

Rim Sim: A Role-Play Simulation

Bulletin 2212

Rim Sim: A Role-Play Simulation

By* Robert C. Barrett, Suzanne L. Frew, David G. Howell, Herman A. Karl, and Emily B. Rudin

Bulletin 2212

U.S. Department of the Interior

U.S. Geological Survey

U.S. Department of the Interior

Gale A. Norton, Secretary

U.S. Geological Survey

Charles G. Groat, Director

Version 1.0, 2003

This publication is available only online at: http://pubs.usgs.gov/bul/b2212/

Manuscript approved for publication, April 30, 2003 Published in the Western Region, Menlo Park, CA. Text edited by George A. Havach Layout and design by Stephen L. Scott

Any use of trade, product, or firm names in this publication is for descriptive purposes only and does not imply endorsement by the U.S. Government

CONTENTS

	Page
Rim Sim: A Role-Play Simulation	5
Herman A. Karl, and Emily B. Rudin	
Rim Sim Teaching Notes	9
Rim Sim Skills for Facilitation and Recording	-
Presented by Bob Barrett, Susan Carpenter, and Louis Chang,	
with David Howell and Herman Karl	
Rim Sim Notes for Plenary Debriefing with PowerPoint Slides	23
Rim Sim General Instructions.	
Rim Sim Confidential Instructions for:	
Facilitator	51
Alban Business Leader	60
Alban Humanitarian Organization Representative	67
Batian General	
Batian Emergency Management Director	80
Concordian Mayor	
Concordian Land Preservation Advocate	
Demetrian Economic Development Consultant	102
Erismanian Government Finance Minister	

Rim Sim: A Role-Play Simulation

By* Robert C. Barrett, Suzanne L. Frew, David G. Howell, Herman A. Karl, and Emily B. Rudin⁴

Introduction

A role-play simulation called Rim Sim was developed for an international summit, Crowding the Rim (CTR), held at Stanford University in August 2001. CTR was cosponsored by the American Red Cross, the Circum-Pacific Council, Stanford University, and the U.S. Geological Survey (USGS). The summit brought together about 130 participants, including leading scientists, economists, business and industry leaders, emergency-management experts, and government leaders, from Pacific Rim nations to assess environmental and social risks, forecast change that will affect them in the future, and plan collaborative strategies for risk assessment and mitigation. In addition to Rim Sim, held on the second day, the 3-day summit included an opening plenary session with presentations by experts from an array of socioeconomic sectors and concluded with a final workshop devoted to assessing the status of risk for the Pacific region as a whole. More comprehensive information about the summit can be obtained on the World Wide Web at URL http://www.crowdingtherim.org/.

Role of Simulations

Policy issues that concern natural-hazards risks are commonly complex and contentious. When many parties, jurisdictions and options are involved in policy negotiations, the parties usually cannot agree, and negotiations may drag on for extended periods of time and become deadlocked. Inviting the parties to participate in an exercise that simulates the real-life situation can help them take steps toward resolving it (for example, Dolin and Susskind, 1992). Simulations (also called games) can help build understanding of the multiple

dimensions of complex public issues and, thus, support for whatever choice is eventually made. Simulations can also result in possible options for resolution that, in a charged political atmosphere, individuals might either never conceptualize or be reluctant to advocate.

A simulation is based on a real issue but made hypothetical. Each participant is provided with all relevant background information about the hypothetical situation. The participants are assigned a role to play in the simulation; these roles mirror parties in the real-life situation. Instructions for each role are confidential, and it is at the discretion of each player to share the information with other players as alliances are formed and the simulation is played out. In this way, the simulation is not only an opportunity for the participants to explore creative options toward resolution of the real-life situation, but also a laboratory for observing the interaction among the participants and previewing the dynamics that might occur in the real-life negotiations. Participants in simulations build relationships and understandings that may help to achieve workable solutions to real-life situations.

Rim Sim

In collaboration with the Consensus Building Institute (CBI),⁵ we have developed Rim Sim specifically for the goals and purpose of CTR, which emphasized the global interconnectedness of Pacific Rim nations and the consequent reverberating effects of a natural-hazard-related disaster. However, the key learning points of Rim Sim have universal application. The objectives of the simulation, the mechanics of playing it, and the lessons learned from it, which are described thoroughly in the Teaching Notes that accompany it, are briefly summarized below.

Rim Sim raises questions about traditional approaches to disaster preparedness and recovery efforts in an international setting. Players must confront the reverberating effects of disasters and the problems of using science and technical information in decisionmaking. Participants are introduced to a collaborative problem-solving approach that emphasizes face-to-face dialog

^{*}Authorship in alphabetical order. Address correspondence to Herman Karl, e-mail hkarl@usgs.gov or David Howell, e-mail dhowell@usgs.gov.

¹Collaborative Decisions, P.O. Box 7510, Menlo Park, CA 94026.

