental injustice
- Inequalities and marginalization
- Migration out of smaller communities
- Urban sprawl encroachment onto natural spaces
- Isolation of urban versus rural areas
- The need to reclaim and restore natural ecosystems
- The loss of younger generation from rural communities
- The loss of political leverage in affected communities
- Impact of water and precipitation patterns
- Degradation of ecosystems and resilience of related communities
- Food supply issues
- Regional diversity and local knowledge
- Farming, fishing, livestock areas and industrial resource extraction
- Living with water
- Rebuilding in the old way and pattern
- What do we value? How do we evaluate what matters for resilience?
- Designing our systems to be compatible with nature
- Poverty in rural areas and risks to natural resources
- Green infrastructure and risk assessment
- Cities that follow the example of nature
- Decentralization and redundancy

### **Plenary: Topic selection for tomorrow's work**

Greg Judelman explained that there were going to be ten tables for the second day of the workshop, and that therefore, ten topics were to be determined.

Mark Kuznicki then gave an overview of the second day of the workshop and explained that each table had to assign three roles: one host, who starts and leads the conversation; one scribe; and the

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experts, who can move from one table to another. He then asked people from the audience to volunteer as hosts in order to select topics for the next day. These topics were defined as follows:

- Learning to live with or without water and nature
- Having a lighter footprint upon the environment and communities
- Reducing social vulnerability and marginalization
- Strategic corporate social responsibility
- How we can predict, model and prioritize impacts, for planning
- Restoring connectivity among ecosystems
- Environmental justice or injustice
- Green building
- Access to information and communication for decision-making
- Revolutionizing the food distribution system, from production to consumption
- Role of social networking in building resilience
- Role of density in creating more resilient cities
- Making most-vulnerable people work together
- Human and natural community
- Smart infrastructure, smart grids and energy infrastructure
- Cultural biodiversity in community resilience
- Knowledge transfer across different levels

The facilitator asked the audience to place a red dot on the topic of their preference as they left the room, in order to select the final topics. He then showed the first pages of the book under construction, which already depicted some of the shared stories.

**Field trip information, and closing remarks, by the JPAC Chair Martín Gutiérrez Lacayo**

The Chair thanked everyone for their participation during the first day of the workshop and invited the audience to join the field trip to the Lower 9th Ward.

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**Tuesday, 10 July 2012**

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**Introductory remarks by the JPAC Chair Martín Gutiérrez Lacayo**

The Chair welcomed back everyone to the second day of the workshop and gave the floor to Rodolfo Lacy, who shared with the audience a video illustrating many of the concepts and ideas exposed on the previous day.

**Panel discussion, with Q&A: How can we create more resilient communities?****Facilitated by Rodolfo Lacy, JPAC Member for Mexico**

Rodolfo Lacy introduced the panelists (biographies and presentations are available at the CEC website, <[www.cec.org](http://www.cec.org)>) and then turned the floor over to the first panelist.

- **Orlando Cabrera, CEC Program Manager, Air Quality and PRTR, on: CEC Work on Improving the Environmental Health Of Vulnerable Communities in North America**

Mr. Cabrera presented a brief overview of two projects under CEC cooperative group programs. Two possible solutions for building more resilient communities mentioned earlier in the workshop—access to information and community participation—are considered to be pillars of the two projects.

Mr. Cabrera then talked about the first project, the North American Pollutant Release and Transfer Register (PRTR), explaining that this is a database, or inventory, of the sources and amounts of pollutant releases by industry and the way they are managed. This CEC project facilitates comparison and compatibility of information in the three countries. Mr. Cabrera explained that through this project, all information available in each country is brought together, assessed and compiled into the CEC publication *Taking Stock*. He also mentioned the Taking Stock online tool. Communities can use this information to assess their vulnerability in relation to impact of chemicals releases.

Mr. Cabrera then presented the second project, Capacity Building to Improve the Environmental Health of Vulnerable Communities in North America, which has the objective of providing communities with tools to identify health risks posed by environmental contamination. This project has two components: one is the development of the framework document to assist communities in assessing their vulnerability, and the other is the implementation of AirNow International in Mexico. A pilot project for AirNow was to start the following week in Monterrey. He then presented a summary table that reassembles information on common health effects in North America that are related to environmental contamination.

Mr. Cabrera ended his presentation by presenting an outline of the framework document and mentioned that it would be probably disseminated in November 2012.

- **Beverly Wright, Founder and Executive Director, Deep South Center for Environmental Justice, on: Justice and Equity in the Face of Climate Change**

Ms. Wright greeted everyone and mentioned that she would focus her presentation on where we were already. She stated that climate change was a reality that could no longer be hidden or ignored. She referred to the International Panel for Climate Change, which predicts that we can expect global climate change events in the future, such as increased flooding and droughts. She then presented some statistics on the 2010 Atlantic hurricane season, noting that it was the third-most active season on record, and mentioned the effects of other phenomena around the world, to

show that this is a global issue. She added that wherever you live, there are always impacts that need to be managed by implementing various mitigation measures. However, there is a question of equity with regard to who would benefit from such techniques. She then stated that it is known that disadvantaged populations already bear inequitable environmental burdens.

She also explained that there is inadequate knowledge on what new, disproportionate impacts will emerge under climate change. She referred to the example of asbestos on human health to explain how we are dealing with the uncertainty of what may be found in the future.

Ms. Wright presented the results of research on where recovery money went after disasters in New Orleans, and showed that substantially greater allocations were assigned to favor districts mostly inhabited by white people with higher income, which meant that the race problem is still there.

She ended her presentation by stating that there was already a transition to a greener economy going on, but that green didn't always mean just. She mentioned different examples to show how some economies were already committing to specific objectives for reducing GHG and also how jobs related to renewable energy were being created.

In conclusion, Ms Wright stated that worldwide transition to a low-carbon, resource-efficient green economy must be the goal of humanity, for sustainability, but we must also ensure that with progress toward a green economy, a major priority of the transition is the previously "forgotten communities" to which we strove to bring equity.

- **Argelia Pérez Luviano, leader of the first transition community in Mexico, on: Transition Towns—New Proposals for Urban Adaptation and Self-sufficiency**

Ms. Pérez Luviano began by mentioning where she came from, the city of Ensenada, and that its main economic sectors are fishery, agriculture, manufacturing, and tourism services for the cruise lines visiting the city's port. She added that all these players needed an ecosystem with certain characteristics and also demanded a great amount of energy resources like oil. The movement in her city is based on a movement that originated in the United Kingdom in 2006, which explored the concept of resilience.

