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Meeting of the Executive Technical Group on the Methodology for Risk and Disaster Prevention and Management in the South American Integration Infrastructure

September 25, 2013
Santiago de Chile

NOTES OF THE MEETING

On September 25, 2013, the city of Santiago de Chile hosted the Meeting of the Executive Technical Group on the Methodology for Risk and Disaster Prevention and Management in the South American Integration Infrastructure. The meeting was attended by delegates of Argentina, Brazil, Chile, Paraguay, Peru, Uruguay, Venezuela as well as representatives of UNASUR General Secretariat and IIRSA Technical Coordination Committee. The meeting agenda and the list of participants are attached as Annexes 1 and 2, respectively.

The objectives of this meeting were as follows: (i) present, analyze and complement the preliminary version of the "Methodology for Risk and Disaster Prevention and Management in the South American Integration Infrastructure;" and (ii) define a strategy in order to incorporate infrastructure risk and disaster prevention and management into the actions of PAE 2012-2022.

The meeting was opened by the Presidency Pro Tempore (PPT) held by Chile represented in the person of Mr. Lucas Palacios, the Chilean Under-Secretary of Public Works. Mr. Palacios stated that a key goal of the work conducted within the COSIPLAN-IIRSA framework was to design a common, planned and long-term strategy with a regional perspective. He stressed the importance of clearly defining the way to face the challenges imposed by nature, climate change, and the countries' willingness to attain development for all. To this end, it is necessary to work in coordination to anticipate the risks involved and build the capacity to recover damaged connectivity infrastructure, a crucial goal from the production and social reality perspective. These efforts should become a platform from which to promote sustainable development and improve the peoples' living standard.

The Technical Coordination Committee presented the objectives of the meeting and its expected results, after which the working sessions were opened with the one devoted to international experiences. The first lecture dealt with the generation of regional information for the analysis and characterization of weather hazards from the International Research Center on El Niño (CIIFEN*). Throughout the presentation, attention was drawn to the "El Niño/La Niña" phenomenon and other South American weather hazards, the actions undertaken by this Center in South America, the CIIFEN experiences in implementing risk management and vulnerability analysis, and the lessons learned.

The second lecture was concerned with evaluating infrastructure as regards its vulnerability to climate hazards. As part of it, the lecturer presented the Protocol of Infrastructure Vulnerability to Climate Change applied by the Association of Engineers and Architects of Costa Rica (CFIA) as well as the pilot project known as “System for the Collection, Conditioning and Final Disposition of Wastewater in the City of Puente Limón in Honduras”. Both presentations are attached as Annexes 3 and 4.

After the presentations, the delegates made the following comments: (i) the approach to reduce the vulnerability of IIRSA projects should not be targeted only to reducing infrastructure losses but should include an additional aspect related to infrastructure resilience to ensure service provision; and (ii) information on risks and vulnerability should be used not only for infrastructure design but also for the decision-making and planning processes.

Afterwards, the session on geo-referencing tools for integration infrastructure risk management began. The Argentine National Coordinator presented the COSIPLAN Geographic Information System and Cartography, its objectives, work plan, and progress made in the implementation of the system. The thematic layers agreed upon and the tools to be used were listed, and the support that this system can offer to risk management was particularly underlined. The Argentine National Coordinator mentioned that resources from the UNASUR Common Initiatives Fund were allocated to the development and implementation of GIS, which will be hosted on a server at the UNASUR Information and Communications Center.

Subsequently, the GeoSur program, i.e. the Geospatial Network for Latin America and the Caribbean developed by CAF, was presented, describing its characteristics, services, and the next steps to be taken, particularly in relation to the mapping of floods in South America. These presentations are attached as Annexes 5 and 6, respectively.

The meeting proceeded with the presentation made by consultant Claudio Osorio, who, under the supervision and follow-up of the Chilean National Coordination and the IDB, was in charge of developing this Methodology. During his lecture, he made reference to topics related to the Methodology for the Risk and Disaster Prevention and Management in COSIPLAN-IIRSA Infrastructure. The presentation is attached as Annex 7. Such topics are briefly summarized below:

1. The development of this methodology is in line with Action 6.1 of the COSIPLAN Strategic Action Plan 2012-2022, which states the following: “Strengthen, disseminate, and apply Territorial Planning Methodologies and tools.” In particular, Action 6.1.5 refers to the risk and disaster prevention and management.
2. This methodology responds to the need expressed by the countries to draw up clear procedures to incorporate risk management (specifically, the risk of seismic events, tsunamis, floods, and others) into infrastructure planning and maintenance. Its aim is to reduce the impact of disasters and design recovery plans for integration infrastructure and connectivity, which fall within the scope of COSIPLAN-IIRSA.
3. A difference was established between the concept of “disaster management” and that of “risk management”, the latter being of greater interest to the countries given its capacity to prevent and reduce potential damages to infrastructure, thus ensuring service continuity.
4. The experience of the “Burbank Hope Airport” was presented as it is an example of an infrastructure for which risk reduction was included from the very beginning of its planning process.
5. The main natural hazards in South America and their potential impact on infrastructure were enumerated. Later, an explanation was offered of the conceptual framework for Disaster Risk Prevention and Management to be applied to infrastructure planning and

maintenance processes, indicating that risk prevention and management certainly form an integral part of sustainable development.