²The Frew Group, 3221 Sylvan Ave., Oakland, CA 94602.

³U.S. Geological Survey, 345 Middlefield Rd., Menlo Park, CA 94025.

⁴Formerly on detail to U.S. Geological Survey from U.S. Institute for Environmental Conflict Resolution, Tucson, AZ; currently an international management consultant in Alexandria, VA 22304.

⁵131 Mount Auburn St., Cambridge, MA 02138.

and multinational cooperation in dealing with humanitarian concerns, as well as long-term efforts to reconstruct local and regional infrastructure. The four key objectives of Rim Sim are:

- To demonstrate the "ripple effects" of a natural disaster
- To explore the role of scientific information in disaster preparedness and recovery
- To develop multiparty negotiation skills
- To build personal relationships among the players that will carry over into real life

There are eight roles in the simulation, and a trained facilitator facilitator facilitates each simulation, an arrangement that is critical to the success of the role play. At CTR, approximately 130 participants played 18 simulations simultaneously.

The experience of playing Rim Sim significantly influenced the proceedings and outcomes of the workshops held on the third day of the summit. Participants requested that the simulation be played at conferences in other countries. To date (January 2003), Rim Sim has been played at the Gestión del Riesgo en El Anillo del Pacífico conference in Costa Rica and the Third International Earthquakes and Megacities Workshop in Shanghai, China.

Playing Rim Sim—Tips and Benefits

The sections following the references contain all the materials necessary for playing Rim Sim. The game encourages players to explore the problem of dealing with critical and complex issues with others who come from different backgrounds and different countries that might have competing interests. Because it is a game, players can explore their ideas, attitudes, and response to these issues in an environment in which they are not on the line as they would be in real life; in the game, their job, reputation, and livelihood are not at risk. Thus, players enjoy the freedom to explore and experiment with options that they would be hesitant to put on the table in real situations. If players engage fully in the game, they can quite literally awaken and explore aspects of themselves that they do not normally get to use or test. And this is the strength of the game idea—we come together to explore and enjoy a process that can have significant benefit to us in real life without really risking any damage to ourselves. This opportunity can lead to innovative solutions and the potential for breakthroughs that would not have occurred otherwise.

Rim Sim is about the problems and difficulties that arise when natural hazards disrupt local and regional social and economic functions—circumstances that disrupt the lives of many thousands of people. The game focuses particularly on developing strategies for long-term recovery, while dealing with the short-term issues that arise from a disaster. The issues are both humanitarian—dealing specifically with the repatriation of displaced persons—and material—dealing with the need to rebuild infrastructure that has been destroyed. In wrestling with these issues, players are faced with many of the same obstructions and difficulties as those that arise in real life. They will have access to scientific reports, for example, but will find conflicting information and have to decide how to use

the information that is available. Players will have to deal with the outlooks and desires of competing enterprises. They will be faced with governmental competition, both within the agencies of individual countries and between the countries themselves. Furthermore, we believe that they will also recognize that within the complex and difficult problems they are attempting to solve, there is real opportunity to build toward a more productive and sustainable future for all the parties involved.

A goal of the game is that players take what they have learned by playing the game and apply it to situations in real life. One of the most important distinctions players will learn from the game is the difference between positions and interests in the negotiation process. Each of the characters (confidential roles) has a position on each issue—wanting some specific type of new infrastructure, for example, or being against a particular course of action. But behind the position, there are interests (including values) or needs. Positions are the demands we make or the solutions we seek—they are generally stated directly; interests are the underlying needs we are trying to satisfy. If the participant can see beyond positions and learn to recognize the underlying interests more clearly, finding solutions becomes much easier because generally, even though people hold different positions, they share interests.

Good facilitation is critical to getting the most out of the game—especially if multiple games are being played as part of a conference or other event. The facilitator is a neutral party who will help players talk to one another about the issues. The facilitator will guide the players in the process of discussing the issues laid out in the general instructions, being particularly careful to help players avoid the trap of debating—simply trying to convince the others that they have the right answer. Such strategies and behavior generally lead to delay and disruption of the negotiation process and inhibit attaining solutions in real life. The goal here is to search for an agreement that meets everyone's interests. This is consensus decisionmaking, a process to achieve as best possible everyone's interests. Thus, we suggest that to get the most out of the game, the facilitator be trained in consensus-building techniques. If a trained facilitator is not used to facilitate the game, we strongly suggest that it be facilitated by one of the participants who prepares by reviewing at least one of several good references on consensus building and negotiation (for example, Susskind and Cruikshank, 1987; Fisher and Ury, 1991; Susskind and others, 1999). Exposure to consensus building and negotiation literature will help the "game master" achieve one of Rim Sim's goals of building multiparty negotiation skills.