She said that the purpose of the movement is to generate a sense of awareness through documentaries and discussions. She told how talking to people about all the positive actions they could carry out and also showing them what they were capable of doing was a very rewarding experience, and that there were working groups on different topics, such housing and food.

She explained that the concept of "Transición Ensenada" means to be prepared to face all these issues and needs, and that it was brought by the American citizen Robert Frey, who passed away last year. She gave several examples of the activities that are being carried out, mainly training courses and presentations in schools and universities but also activities that require participants to interact, which leads to networking. She ended her presentation by stating the importance of interaction among humans and invited everyone to join these types of movements soon.

Rodolfo Lacy thanked the panelists and turned the floor over to questions and comments from the audience.

Question/Comment: A member from the public asked Ms. Pérez Luviano about the funding of the initiative in Ensenada.

Response: The panelist replied that the founder of the initiative, Robert Frey, provided initial funding. However, currently they have no funding and people are volunteering to work in the initiative, sometimes even covering some expenses. She said that they had recently submitted a project to get funding from the government but they still keep looking for funding strategies. Finally, Ms. Pérez Luviano mentioned that some initiatives included allowing people to invest their own capital.

Question/Comment: A member of the public asked Mr. Cabrera how the work of the project Capacity Building to Improve the Environmental Health of Vulnerable Communities in North America was going to be disseminated.

Response: Mr. Cabrera stated that communication strategy for the document was still under discussion by the working group. However, they were aware of the importance of disseminating it adequately, which is why they were already contacting other stakeholders while they are in the process of creating the document itself.

Question/Comment: A member of the GAC (Governmental Advisory Committee) wondered, how do we reinvest in our communities when we have industrial, dominant societies coming to extract resources in vulnerable areas. He also mentioned the need to re-invest green jobs into the community itself since the reason why companies targeted them was because the communities were in some kind of distress, so this should also be taken into account. He also referred to the need to address disparities and gaps in society.

Question/Comment: A member of the public asked Beverly Wright if her group was working on the issue of responsible consumption; he also invited the audience to ask themselves if they really needed all the things we own.

Response: Ms. Wright first addressed the first question by stating that they have been involved in a training program for the last 17 years, with a grant from the National Institute of Environmental Health scientists. This training program was created as a response to environmental justice issues in communities but she mentioned that it ultimately allows people to get jobs and make changes.

With regard to the question on changing consumption patterns, she said that it might be a more difficult issue to address in middle and upper-middle classes. However, poor people are basically interested in food and basic goods.

Ms. Pérez Rubiano also addressed the last question, saying that something to emphasize in the Ensenada program was the sense of empowerment given to communities. So, according to her experience, many people buy goods to feel better but in the case of her community, the feeling of belonging to a big initiative is what gives them some sense of fulfillment.

Mr. Cabrera addressed the comment from the GAC member by making a reference to the International Indigenous Summit on Energy and Environment, in June 2011, in Canada, which basically was a gathering of mining and energy companies and the indigenous communities from Canada. He participated in this workshop to present how the Taking Stock tool could be used to get information on different mining facilities across North America, and look at the type of pollutants and the different management approaches, so they could make decisions according to that information. He added that this approach would facilitate negotiations among different groups, since with enough information they could all go and make decisions on the kind of development that would be carried out in a sustainable manner.



Question/Comment: A member of the public referred to an initiative called A War on Poverty, created approximately 15 years ago and targeting the Appalachian mountains, and said that since then she could only see that poverty and sickness had increased, along with the profits of mine owners and the corporations. She pointed out the need to stop populations from being sacrificed, in what she referred to as sacrificial zones.

Question/Comment: A member of the public remarked how the area of coastal Louisiana, where he lives, has flooded 6 times in 10 years, but they don't get as much attention as the tragedy in New Orleans did. He added that all the communities should be equally represented, to be resilient, and that there shouldn't be any distinction of race or nationality.

Question/Comment: A member of the public asked Orlando Cabrera and Beverly Wright about the conditions that would favor participation in the decision-making process, in vulnerable communities.

Response: Mr. Cabrera replied that he would respond to the question from the perspective of environmental information. He then referred to a PRTR meeting in Guadalajara, which included participants representing different actors in the community of El Salto. He explained that they realized how many companies were not reporting their emissions to the federal registry, so a dialogue was begun between civil society and some local companies to work together in solving the problem. He stated how this was an example of the way citizen participation may be achieved in cooperation with industry, when everybody has the same information.

Ms. Wright mentioned that she would also explain by using the example of her work with communities. Her organization has been working with communities to build their capacities to deal with the amounts of emissions that have been affecting their health for almost 20 years. They began by engaging communities with information such as the Toxics Release Inventory (TRI) data and also did a GIS [geographic information system] mapping to show where the facilities were located and where communities were. They found that minorities lived within three miles of clusters of polluting facilities. Then, they began organizing the community and training them, so communities could become engaged and understand the many issues. She said that when you educate communities, you leave them with something, and that is the key. Addressing a previous comment, she also explained that her research was on the city of New Orleans and that's why she took into consideration the race aspect.

Question/Comment: Nelly Correa, a JPAC member, asked Beverly Wright how the Deep South Center for Environmental Justice could explain the fact that some government programs favor rebuilding in vulnerable areas after a disaster.

Response: Ms. Wright first referred to the cases of San Francisco and Florida City, which are areas considered to have been subject to more challenging climate events than New Orleans was, and said that nobody told them not to move back. She also referred to areas where African Americans live in the city of New Orleans, where people are being told not to move back, as opposed to other areas in the city predominantly white and located at lower level. She then said that she herself decided to rebuild because it was inherited property, which in the case of African Americans is very difficult to get in the first place. She emphasized that there is an issue of equity.

Mr. Lacy thanked everyone and then wrapped up the panel by mentioning that there was indeed a tendency to occupy coastal areas and communities which were getting more exposed to risks. He

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said that not everything was going to be solved with infrastructure and technology; there was also need of information, education and justice.

### **Group work: Issues and ideas for community resilience**

Facilitator Greg Judelman asked people to continue the conversation into the work around the tables, which was the approach to be followed during the rest of the day. He then presented the ten topics, which had been determined by combining and reframing some of the output from the previous day.

1. Water
2. Food
3. Most vulnerable communities
4. Humans and natural ecosystems
5. Habitation
6. Cultural diversity
7. Knowledge exchange
8. Buildings and infrastructure
9. Energy
10. Economy

He then reminded participants of the three roles required at each table: host, scribe and experts. He also explained the questions and templates that would guide the discussion. Please refer to Annex C for templates 5 and 6.