6. Differences between linear and non-linear infrastructure and their respective challenges for risk management were identified. In the case of linear infrastructure, different components are exposed to different hazards, depending on where they are located, as compared to the case of non-linear infrastructure components, which are only exposed to the specific hazards present in the surroundings.
7. Six methodological steps were presented: Step 0 – Definition of performance level; Step 1 – Identification and characterization of hazards within the area of influence; Step 2 – Identification and characterization of the infrastructure exposed to hazards; Step 3 – Risk analysis; Step 4 – Disaster risk reduction; and Step 5 – Preparedness for response. Participants to the meeting observed that the methodology had failed to include a step concerning reconstruction/recovery; however, if Step 5 is analyzed from the perspective of business continuity plans, then reconstruction/recovery actions can very well form part of them.
8. As a starting point of this methodology, emphasis was put on the importance to define performance objectives that should guide the entire risk analysis process. The criteria to define the performance levels presented are related with the following: protect utility personnel safety, protect the safety and well-being of the community and their property, keep infrastructure or system reliability, prevent monetary loss and prevent environmental damage, which would minimize, as appropriate, the loss of lives, goods, capital or additional costs, revenue losses, service disruption, downtime, accidents and others.
9. In order to adequately allocate resources for risk analysis, three levels of analysis are proposed for this kind of studies, depending on the level of exposure and vulnerability of the components involved: Level 1: A simplified estimate of hazard, performance and vulnerability of the system, infrastructure or component analyzed. This level of analysis can usually be completed within a short time and, in most cases, it can be carried out by technical staff knowledgeable in the type of infrastructure or component under analysis. Level 2: Quantitative analysis, often depending on historical or statistical information to characterize the hazard, performance and vulnerability of the system, infrastructure, or component analyzed, and involving the collection of data from the field. This level typically takes several weeks and can be performed by technical staff with the assistance of technical experts. Level 3: Quantitative results presented with accuracy, using rigorous information and tools adequate to the state-of-the-practice. It makes use of better and more complete data on the hazard, performance and vulnerability of the system. In general, it requires the participation of technical experts and specialists. Moreover, it requires extensive fieldwork and laboratory tests. It generally takes months or years to complete .
10. A methodology was presented to classify the level index of risk analysis, the estimation of which includes data such as hazard severity, infrastructure vulnerability, and the consequences of any potential damage. Depending on the value of the level index for the project involved, it will be advised to implement level 1, 2, or 3, as appropriate, or such risk studies will not be considered mandatory if not required by the exposure and vulnerability levels of the components involved.
11. Some general risk reduction actions and measures were shown, such as relocation of infrastructure, protection or containment works, change of materials, retrofitting works, adjustment of design criteria, risk transfer, among others.

After this presentation, a debate took place over different aspects of the methodology. Within this framework, the following proposals were made:

1. The methodology should take into account the experiences of other COSIPLAN-IIRSA methodological tools and engage national political and technical teams in its applications.

2. It should also take into account the experiences and methodologies presented in the two GTE meetings.

3. Conducting a pilot project would be a way to set the basis for designing this methodological tool.

4. It is soon to be decided whether this pilot experience would be conducted in a Project Group within a Hub, in specific projects, or in a territory defined by other criteria.

5. There is a need to have a User's Manual on the methodology for 2014. This would help define the steps and procedures required to apply this tool. This manual would be a preliminary version that should be adjusted based on the experience of the application to be made.

Finally, regarding the work areas, the following actions were identified:

1. Distribute the preliminary version of the methodology to relevant technical departments of the governments with the purpose of receiving comments and contributions. The deadline to send comments and contributions to the PPT held by Chile and the CCT Secretariat is October 14.

2. Complete the survey on Specific Contributions and Questions for the preliminary version of the Methodology duly sent to the countries. The deadline to send comments and contributions to the PPT held by Chile and the CCT Secretariat is October 14.

3. The CCT will prepare a table of contents for the User's Manual on the Methodology to be sent to the PPT held by Chile in order that it is submitted for comments to the countries on October 18.

List of Annexes

Annex 1: Meeting Agenda

Annex 2: List of Participating Delegations

Annex 3: Presentation on the generation of regional information for the analysis and characterization of hazards of the International Center of Research on el Niño (CIIFEN)

Annex 4: Presentation on the methodologies for infrastructure risk analysis: the case of the Public Infrastructure Engineering Vulnerability Committee (PIEVC).

Annex 5: Presentation on the COSIPLAN Geographic Information System and Cartography

Annex 6: Presentation on the GeoSur Program

Annex 7: Presentation on the Methodology for Risk and Disaster Prevention and Management in South American Integration Infrastructure