An important application of Rim Sim is its use as an educational tool. A culturally, ethnically, and socioeconomically diverse group of high-school students played it at CTR. During the debriefing of the game, these students were enthusiastic about what they had learned from playing it. Virtually all of them commented on the value of collaboration as a means of reaching consensus and overcoming the obstacle of intransigent participants that could deadlock negotiations and prevent reaching agreement. Although the students did not use the terms "position based" and "interest based" in their written evaluations, their responses clearly indicated that they had learned

the importance of getting beyond positions to shared interests. Many students considered the lessons learned by playing the game useful for real life. Each of them enjoyed playing it.

Perhaps most important to such scientific organizations as the USGS is that Rim Sim is a vehicle to explore and better understand the role of scientists and scientific information within a consensus-building and collaborative problem-solving context (for example, Barrett, 2000; Karl, 2000; Karl and Turner, 2002). Some references that provide insight into the role of science and scientists in this regard include Adler and others (2000), Daniels and Walker (2002), Susskind and others (2001), and Andrews (2002). As stated above, game players have access to scientific information, which is in the form of maps and reports. This information is complex, uncertain, and conflicting—mimicking real life. How players use it (or ignore it) in their negotiations can help scientists and other responsible parties learn how to better present complex information in ways so that it can be used more effectively in decisionmaking processes. Rim Sim has been played approximately 40 times by a diverse group of more than 300 international participants who range widely in vocation, age, and experience. Ongoing analysis of the debriefing notes and participant evaluations is helping the USGS to better understand the role of science, scientists, and scientific information in international negotiations that involve preparation for and recovery from disasters caused by such natural events as earthquakes, as well as how people deal with the uncertainties and contradictions of scientific data in general.

Acknowledgments

In addition to the four partners, the development of Rim Sim was made possible by generous financial support from the following sponsors:

British Petroleum Chevron Corp. David and Lucile Packard Foundation Thales GeoSolutions, Inc.

Rim Sim is a complex game with many components that took more than a year to develop into the final version. Brainstorming sessions to consider the range of content and structure of the game began early in 2000. Lawrence Susskind, president of CBI, suggested the main metaphor for the game that enabled us to move forward with the task of developing the game into the form presented herein. The development team was ably supported by several other individuals, in particular, Steven Wessels of the USGS, for producing in cooperation with KPIX San Francisco the mock Newscast that helps create the verisimilitude for the game; Moyra Gardeweg of Santiago, Chile, and Amelia Barreles of the USGS, for writing the Spanish subtitles and for contracting with the American Red Cross for the writing of the Chinese subtitles; Robb Kapla, for coordinating logistics during

playing of the game at CTR; and David Donnenfield, Jerry Kay, and Jonathan Swinchatt, for capturing on video various games to highlight the learnings from these events. Manuel Argüello-Rodríguez and his colleagues at Catedrático de la Universidad Nacional, Costa Rica, hosted the game and provided the Spanish translation for the version of the game played in Costa Rica. Xu Zhizhong of the Beijing Seismologic Bureau coordinated the translation of the game into Chinese. We appreciate the time and critiques of the many volunteers who helped field-test early versions of Rim Sim at the USGS in Menlo Park, CA, and CBI in Cambridge, MA. Finally, we thank Charles Manning for coordinating logistics in Shanghai and converting all the materials into digital format to publish Rim Sim online.

References Cited

- Adler, P.S., Barrett, R.C., Bean, M.C., Birkhoff, J.E., Ozawa, C.P., and Rudin, E.B., 2000, Managing scientific and technical information in environmental cases—principles and practices for mediators and facilitators: RESOLVE, Inc., and U.S. Institute for Environmental Conflict Resolution, Western Justice Center Foundation, 76 p. [URL http://www.westernjustice.org/]
- Andrews, C.J., 2002, Humble analysis; the practice of joint fact finding: Westport, Conn., Praeger, 200 p.
- Barrett, R.C., 2000, Using games and simulations in integrating science and community values: Alternative Dispute Resolution and Natural Resources; Building Consensus and Resolving Conflicts in the Twenty-First Century, May 16–19, 2000, Tucson, Arizona, p. 144-147.
- Daniels, S.E., and Walker, G.B., 2001, Working through environmental conflict—the collaborative learning approach: Westport, Conn., Praeger, 299 p.
- Dolin, E.J., and Susskind, L.E., 1992, A role for simulations in public policy disputes; the case of national energy policy: Simulation and Gaming, v. 23, no. 1, p. 20–44.
- Fisher, Roger, and Ury, William, 1991, Getting to yes; negotiating agreement without giving in: New York, Penguin Books, 200 p.
- Karl, H.A., 2000, Integrating science and community values to effectively address environmental and land use conflict, in Alternative Dispute Resolution and Natural Resources; Building Consensus and Resolving Conflicts in the Twenty-First Century, Tucson, Ariz., May 16–19, 2000, Conference Proceedings, p. 151–153.
- Karl, H.A., and Turner, C.E., 2002, A model project for exploring the role of sustainability science in a citizen-centered, collaborative decision-making process: Human Ecology Review, v. 9, no. 1, p. 67–71.
- Susskind, L.E., and Cruikshank, Jeffrey, 1987, Breaking the impasse; consensual approaches to resolving public disputes: New York, Basics Books, 276 p.
- Susskind, L.E., Jain, R.K., and Martyniuk, A.O., 2001, Better environmental policy studies—how to design and conduct more effective analyses: Washington, D.C., Island Press, 187 p.
- Susskind, L.E., McKearnan, Sarah, and Thomas-Larmer, Jennifer, eds., 1999, The consensus building handbook; a comprehensive guide to reaching agreement: Thousand Oaks, Calif., Sage Publications, 1,147 p.