Following a question from the audience, Mr. Judelman explained that participants might suggest any changes to the topic defined, as needed.

The JPAC Chair then took the floor to explain that they had posted in the room a number of maps prepared by Pronatura and Centro Mario Molina, that were the result of the effort of identifying cities in the three countries that are really vulnerable to climate change with respect to three factors: flooding, hurricanes and droughts. He mentioned that there were difficulties in gathering the information, since it varied in the three countries and was not publicly available.

### **Plenary: Share of group work**

Mr. Judelman asked the tables to share with the rest of the participants some of the ideas they included on template number 5 and the question, what are the characteristics of a resilient system?

- *Habitation, buildings and infrastructure.* The participants said that a resilient system included the integration of economic, ecological, engineering, cultural and social infrastructure, so they combined the two topics. They also talked about the need for awareness of political reality and the balance of government programs and funding.
- *Knowledge exchange.* The participants explained that they discussed the topic of language barriers in native and immigrant communities and meaning/semantics differences that can lead to misunderstandings and miscommunication, among others.
- *Water.* These members found sub-topics related to water and identified characteristics of resilience particular to each one of them. Among them: redundancy is the most important characteristic for flood mitigation; watershed-wide strategies and not only local solutions; looking at environmental integration as policy and how that affects water issues; the issue of

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public engagement, awareness, education and sharing information; and legal framework and institutional structure with regard to all different issues concerning water.

- *Energy*. The participants identified characteristics such as: diversity in the system, in terms of energy production, with a focus on appropriate technologies depending on the context; decentralized system; demand management; energy pricing, stability; equity in terms of accessibility of energy in the context of how we price energy.
- *Economy*. This group modified the name to “Sustainable economy” and analyzed it from the point of view of strategic corporate social responsibility and how corporations may help to build more resilient communities. They identified some characteristics, such as increased participation. They also discussed how you might transition to the system that is being planned or expected, and they found that a diverse economy is one way to help communities become more sustainable.
- *Cultural diversity*. The members noted the need for flexibility and tolerance. They also discussed how different cultures have ways to assess risks and hence different responses. They highlighted the need for working together instead of fighting against each other.
- *Most vulnerable communities*. Participants at this table mentioned that a resilient system would show equitable funding available to people and communities in need; being healthy, prepared, proactive and positive would offer solutions; access to local resources, education and knowledge of problems, laws and issues; non-profit organizations would work in partnership.
- *Food*. The participants identified characteristics such as: efficient production methods with regard to available fresh water and use of oil for transportation; decentralized network; adaptability to environmental change, perhaps through GMO [genetically modified organisms] or other technologies; protect traditional ecological knowledge, since food is probably the most important thing to communities; politically, socially, stable environment is needed for a food system to be possible.
- *Humans and natural ecosystems*. These members decided to change the name to “Humans as part of natural ecosystems,” which emphasizes the holistic and integration aspect of resilience. A resilient community enhances and maintains resilience of other systems and communities, without imposing cost; healthy people being in synergy with healthy ecosystems.

### **Group work: Policies and actions for community resilience**

Mr. Judelman thanked everyone for the group work and for sharing their ideas and explained the next exercise, based on the last template, number 7. He reminded everyone that their responses would be included as recommendations to be shared with the Council in the output document.

### **Plenary: Share and discussion of group work**

Mr. Judelman invited the groups to share their main recommendations, based on the question: “What are the most important actions that governments, communities and individuals can take to enhance resilience?”

- *Habitation, buildings and infrastructure*
  - a. Governments: development of scenarios to prove resilient measures and mitigation strategies aimed to develop public policies; development of integrated programs and projects to address resilience in all its dimensions; give incentives to the private sector so it can build capacities.
  - b. Communities: encourage reduction of ecological footprint.

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- c. Individual: develop a personal plan to identify what resilience is and what measures should be put into place; create a Facebook account to develop understanding in the community and to work toward establishing a resilience network throughout North America. Also, buildings and infrastructure really should be adaptable to natural realities and climate change.
  - *Knowledge exchange*
    - a. Governments: facilitate and fund knowledge-sharing; provide or create institutional platforms or arrangements to promote and facilitate knowledge-sharing; promote transitional decentralization and allow communities to have access to information; promote transparency; foster multi-stakeholders dialogue; recognize the value of all types of knowledge; provide information that is usable to all interested parties.
    - b. Communities: building new opportunities for sharing knowledge within the community and with similar communities, governments and scientific communities; willingness to interact with governments and scientists in order to handle conflicting information; foster multi-stakeholders' dialogues; recognize the value of all types of knowledge.
    - c. Individuals: share and disseminate knowledge using social networks; be willing to work together with other stakeholder groups and other individuals to generate constructive dialogue; be open-minded to the views of others.
  - *Energy*
    - a. Governments: update transmission infrastructure for renewables; create a carbon tax; prioritize the development of a decentralized power generation and transmission system; long-term planning and funding for multimodal transit; protect the capacity of ecosystems to continue providing resources; explore energy-pricing schemes to incentivize conservation.
    - b. Communities: look to non-traditional financing for energy projects; educate the population; involve community in energy projects; city planning for energy; invest in waste energy systems.
    - c. Individual: lifestyle changes to build personal resilience (e.g., growing own food, buying smaller houses); become informed and active, participate in the local government; look for options for density (e.g., co-housing); opt for renewable energy schemes, when possible; participate in community-supported agriculture (CSA).
  - *Sustainable economy*
    - a. Governments: sustainable policy which relates to benefit/corporate policies that provide a legal framework for corporations create a material impact for environmental and social reasons; certification programs; disincentivize unsustainable practices; link environmental and economic crises together to create awareness; incentivize responsible business practices; use emerging models that use more than economic scientific criteria for decision-making.
    - b. Communities: embrace cradle-to-cradle manufacturing; embrace environmental stewardship and form alliances; educational communities (example of Microsoft: they develop fund programs, provide training through community colleges); ban plastic bags.
    - c. Individuals: reconsider consumption patterns/needs; individual participation in political process; mentorship and volunteerism.
  - *Humans as part of natural ecosystems*
    - a. Governments: ensure comprehensive systems for collecting and using information; promote harmonization of environmental protection standards in North America; assess impacts that reduce resilience; incentivize stakeholders and risk holders, including business, to enhance resilience and live within the ecological limits; take a
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- systems' approach that considers full life-cycles and insist on resilience, not growth; ensure that government intervention matches the scale at which solutions are needed.
- b. Communities: rely on trained, informed people and traditional ecological knowledge; use local bio-regional approaches and seek to be as self-sufficient as possible; start ecological systems-based education earlier; protect the most vulnerable members of the community first.
  - c. Individual: confront values systems; spread the word and help make science accessible; know and understand your ecological footprint and act on it; help build capacity for resilience in your community; get involved in decision-making and help open doors to others; use traditional and local knowledge to define the baseline for resilience.
- *Most vulnerable communities*
    - a. Governments: have long-term equitable urban planning and development; close existing toxic facilities that are located near residential areas and develop new scenarios that reduce harm; improve financial standards of the whole community and reduce disparity; ensure documented democratic process through open communications, accountability and transparency; objective decision-making; base decision-making on community needs; increase community capacity, build awareness by supporting financial aid.
    - b. Communities: bring diverse people together to create solutions as a whole; have representatives of marginalized communities on community boards of directors; increase awareness of issues and build capacity; corporations pay the full tax bill and develop socially responsible programs.
    - c. Individual: be aware of the laws and rights in order to be prepared and involved; engage systematically and continuously in capacity building of yourself, your neighbors and community; reconnect with environment and nature; educate.
  - *Water*
    - a. Governments: engage in equitable distribution of education and information; coordination of policies, agencies and actions; planning with an eco-regional approach that crosses national boundaries; use benefit-cost analysis that includes all costs; support research for innovative solutions; policy developments.
    - b. Communities: develop strong plans for communities' hazard mitigation and enforcement; encourage participation and empowerment of stakeholders; enforcement mechanisms or regulations; distribute information.
    - c. Individuals: become informed; take public actions (participating in planning activities); take private actions (conserving water; lifestyle changes)
  - *Food*
    - a. Governments: support and enhance existing agency funding, without affecting small producers; have a disaster response plan that takes into account food; encourage innovation in agricultural technology; reconfigure subsidies to enhance local-decentralized production and review how subsidies affect the whole NAFTA region; balance rights between local producers and intellectual property holders, taking into account the need to promote development of advanced technologies that could build a more resilient system; respect, protect and promote different forms of food production.
    - b. Communities: promote urban agriculture; promote production process in co-ops (decentralization of processing); promote farmer and hunter markets; promote community farms and gardens; change business contracts and municipal policies to reduce food waste.