Rim Sim Teaching Notes

CONTENTS

	raye
I. The Simulation	5
II. Introduction to the Simulation	5
III. Teaching Points	5
A. Ripple Effects	5
B. The Role of Science	5
C. Multiparty Negotiation	5
D. Building Personal Relationships	6
IV. Mechanics	6
A. Schedule	6
B. Materials	6
V. Participant Questions	7
VI. Same-Role Meetings	8
VII. Debriefing	9
A. In-Group Debriefing	9
B. Comment Form	9
C. Plenary Debriefing	9

I. The Simulation

Rim Sim is a 6-hour, eight-party negotiation that focuses on creating a framework for the long-term disaster-recovery efforts. It involves a range of players from five countries affected by two natural disasters: a typhoon about a year ago and an earthquake about 6 months ago. The players are members of an International Disaster Working Group (IDWG) that has been created by an international commission. The IDWG has been charged with drawing up a framework for managing two issues: the reconstruction of regionally significant infrastructure and the design of a mechanism for allocating funding to each country for reconstruction of local infrastructure and ongoing humanitarian needs. The first issue will involve making choices among five options (two harbor options, two airport options, and one rail-line option), each of which will have three levels at which to rebuild. The second issue will involve five starting-point options. Participants are encouraged to invent other options for both issues.

II. Introduction to the Simulation

The goal of Rim Sim is to raise questions about traditional approaches to disaster-preparedness planning and reconstruction efforts in an international setting, in this case the

Pacific Rim. Players must confront the reverberating effects of disasters and the problems of using science and technical information in decisionmaking, and are introduced to a consensus-building approach emphasizing face-to-face dialog and multinational cooperation in dealing with humanitarian concerns, as well as long-term efforts to reconstruct local and regional infrastructure.

III. Teaching Points

The Rim Sim simulation raises four key points:

A. Ripple Effects

To provide a realistic environment for participants to experience how the "ripple effects" of a natural disaster (such as a typhoon, earthquake, or volcanic eruption) can complicate short- and long-term recovery. As globalization continues, these reverberating effects will likely be increasingly rapid and unpredictable, with impacts both near and far from a disaster's location.

B. The Role of Science

To illustrate of some of the problems surrounding the use of scientific information in disaster-recovery situations. Scientific information is rarely conclusive or definitive, and can thus add uncertainty to the disaster planning process. Participants, for example, will face the challenges of having to make judgments in the face of insufficient information, having to weigh new scientific information against established data, assessing the credibility of information presented by adversaries, and determining to what extent to use information that does not point to a definitive conclusion.

C. Multiparty Negotiation

To create awareness about the fact that when disasters strike, they affect many people, either directly or indirectly. Many stakeholders, therefore, will want to be involved in recovery efforts. Some of these stakeholder interests and priorities may be in direct conflict, while others will find common ground quite easily. A truly workable and sustainable outcome must resolve conflicting interests.

To demonstrate that groups faced with scientific uncertainty can engage in joint fact finding to increase the chances

that technical recommendations will be understood and accepted. Joint fact finding and information generation can also enhance the confidence that participants have in the information on which decisions must be made.

To allow participants to experience, in a protected learning setting, a consensus-building approach to disaster planning that is quite different from the conventional model which stresses top-down decisionmaking within countries after the fact. Specifically, the consensus-building approach seeks to create value for all stakeholders through a collaborative inquiry aimed at meeting conflicting interests and handling scientific and technical uncertainty.

D. Building Personal Relationships

To provide an "icebreaking" experience for participants at the Crowding the Rim Summit to experience the value of getting to know each other in a realistic setting, before addressing how the Pacific Rim region can best prepare for natural disasters in the future. The exercise will also demonstrate how the mutual gains, consensus-building approach to recovery helps build enhanced long-term relationships among stakeholders.

IV. Mechanics

The simulation takes approximately 9 hours (90 minutes for preparation, about 1 hour for a same-role meeting, 30 minutes for country caucuses, 4 hours for the negotiation itself, 1 hour for small group debriefing, and 1 hour for the plenary debriefing). General instructions should be provided to participants in advance of the negotiation, so that they can come prepared, reducing the time participants will need to be together by about 1 1/2 hours.

There are roles for eight players and a facilitator in the game. Any number of groups of seven can play. Some players can be doubled up in a single role if the total number of people participating is not divisible by seven.

The game schedule should proceed as follows:

A. Schedule

Preparation for the game—1 1/2 hours (previous day)

Participants should read the general instructions, as well as read and digest the confidential instructions for their role.

Simulation preparation: Same-Role Meetings—1 hour (simulation day)

If more than one group of seven is involved, players should meet in small, same-role groups to discuss their assigned roles. This discussion will be carried on with teams of three facilitators to answer any questions they may have and to review the facts relating to their role, but not to offer advice.

Simulation preparation: Country Caucuses—30 minutes (simulation day)

Players go to the room where negotiation will take place, and meet with the other player from their same country. For example, the players in the two Alban roles should meet together to confer about the common features of their strategy and how to handle the different perspectives each has been given in representing that country. Similar meetings will occur involving the two Batian roles, and the two Concordian roles. The Erismanian role does not have a partner, and so this player should prepare alone.

Negotiation—4 hours (including lunchtime)

- Each negotiation group meets in an assigned location to conduct its negotiations
- Each group has a facilitator to help record, make sure everyone has an opportunity to participate in the discussions, and assist in the negotiation
- Breaks may be taken as the group needs, including taking time for lunch
- Alert players 15 minutes before their time is up, so that they may finalize whatever agreements they have reached.

Small-group debriefing—1 hour

- The facilitator from each group should debrief the group, review outcomes, and discuss the lessons learned.
- Each group should pick one person to summarize its results at the full-group debriefing.

Break—30 minutes

The instructors and facilitators should gather and discuss the main outcomes so that they can select three or four different agreements to highlight. The differences among the group outcomes should be used to ensure that all the key lessons are reviewed during the plenary debriefing.

Plenary debriefing—1 hour

- Highlight common themes from the small-group debriefings
- Highlight differences in outcomes and explore the apparent reasons for these differences
- Discuss lessons learned about how groups dealt with the science and negotiation issues

B. Materials

Participants are expected to review a substantial amount of written material in preparation for the simulation. This material includes:

• a set of **general instructions**, which describe the context for the negotiation (i.e., where it takes place, who is at the table, what their main interests are, etc.);

- a set of **confidential instructions** for each role, which outline who the player is, what his/her interests are with regard to each of the issues, what options he/she prefers and why, and what his/her minimally acceptable outcomes are; and
- for some roles, **technical appendices**, including science reports and maps.

For all parties:

- General instructions
- Appendices:
 - Map A
 - Map B
 - Map C
 - Map D
 - Map F

Role specific:

Confidential instructions for the following roles:

- Alban Business Leader
- Alban Humanitarian Organization Representative
- Batian General
- Batian Emergency Management Director
- · Concordian Mayor
- Concordian Land Preservation Advocate, plus Map E (9 copies for everyone at the table)
- Demetrian Economic Development Consultant
- Erismanian Government Finance Minister
- Facilitator, plus additional instructions for Concordian Land Preservation Advocate and Map F (9 copies)

Equipment needed:

- Name tags or name tents
- Flip charts
- Colored markers
- Tape for posting sheets
- Pen/pencils for participants
- Clock/watch
- Overhead projector and blank transparencies
- Space: Ideally, one large room for introduction and general debriefing, some smaller rooms for caucusing and same-role meetings, and one small room for each group to conduct its negotiations.

V. Participant Questions

Questions usually asked before and during the negotiation:

Do I have to follow the instructions precisely? Can't I interpret my role in the way I prefer?

There's not enough time to handle more issues beyond those already included, so don't try to add more issues or topics. However, you may be as creative as you like in generating solutions raised in your confidential instructions, as long as you remain faithful to the role and priorities you have been assigned.

I need more information about _____.

All the information you need is provided, although it may not be all in your hands. You can make assumptions based on the data you have, but try to avoid inventing outrageously fictitious data; you're likely to be challenged by others.

Do we have to live with the facts as given? What if I don't think they're realistic?

Yes, you have to stick with the issues, facts, interests, and priorities as defined in your confidential instructions; these points are important to creating realistic differences in perspectives among the players. You're encouraged to be creative and inventive about ways the players may advance their interests and goals.

We don't have enough information about the costs of reconstruction or the amount of damage in each country. What should we do?

The simulation is designed to focus on the big picture, and leaves out a lot of detail, for which there wouldn't be time for adequate discussion. You may make reasonable assumptions based on the information you do have and discuss them with the others in your negotiating group. Agreements may be contingent upon "further study" or "joint fact finding."

Can I show my worksheet to my opponent to help him/her understand my concerns?