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- c. Individuals: vote with your fork (make good choices); create safe haven for pollinators, rediscover traditional economical food practices; grow your own food and compost; knowledge and interest about the food we eat equals awareness.
  - *Cultural diversity*
    - a. Governments: respect diversity; more tolerance; inclusion; the need for more local and traditional knowledge-based education; support a program on language retention; stop government paternalism and provide real support for self-sufficiency.

The spokesperson explained that the group dissolved and she then joined the discussion on most-vulnerable communities.

Mr. Judelman thanked everyone and mentioned that there was now a challenge to bring all the ideas to life. He then turned the floor over to questions and comments from the audience.

Comment/Question: A member of the public mentioned that his table wanted to share with the audience a new recommendation on the topic of sustainable economy: entrepreneurship to help diversify the economy. He also referred to the field trip to the Lower 9th Ward, where it was mentioned that by training local residents on how to build sustainable structures they gave people the skills to start developing their own businesses around building these types of structures.

Comment/Question: A member of the public stated that he agreed with most of the ideas that had been brought up, and that at a corporate level, companies put into practice the concept of crisis management. Based on this idea, he noted the pertinence of starting to find out what others already know how to do very well and which kind of tools they use. He also stated that there was still a tendency to continue thinking as individuals, while the CEC tries to make people work together with a regional perspective. Finally, he mentioned his experience working with suppliers, and how they implemented a cooperative categorization and analysis program.

Comment/Question: A member of the public addressed a comment to the sustainable economy group, stating that they see in the refining industry that there is a need to be more incentives aimed at industries to reverse the dominant paradigm of production at the cost of health and safety. Governments, communities, individuals really need to demand and show that investment in health and safety can actually increase production. She also addressed the group that discussed humans as part of natural ecosystems, and mentioned with regard to citizen science that sometimes government doesn't recognize the results provided by citizens because such results don't adhere to the scientific rigor that government requires in order to make regulations or to penalize companies for pollution.

The JPAC Chair then made a comment on the anthropocentric perspective that was taken to analyze all these issues. As an example, he mentioned that the *Instituto Nacional de Ecología* [National Institute of Ecology] found that disasters related to climate catastrophes in Mexico cost 7.7 percent of the GDP. He mentioned that such an anthropocentric perspective is very risky in making a good planning exercise; therefore, he emphasized the importance of seeing us humans as part of biodiversity, not the center of everything. He added that the recommendation should have an eco-regional perspective, so as to give viability vision to our zones.

After a question from the audience regarding the availability of the document, Greg Judelman explained that the CEC was going to post it online along with presentations and photos of the event, at <[www.cec.org/council2012](http://www.cec.org/council2012)>. He then invited everyone to add notes to the templates that were produced, if they considered there were ideas to review. He also mentioned that there

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was a board on which they could add comments as well, regarding the question “What is one thing that you wish your great-grandchildren to experience in their communities?”

Immediately afterwards, Mr. Judelman invited the audience to share their thoughts on the question: “What happened here in these two days?”

Members of the public mentioned that they could see that there were similar problems in the three countries that they could handle together; also, the workshop was perceived as a transformative moment for the CEC and also one of the most productive JPAC meetings. There was also great knowledge-sharing, and participants were able to meet new people and share valuable experience. Participants also congratulated JPAC and let them know that they would be looking forward to seeing which follow-up mechanisms would be put into place afterwards. They also felt challenged to talk about what happens to other people and felt that they were not alone in their particular problems.

Geoff Garver, a JPAC member, also mentioned that he sensed that a very positive exercise had been done and appreciated working with everybody.

### **Closing remarks, by the JPAC Chair Martín Gutiérrez Lacayo**

Mr. Gutiérrez Lacayo stated that this workshop had exceeded JPAC expectations. He reminded everyone of the fact that the role of JPAC members was to represent North American citizens and not each country. He thanked members from the National Advisory Committee (NAC) and Governmental Advisory Committee (GAC) for their participation. He mentioned that there were three commitments. First, this work would be shared with the ministers. Second, a follow-up plan would be prepared for this document and the next JPAC meeting would be evolved from it as well. Third, he asked participants to keep in touch with other participants and share documents and information. He also invited participants to let JPAC members know of any unfulfilled commitments.