Absolutely not! Under no circumstances should you share any part of your confidential information with the other participants. However, you can relay any information contained in the confidential instructions without actually showing anyone the pages that you have. There's no way in real life to prove that what you say is true by showing someone a piece of paper!

Shall I reveal my emotions in my role or try to remain completely stoical?

Displaying emotions in your role is an important aspect of simulating a negotiation. Try to incorporate your feelings into your negotiating strategy.

Are caucuses allowed? Do we all have to stay together at the table the whole time?

This depends on the situation. You may want to caucus with someone at the table so as to build a supporting coalition, or to assess the possibilities of blocking the actions of other players. The group may decide at the beginning of the negotiation, however, with the help of the facilitator, when and how caucuses will be allowed.

Questions typically asked after the negotiation:

Is it realistic to expect negotiations like these to succeed

in such a short time?

7

In the game, yes; in real life, probably not. We're telescoping the situation to highlight key learning points within the time available.

What's the best outcome possible?

There are many creative outcomes possible. It would be best if each player exceeded his/her bottom line (Best Alternative To a Negotiated Agreement, or BATNA, as it's called). In general, a "best" outcome is one that wins an agreement which meets the interests of all players, while maintaining positive relationships.

VI. Same-Role Meetings

To help participants play their roles well, they usually need an opportunity to talk through their assigned material in detail with others who will play the same role (in a different group). Same-role meetings are designed to facilitate strategic discussion, although the group is not expected to reach agreement on how their role should be played. Specifically, same-role meetings should help participants:

- (1) **Fully understand the material they have read.** Both the group facilitator and the participants with the same-role assignment can clarify parts of their instructions or technical appendices that they found confusing or unclear.
- (2) Internalize the interests and aspirations of their role. Discussing confidential instructions in a group often helps participants absorb the information and internalize it, increasing comfort levels when it's time for one person to play their role.
- (3) **Formulate a negotiating strategy to guide them during the negotiation.** Group strategizing helps participants decide what they will do when the simulation begins: i.e., to whom they will talk, what information they need to obtain from others, and what proposals they will make in an effort to build coalitions supportive of the options they prefer.

Suggestions About How to Lead a Same-Role Meeting

Same-role discussion leaders often say the following:

- (1) Please read your general and confidential instructions very carefully before you come to the meeting. (N.B.: Discussion leaders will find that participants will ask them to answer clarifying questions. Moreover, it will be difficult to lead a discussion if participants have not read their confidential instructions.)
- (2) Keep in mind that the main objective of the meeting is to help you step back from the detail, synthesize what is absolutely most important, and decide how you are going to develop a final agreement that can win the necessary support of others.
- (3) You may not agree with others about how to interpret your role assignment. Particularly when it comes to strategy, you may have your own ideas about how to advance your

interests, whom to talk to first, and what you want to say. That's fine; there's lot of room for interpretation. What you cannot do is redefine your goals or redefine your walkaway (BATNA).

(Note to discussion leaders: During the discussion, it will be important to let participants do most of the talking. Your role will be to ask probing questions, engage people in conversation, and, occasionally, offer observations or suggestions if participants are slow to offer their own. Help them stay on track and make sure everyone has an opportunity to speak.)

The following questions may help guide the participants in developing a sound strategy:

What are your three or four most important interests in this negotiation (in other words, what do you want to achieve)?

Participants should be able to easily extract their three or four most important interests from their confidential instructions. We want them to step back from the details and reflect on their priorities.

We want to remind them that they can interpret the information they are given about their positions in light of what they discover through the process of caucusing and negotiating with others. The better players understand their core interests, the more creative they will be able to be in devising "mutual gain" solutions.

What arguments can you make to persuade other players that your interests should be met in the final agreement?

Ask participants to actually rehearse how they will explain to others "why I want what I want."

Which players are likely to share your interests in this negotiation, and why?

This question will lay the groundwork for the development of a coalition strategy. We want to get participants thinking about whom they can build alliances with early in the negotiation. To do this, they need to think somewhat systematically about who might share their interests on the issues that are most important to them.

Which players are likely to have conflicting interests? What will those interests be and why?

The goal of this question is to help participants realize that not everyone coming to the table will share their interests. This point may seem obvious, but parties preparing for a negotiation are generally so focused on understanding their own interests that they completely neglect to identify their likely opponents. To identify likely opponents, they must systematically imagine the interests of other players on the issues most important to them.

What are some proposals you might make to other players that would meet key interests of yours, while also meeting the key interests of others?

Once participants have engaged in a serious effort to imagine who will be their likely allies and opponents and why, they are ready to start preparing proposals that will meet some of the key interests of other players — allies or opponents.

What proposals from other players on your most important issues would be absolutely unacceptable to you and why? What will you do if the group appears ready to accept these proposals (i.e., what is your BATNA)?

It is important that participants understand the difference between their "minimally acceptable outcomes" (which are laid out in their instructions) and what it is that they will do if it looks as though those outcomes are not within reach. Explain that a BATNA is what you could/will do if the dialog does not lead to an agreement and decisionmaking proceeds through a traditional legislative or bureaucratic process. It is not as if nothing will happen if no agreement is reached.

One final note: Don't get discouraged if you don't get through all these questions. Any amount of preparation will help, and each player's understanding of his/her role will increase as they play the game.

VII. Debriefing

A. In-Group Debriefing

The purpose of the in-group debriefing is to allow participants to discuss what happened in their negotiating groups in more details. It also gives participants a chance to "vent," should they need to.

We recommend that you open the debriefing by "going around the table," asking each player to answer (briefly—no more than 2–3 minutes) the following questions:

Individual Process—Goals and Outcomes

- (1) What were your main goals, and what negotiation strategy were you using to achieve them?
- (2) How well did your strategy work for you?
- (3) What would you do differently if you played the game again?

As each player is answering these questions, you may wish to comment or ask a followup question. You may also ask other players to comment on how they responded to the speaker's negotiating strategy and tactics during the game.

Group Process and Outcome

After each player has had a chance to discuss his/her experience, you should ask the players to consider how well they worked together. It is probably most effective to ask them to first reflect on the outcome, and then to ask them how the

group process affected that outcome. We suggest asking the following questions:

- (1) Did the group achieve an agreement that all parties could accept?
- (2) If so, what were the key moments in the group process (e.g., fact finding, inventing and packaging of options, calling a break for caucusing, ideas contributed by one or more players to deal with differences) that made agreement possible?
- (3) Stepping out of your game role and back into the role of an "outside expert," how would you evaluate this agreement's economic, environmental, and social impacts, assuming that it would be actually implemented?

In addition to soliciting comments from participants, you can make your own comments on the group process and outcome.

Lessons Learned—Reverberating Effects, Role of Science, Use of Multiparty Negotiation Approaches and Consensus-Building Skills, and Personal Relationships

Then focus on the individual learnings that occurred, and whether they were shared by the group as a whole. You might use the following questions to prompt this discussion:

- (1) What were the most important lessons you learned from participating in the simulation about:
 - The reverberating effects of disasters?
 - The use of science and technical information in planning for, and recovering from, natural disasters?
 - The use of multiparty-negotiation approaches and consensus-building skills in preparing for, and recovering from, natural disasters?
 - The value of having ongoing personal relationships before disasters occur?
- (2) What obstacles would have to be overcome for you to be willing to participate in collaborative efforts on these issues in your country or region?

Finally, you should take some notes on the discussion to share during the plenary debriefing, when all the negotiating groups reconvene.

B. Comment Form

At the end of the in-group debriefing, hand out the comment form to participants and give them 10–15 minutes to fill them out in the room. Collect the forms as participants leave the room. It is important to get them to fill them out right there, since not many participants ever fill them out later and send them in.

C. Plenary Debriefing

The purpose of this debriefing is to highlight for everyone the key lessons that can be learned from the simulation. While participants are on their break, you and your partner facilitators and instructors should take a few minutes to use the following slides to guide the debriefing discussion. (Cover as many slides as time allows.)

Slide 1: Meeting Outcomes

The purpose of this discussion is to allow the negotiating groups to share their experiences and to portray the range of outcomes that emerged. The faculty member should pick three or four different outcomes—agreement, non-agreement, different packages—and lead participants through a discussion of the events that shaped those agreements, and the challenges each set of negotiators faced.

- Explore the range of agreements reached.
- Pick three or four groups to present their diverse agreements and to briefly relate the key events that led to those outcomes. (Do not try to cover every group.)
- What do other participants think about these agree ments?

Slide 2: Complicating Factors Affecting Recovery from Natural Disasters

The purpose of this discussion is to highlight some of the complicating factors involved in dealing with, and planning for, natural-disaster preparedness and recovery. Ask participants how they dealt with some of the complicating factors. The questions get to heart of some of the lessons built into this simulation.

- How were the science issues handled in different groups?
- What ideas are likely to work well in real life?
- What tools and techniques of preparation would help in the future?
- What barriers or obstacles would there be to using these tools and techniques?
- What steps could be taken now to deal with barriers and obstacles?

Slide 3: Lessons Learned

The purpose of this discussion is to review the list of four lessons that the simulation was designed to teach, as well as ask participants for other lessons they may have learned.

Slide 4: Experience with Collaborative Approaches

The purpose of this discussion is to think about using new collaborative approaches in preparing for, and recovering from, natural disasters. What do participants make of the idea of coalition building? What about joint fact finding? What was different about this negotiation versus the traditional way in which disaster-recovery efforts are planned? Were participants able to

easily incorporate elements of the consensus-building approach in their negotiating strategy? Did it work as they planned? What were the high and low points in using collaborative approaches?