He then thanked all the CEC staff, as well as interpreters, noting that there had been some important participation via Twitter.

Finally, he invited the audience to attend the Welcoming Reception and provided some logistics information.

## **JPAC Regular Session 12-02**

**Wednesday, 11 July 2012**

### **Overview, by Martín Gutiérrez Lacayo, JPAC Chair, and approval of the provisional agenda**

Chair Martín Gutiérrez Lacayo welcomed everyone, including participants joining via webcast. He reviewed and approved the provisional agenda, which included reports from the National Advisory Committee (NAC) and Governmental Advisory Committee (GAC) and a report on the workshop on resilience. Finally, he mentioned that the next JPAC meeting will take place in Mexico.

He reminded people how JPAC was integrated and repeated the objectives to be achieved, and then invited fellow JPAC members to introduce themselves.

The Chair then asked each representative from the NAC and GAC to come forward in turn and make their presentations, after providing general information on the nature of each committee.

### **Report from the representatives of the National and Governmental advisory committees**

Ms. Karen Chapman, Chairwoman of the NAC (National Advisory Committee) thanked the Chair and expressed that she was very impressed with the work of the last two days. She said that she would talk about what they had been deliberating over the past year. She mentioned that all their Advice letters are posted on the EPA website, along with the responses from all the Administrators, at <[www.epa.gov/ocem/nac/](http://www.epa.gov/ocem/nac/)>.

Over the past year they have spent a lot of time deliberating on the SEM [Citizen Submissions on Enforcement Matters] process and the review of the guidelines. She mentioned that they provided comments as the task force was beginning their deliberation. She then thanked Michelle DePass and Jocelyn Adkins for taking into consideration their comments and stated that there was a lot of exchange and serious consideration of the recommendations they provided. She also mentioned that this was the first time that they were providing a joint recommendation with the GAC [Governmental Advisory Committee].

What happens going forward, as far as the new guidelines are concerned, depends greatly on Council's commitment to meeting the new timeframes that are explicitly laid out in the guidelines and to meeting its responsibilities to ensure that the SEM process is strengthened in the eyes of the public and is credible.

On the individual Letter of Advice to administrator Jackson, she said that they had stated they were very pleased that tribal issues had been elevated significantly, and with the fact that they are seeing a commitment on the part of the EPA [US Environmental Protection Agency].

She also mentioned that they provided some comments on aligning the operational plan programs and the NAPECA [North American Partnership for Environmental Community Action] grants in a more cohesive and coherent fashion. Since the CEC budget is limited, they also see the need to focus on fewer projects, with a greater focus on a broader trinational agenda. This would strengthen the CEC, would lend it a higher profile and would make its projects and products easier to digest. She added that the Council might want to establish clear guidelines to help the



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GSC [General Standing Committee] in choosing projects for the CEC Operational Plan and NAPECA grants.

She finished her presentation by reading some of the recommendations included at the end of their Advice letter and turned the floor over to Jeffrey Wennberg for the GAC presentation.

Jeff Wennberg thanked the Chair and JPAC for supporting the NAC and the GAC. He mentioned that it is also standard to invite a JPAC representative to report on the activities, so communications are back and forward.

Mr. Wennberg stated that, like Karen Chapman, this was his last meeting as Chair. He then referred to the previous report they presented to JPAC, pointing out that they had offered advice in a variety of areas such as communication strategies. All the Advice letters are posted online. The GAC also offered comments on a transboundary environmental impact assessment feature that has never actually been realized; however, they felt that the time was right to try to explore if it might be possible to bring this forward and find a way through the CEC to realize this concept. He said that they know this is a difficult and sensitive issue, but that it was part of that Advice.

With regard to the SEM guidelines, he recalled the joint recommendations that the NAC and GAC presented for the first time, and mentioned that the letter was quite detailed, with very specific recommendations. In addition to that, the GAC also offered general and separate recommendations and he proceeded to explain the central concern.

First of all, Mr. Wennberg insisted that much progress that had been made. Under the task force recommendations, they identified that the draft revisions represented a significant step forward in terms of clarity, transparency and the goals they had established. The process undertaken through the task force had crystalized and clarified concerns and issues with the SEM process, to a degree that we hadn't reached before. The extent to which this effort will prove to be a success will be essentially in the hands of the Council, through reviewing the implementation and not in the revisions of the guidelines themselves.

He then mentioned that the GAC would also be watching closely the implementation of the guidelines on the issue of the Council reframing or modifying proposed Secretariat Factual Records' scopes, at the applicable step of the SEM process.

He emphasized the fact that the process had been really helpful and one that he encouraged JPAC and Council to emulate as they seek to improve and strengthen the CEC and its role, going forward with other issues or challenges that arise.

Finally, Mr. Wennberg remarked how it had been an honor to serve as GAC Chair, and thanked all his fellow members, the two last NAC Chairs, and the US EPA. He also referred to one of his fellow members, who stated how he was convinced that, with the continuous commitment of everybody involved, the CEC would prove to be the best environmental idea in the last 25 years and in the years to come.

The Chair thanked Ms. Chapman and Mr. Wennberg and also talked about how it was important to invite them not only to share information, but also because there were many shared concerns. He referred to the comment on the CEC and added that while it is indeed a great idea, it became blocked sometimes. So he emphasized the need for the CEC to become an instrument to reflect how environment and environmental conservation is good business and not a barrier to economic development.

Since there weren't any comments or questions to the presenters, the Chair invited Rodolfo Lacy, JPAC member for Mexico to share with everybody the results of the workshop. He clarified that the document wouldn't be modified before its submission to the Council, but reminded everyone that it was a working document, still under construction.

### **Report on the JPAC Workshop results, by Rodolfo Lacy**

Rodolfo Lacy said that he would go through the document and began by presenting its cover, emphasizing the fact that the book represents the voices of North Americans on policy and action. He also reminded everyone that, once the information was analyzed, it would be taken into account in preparing the Advice to Council.

Mr. Lacy presented the document to the audience and, going page-by-page, he recalled different moments, concepts and ideas developed throughout the workshop. The document is available at <[www.cec.org/council2012](http://www.cec.org/council2012)>.

### **Observer's comments**

The JPAC Chair took the floor again and asked participants from the public to focus the dialogue with the ministers on the workshop's theme. He then turned the floor over to comments and questions, including ideas on how to follow up on the workshop.

A member of the public stated that she was thrilled with the outcome of the workshop. She said that it was a very important document and thanked Rodolfo for his presentation. Then she stated that it was very important to disseminate it and that it would be interesting if they could get it into the educational system. She also suggested that participants, as a group, could put together a strategy to disseminate it.

Another member of the public congratulated JPAC and the Secretariat for the workshop. He reminded everyone of the importance of disseminating it, especially to the most vulnerable communities, which most of the time were also the poorest. He also commented on the upcoming 20th anniversary of the CEC and urged JPAC to suggest a review of the CEC, especially to determine whether Articles 14 and 15 were useful.

There was also a suggestion from a member of the public to the audience to check on the mechanisms already in place in their local communities. She mentioned that she had done so in Halifax, prior to attending the meeting, and based on her enquiry she felt that her city wouldn't be prepared to face another hurricane, as the one they suffered in 2003. She also suggested a brainstorming on how to identify some best practices that have already been successful.

In relation to the previous comment, the JPAC Chair suggested that JPAC members could assign a task force to visit communities in the three countries that have been affected by these types of shocks and see how they are reacting, not in terms of public policy. In that respect, he suggested that the Advice could be prepared at the end of the year, after the next JPAC meeting, which will take place in Mexico.

Diane Takvorian, JPAC member for the US thanked Rodolfo Lacy and the team of The Moment for their work. She mentioned that the beauty of the document was due to the amount of ideas and the fact that there was no consensus about them. She recalled that some ideas could be applied to some communities, but they could not be applied to others. She agreed with the comment about

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going to see what is in place in each participant's community and added that people could link up with each other and share experiences and knowledge, since a lot was happening at the local level. The Chair then suggested uploading a link to the JPAC website and sharing a blog, to allow people to contribute with documentation and links to other sources of information.

Another member of the public suggested developing an eco-regional study on vulnerability of communities across North America. She explained that this information would allow identification of priority areas that could then receive more detailed treatment. The Chair agreed with the idea; however, he pointed out that JPAC had budget constraints. He asked the participant to make her recommendation directly to the ministers during the public portion of the Council meeting, or to allow him to act as spokesman.

Nelly Correa then referred again to the comment on getting to know what communities were already doing. She shared with the audience some information about an initiative of some institutions in America concerning the subject of water, and she stated that such an initiative could also be an interesting model on which to build something around resilience. She told the audience that information about that initiative could be found at <[www.aguaaaa.org](http://www.aguaaaa.org)>. She also mentioned that it would be interesting if the human network that emerged in this workshop could strengthen and spread, so that it works more dynamically with respect to JPAC's limitations.

Next, a member from the GAC thanked everyone and acknowledged that there was an excellent product from this workshop. He stated that he felt that something was missing with regard to involving the business sector, which is the cause of a lot of contamination and pollutants. He acknowledged the value of David Angus' addition to the JPAC, though. He urged involving the business sector since he considered its voice as a very important one to hear.

Following that comment, Geoff Garver mentioned that they wanted indeed to look into ways to enter into the private sector and that it would be great to have people that could help with that outreach. He also referred to the 20th anniversary of the CEC in 2014 and mentioned that they would urge the Council to do a deep introspection to see if the CEC is up to the task regarding economical and social challenges we were facing. The Chair then mentioned that the year 2013 could be spent on the planning of such review.

A member of the public suggested that JPAC could invite representatives from big corporations to the next workshop, since those are the companies that have shaped the economy of the region, according to her studies. Then, another member from the public thanked JPAC and asked them to clearly identify in the document what's desirable and what's attainable. He also suggested that JPAC reflect on what is uniquely the role of the CEC as a tri-national entity.

A presenter of the workshop mentioned that the scope of the document was not clear to him yet. He asked to include a section where there was a mention of the fact that, in some communities, resilience is a result of the development schemes. He also emphasized that there were many things going on regarding resilience, so JPAC's role should be more related to coordination and liaison with those institutions that are already working on different initiatives. He also asked for a further revision of the document, with regard to the grouping of the subjects.

The last comment from the public was in connection to the instruction to the CEC on environmental reporting, which is not being done as often as expected. He said that this was a good opportunity to prepare an eco-regional analysis of resilience, in order to get a picture of the current vision, but also on the differential resilience in North America.

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There being no more time for further observations, the Chair announced that JPAC would now proceed to an in-camera session with Council. He invited everyone to visit the North American Fair and Networking, where they would be able to get to know more about some of the CEC projects and NAPECA grants. He thanked everyone for their contribution and officially adjourned the JPAC regular Session 12-02. The summary and minutes of the follow-on the 19th Regular Session of the CEC Council will be promulgated under separate cover.



Annex A

**Commission for Environmental Cooperation (CEC) of North America**

**XIXth Regular Session of the CEC Council  
and meetings of the Joint Public Advisory Committee (JPAC)**

**9–11 July 2012**

Intercontinental New Orleans  
444 St. Charles Ave.  
New Orleans, Louisiana, United States  
Phone: (504) 525-5566 Fax: (504) 523-7310

**Program of Public Events**

**Monday, 9 July 2012**

*This year's JPAC meeting on the theme of community and ecosystem resilience is designed to be a highly participatory experience for attendees. Activities will include listening to talks and panel discussions, sharing personal stories and experiences, brainstorming ideas and crafting recommendations for CEC Council members. The output of the facilitated learning, discussion and collaborative creation will be a publicly available guide that will support government and local leaders to take action on critical issues affecting the communities of North America and beyond.*

- 8:00–9:00**      **Registration of Participants** – *Le Salon Pre-Function Area*
- 9:00–16:30**    **JPAC Workshop: “Resilient Communities in North America”** – *La Salle Ballroom A*
- 9:00–9:30**      **Opening and introductory remarks**, JPAC Chair Martín Gutiérrez Lacayo and Greg Judelman, Chief Design Officer, The Moment
- 9:30–10:00**    **Keynote Presentation:** “What challenges will we face in our communities?” by Craig Applegath, Founding Member of Resilient City
- 10:00–10:30**   **Group work:** Share a story with your table – “How have you personally experienced or witnessed the shocks and stresses that Craig Applegath described in his presentation?”
- 10:30–11:00**   **Keynote Presentation:** “What opportunities do we have to create resilient communities?” Craig Applegath, Founding Member of Resilient City
- 11:00–11:30**   **Group work:** Share a story with your table – “How have you or your community started to respond to these shocks and stresses?”
- 11:30–13:00**   **Lunch [provided]** – *Pelican I & II*

**13:00–14:15** **Panel discussion** with Q&A: “What could happen if we don’t act to create more resilient communities?”

*Panelists:*

- Madeleine Redfern, Mayor of Iqaluit, Nunavut, Canada
- Fernando Aragón, Consultor Externo, Centro Mario Molina
- Dr. Maureen Lichtveld, Freeport-McMoRan Chair of Environmental Policy, Tulane University
- John Hankinson, Executive Director, Gulf Coast Ecosystem Restoration Task Force

*Moderator:*

Jonathan Waterhouse, JPAC member

**14:15–14:20** Instructions for group work, Greg Judelman

**14:20–14:30** **Table selection** by topic of interest

**14:30–15:30** **Group work:** Understanding Resilience

**15:30–16:00** **Plenary:** Sharing from group work

**16:00–16:20** **Plenary:** Topic selection for tomorrow’s work

**16:20–16:30** **Closing remarks** and field trip information , JPAC Chair Martín Gutiérrez Lacayo

**16:45–18:45** **Field Trip** to the Make it Right Foundation Project – *Lower 9th Ward*

<b>Tuesday, 10 July 2012</b>
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**8:00–9:00** **Registration of Participants** – *Le Salon Pre-Function Area*

**9:00–16:00** **JPAC Workshop: “Resilient Communities in North America”** (*cont.*) – *La Salle Ballroom A*

**9:00-9:15** **Introductory remarks**, JPAC Chair Martín Gutiérrez Lacayo and Greg Judelman

**9:15-10:15** **Panel discussion** with Q&A: “How can we create more resilient communities?”

*Panelists:*

- Orlando Cabrera, CEC Program Manager, Air Quality and PRTR, on CEC work on Improving the Environmental Health of Vulnerable Communities in North America
- Beverly Wright, Founder and Executive Director, Deep South Center for Environmental Justice, on Justice and Equity in the Face of Climate Change
- Argelia Pérez Luviano, Leader of the first Transition Community in Mexico, on Transition Towns, New Proposals for Urban Adaptation and Self-sufficiency

*Moderator:*  
Rodolfo Lacy, JPAC member

- 10:15-11:45** **Group work:** Issues and ideas for community resilience
- 11:45-12:15** **Plenary:** Sharing from group work
- 12:15–13:45** **Lunch [provided]** – *Pelican I & II*
- 13:45-14:45** **Group work:** Policies and actions for community resilience
- 14:45-15:45** **Plenary:** Group work—Sharing and discussion
- 15:45-16:00** **Closing remarks,** JPAC Chair Martín Gutiérrez Lacayo
- 19:00–21:30** **Welcoming Reception and Official Opening of the 19<sup>th</sup> Regular Session of the Council** – *Gallier Hall (545 Saint Charles Avenue)*
- Welcoming remarks, Mitchell J. Landrieu, Mayor of New Orleans
  - Remarks, Evan Lloyd, CEC Executive Director
  - Remarks, Martín Gutiérrez, Chair of the CEC Joint Public Advisory Committee
  - Remarks, Peter Kent, Canadian Environment Minister
  - Remarks, Juan Elvira Quesada, Mexican Secretary for Environment and Natural Resources
  - Welcoming remarks and official opening of the 19<sup>th</sup> Regular Session of the Council, Lisa P. Jackson, Administrator, US Environmental Protection Agency

<b>Wednesday, 11 July 2012</b>
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- 8:00–9:15** **Registration of Participants** – *Le Salon Pre-Function Area*
- 9:15–11:00** **JPAC Regular Session 12-02** – *La Salle Ballroom A*
- 9:15–9:20 Overview and approval of the provisional agenda, Martín Gutiérrez Lacayo, JPAC Chair
- 9:20–9:35 Report from the National and Governmental Advisory Committee representatives
- 9:35–10:40 Report on the JPAC Workshop results
- 10:40–11:00 Observer’s comments
- 11:00–11:15** **Break**
- 11:15–12:15** **North American Environmental Fair and Networking** – *Pelican Pre-Function Area*
- 12:15–13:45** **Lunch [provided]** – *Pelican I & II*
- 13:45–15:20** **Council Public Meeting—Healthy Communities and Ecosystems** – *La Salle Ballroom A*

- Introduction on the conduct/new format of the Session and introduction of the moderator by Martín Gutiérrez Lacayo, JPAC Chair
- Presentation and discussion on progress in reducing exposure to airborne contaminants in homes in indigenous communities of Alaska
- Presentation and discussion on progress in promoting and implementing measures to limit harmful environmental exposures in communities surrounding Lake Chapala
- Presentation and discussion on progress on facilitating action to address climate change adaptation needs in indigenous communities in Canada and the United States
- *(Session to include 45-minute public forum exchange, with moderator to field questions from the audience and social media)*

**15:20–15:35 Break**

**15:35–17:00 Council Public Meeting (*cont'd*) – Dialogue on Community and Ecosystem Resilience - La Salle Ballroom A**

- Introduction by the moderator
- University presentations and exchange of views with the Council
- *(Session to include 45-minute public forum exchange, with moderator to field questions from the audience and social media)*

**17:00–17:30 Report on the SEM Modernization Process and Adoption of Revised SEM Guidelines** *(Session to include a 15-minute exchange with moderator to field questions from the audience and social media)*

**17:30–17:45 Council Session–Closing Ceremony**

- Signing of Council Resolutions and Ministerial Statement
- Closing remarks, Minister Peter Kent and Secretary Elvira
- Passing the Torch: announcement of new Council Chair and concluding remarks, Administrator Jackson

**17:45 End of Session**



**Nineteenth Regular Session of the CEC Council  
and Meeting of the Joint Public Advisory Committee (JPAC)  
New Orleans, Louisiana, USA  
9–11 July 2012**

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1

# How have you personally experienced or witnessed the shocks and stresses that Craig Applegath described in his presentation?

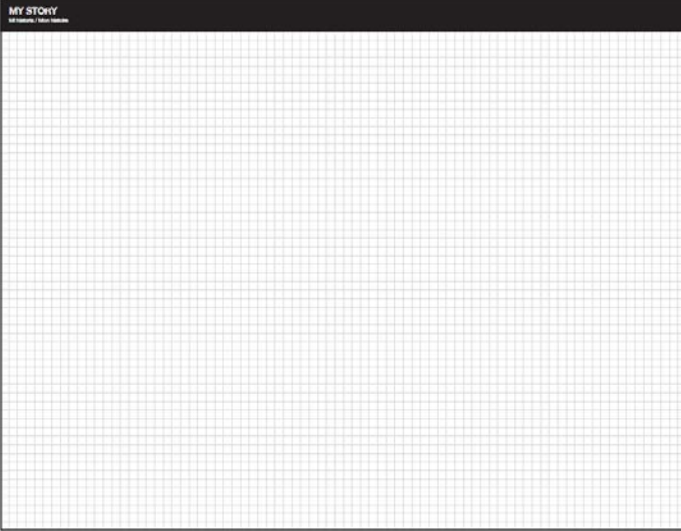
¿Cómo has experimentado en lo personal, o bien presenciado, los factores de presión e impacto a los que Craig Applegath alude en su presentación?

De quelle façon avez-vous personnellement vécu les types de choc et de stress (que ce soit comme victime ou comme témoin) qu'a décrits M. Craig Applegath dans son exposé?

MY NAME  
My name / Mon nom

WHERE I LIVE  
Where I live / Où j'ai de habiter

MY STORY  
My story / Mon histoire



2

# How have you or your community started to respond to these shocks and stresses?

¿Cómo tú o tu comunidad han empezado a responder a estos factores de presión e impacto?

Qu'est-ce que vous ou votre collectivité avez fait en réponse à ces chocs et stress?

MY NAME  
My name / Mon nom

WHERE I LIVE  
Where I live / Où j'ai de habiter

MY STORY  
My story / Mon histoire



3

# What are the shocks and stresses and responses that we are seeing in your assigned geographic context?

¿Cuáles son los factores de presión e impacto, así como las respuestas que se observan, en el entorno geográfico asignado a tu mesa de trabajo?

Dans le contexte géographique que vous devez examiner, quels sont les chocs et stress, de même que les mesures d'intervention qui sont prises?

<b>CONTEXT</b> <small>Contexto / Contexte</small>	
<input type="checkbox"/> Large Urban Areas <small>Áreas urbanas grandes / Grandes zones urbaines</small>	<input type="checkbox"/> Small Urban Areas <small>Áreas urbanas pequeñas / Petites zones urbaines</small>
<input type="checkbox"/> Agricultural Areas <small>Áreas agrícolas / Zones agricoles</small>	<input type="checkbox"/> Natural Ecosystems <small>Ecosistemas / Écosystèmes naturels</small>

<b>SHOCKS AND STRESSES</b> <small>Factores de presión e impacto / Chocs et stress</small>	<b>RESPONSES</b> <small>Respuestas / Réponses</small>

4

# What are the most significant issues and themes that demand responses in your assigned geographic context?

¿Cuáles son los problemas y asuntos más significativos que requieren respuestas en el entorno geográfico asignado a la mesa de trabajo?

Quels sont les enjeux et les thèmes les plus importants qui exigent des interventions dans le contexte géographique que vous examinez?

<b>CONTEXT</b> <small>Contexto / Contexte</small>	
<input type="checkbox"/> Large Urban Areas <small>Áreas urbanas grandes / Grandes zones urbaines</small>	<input type="checkbox"/> Small Urban Areas <small>Áreas urbanas pequeñas / Petites zones urbaines</small>
<input type="checkbox"/> Agricultural Areas <small>Áreas agrícolas / Zones agricoles</small>	<input type="checkbox"/> Natural Ecosystems <small>Ecosistemas / Écosystèmes naturels</small>

<b>MOST SIGNIFICANT THEMES</b> <small>Temas de mayor relevancia / Thèmes les plus importants</small>
1. _____
2. _____
3. _____
4. _____
5. _____

For: \_\_\_\_\_ YOUR GROUP'S TOPIC: \_\_\_\_\_

**WHAT ARE THE CHARACTERISTICS OF A RESILIENT SYSTEM?**  
*(List characteristics present in systems resilient? / Quelles caractéristiques ont des systèmes résilients?)*

1. _____	4. _____
2. _____	5. _____
3. _____	6. _____

**SHOCKS AND STRESSES TODAY**  
*(Nommez les chocs et stress actuels / Citez les stress actuels)*

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**SHOCKS AND STRESSES IN 20 YEARS**  
*(Nommez les chocs et stress dans 20 ans / Citez les stress dans 20 ans)*

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**WHAT EVIDENCE SUPPORTS THE NEED FOR A RESPONSE?**  
*(List evidence provided to respond to the request? / Quels sont les éléments prouvés à répondre à la demande?)*

Charts, Data, Statistics, Facts, Quotes, Video, Websites, Articles, Interviews, Pictures, Maps

For: \_\_\_\_\_ YOUR GROUP'S TOPIC: \_\_\_\_\_

**WHAT ACTIONS MIGHT GOVERNMENTS TAKE TO ENHANCE RESILIENCE?**  
*(List actions that might be undertaken by government to enhance resilience? / Quelles mesures le gouvernement pourrait-il prendre pour améliorer la résilience?)*

**WHAT ACTIONS MIGHT COMMUNITIES TAKE TO ENHANCE RESILIENCE?**  
*(List actions that might be undertaken by communities to enhance resilience? / Quelles mesures les collectivités pourraient elles prendre pour améliorer la résilience?)*

**WHAT ACTIONS MIGHT INDIVIDUALS TAKE TO ENHANCE RESILIENCE?**  
*(List actions that might be undertaken by individuals to enhance resilience? / Quelles mesures les particuliers pourraient ils prendre pour améliorer la résilience?)*

For: \_\_\_\_\_ YOUR GROUP'S TOPIC: \_\_\_\_\_

**WHAT ARE THE MOST IMPORTANT ACTIONS THAT GOVERNMENTS CAN TAKE TO ENHANCE RESILIENCE?**  
(Circle one for actions that governments can be persuaded to take or implement / Circle one for actions that governments can be persuaded not to take)

1. _____	4. _____
2. _____	5. _____
3. _____	6. _____

**WHAT ARE THE MOST IMPORTANT ACTIONS THAT COMMUNITIES CAN TAKE TO ENHANCE RESILIENCE?**  
(Circle one for actions that communities can be persuaded to take or implement / Circle one for actions that communities can be persuaded not to take)

1. _____	4. _____
2. _____	5. _____
3. _____	6. _____

**WHAT ARE THE MOST IMPORTANT ACTIONS THAT INDIVIDUALS CAN TAKE TO ENHANCE RESILIENCE?**  
(Circle one for actions that individuals can be persuaded to take or implement / Circle one for actions that individuals can be persuaded not to take)

1. _____	4. _____
2. _____	5. _____
3. _____	6. _____