- From their experience with this simulation, how do participants feel about collaborative approaches to natural disasters?
- What did they learn?
 - About ripple effects? => Unpredictable; affect many people in a multitude of ways
 - About working with multiple parties with different interests? => Focus on interests; relationships are important; explore coalitions
 - About negotiating agreements? => Hard—a neutral facilitator is helpful/essential in identifying options, managing difficult conversations
 - About dealing with uncertainty, particularly in scientific information? => Briefly explain the concept of joint fact finding to participants
- Lead participants through a discussion of the advantages and disadvantages of using collaborative approaches:
 - Advantages:
 - Focus on interests, not positions
 - Trading across issues (short term and long term) to create value—mutual-gains approach
 - Focus on relationships
 - Workable, sustainable outcomes (think of ways to make implementation easier)
 - Managing uncertainty through joint fact finding
 - Use of neutral facilitator
 - Disadvantages:
 - Time—trying to identify and meet the interests of all parties takes time
 - Resistance to the idea of working together with other stakeholders

Slide 5: Challenges

The purpose of this discussion is to help participants reflect specifically on the challenges of using the new consensus-building model in real disaster-planning efforts, allow participants to brainstorm obstacles they foresee to its adoption, and then move to the next step of thinking about how to overcome these obstacles.

- Lead participants through a brainstorming session what are the obstacles to moving from the traditional approaches for dealing with disasters to these new approaches?
 - · Lack of consensus-building capacity
 - Even a desire to collaborate is rare!
 - Organizational resistance to working with other stake holders (who may or may not seem legitimate), par ticularly if they have divergent interests
 - Lack of support from higher levels within each organization

- Incomplete information from science
- Any others that participants come up with...

Slide 6: How to Ensure That Collaborative Approaches Will Work

The purpose of this discussion is to help participants think through the next steps they might take to help put collaborative approaches into practice in their own countries and organizations.

- Another group brainstorming session—what steps can participants take now to build support for this new model?
- Consensus-building training (become a trainer)
- Clearer institutional guidelines favoring joint fact finding
- Proactive use of neutral parties to help facilitate negotiations
- Highlight opportunities for enhanced relationships
- Any others that participants come up with...

Rim Sim Skills for Facilitation and Recording

	CONTENTS	DAY 2	(half-day)
Agenda		3 1:00	Agenda review/questions and answers
	e of the Facilitator	6	
The Role of the Recorder			Overview of the facilitator role
	ts of Principled Negotiation 1		• Brief presentation on neutrality of facilitator,
	sus Decisionmaking and Joint Fact Finding 1		ground rules, participant education,
	of Consensus 1		generating options, and reaching agreements,
	g Procedures 1		with illustrations from Rim Sim yesterday
•	ng Information and Educating the Parties 1		 Demonstration and discussion of how to handle
	ing Options 1		the first part of the exercise: getting started,
	ng Agreements 1		sample facilitator questions
	with Difficult People 1		Demonstration and discussion about how to handle negotiations: keeping the discussion
Ager	ıda		moving, sample facilitator questions • Questions and answers
Suggest	ed meeting schedule:	2:15	Overview of the recorder role
			• Brief brainstorming exercise: What are the
DAY 1	(full day)		characteristics of good recording?Questions and answers about techniques for
			recording and effectively being a "group memory"
9:00	Welcome and introductions		recording and effectively being a group memory
	• Brief self-introductions (name, background, affili-	2.00	D 1
	ations)	3:00	Break
	 Workshop objectives 		
	Overview of the 2-day agenda	3:15	Discussion about the variety of special challenges in the Rim Sim exercise
9:30	Overview		• Science issues
	• Overview of Crowding the Rim and Rim Sim		Difficult people
	• Reading the general instructions		• Value of focusing on criteria, general approaches,
	• Reading the confidential instructions (by role)		and principles
	• Questions about the exercise		Encouraging full participation
			Benefits of collaboration compared to self-interest
10:30	Playing Rim Sim		• Identifying whether there are missing stakeholders
	Role meetings		Others topics suggested by the group
	• Negotiations (in role)		1 66 7 6 1
	, , ,	4:15	Applying the skills: Practice and coaching
	Lunch (during play of the exercise, in negotiating		• Preparation for handling a group and working in
	rooms)		facilitator/recorder teams
2.20	Distriction of the state of the		• How to get respect from a group—dressing profes
3:30	Debrief Rim Sim (in negotiating groups)		sionally, speaking authoritatively • Feedback and discussion, sample facilitator ques-
4:30	Questions and discussion about the exercise		tions
	 Summary of the agenda for tomorrow 		
	• What additional topics would be most helpful to cover?	5:30	Questions and answers/final thoughts
6:00	Adjourn for the day	6:00	Adjourn

The Role of the Facilitator

What facilitators do in meetings:

- Develop and review an agenda
- With the group, develop and then enforce ground rules (also called group agreements); some sample group agreements:
- Treat each other with respect
- · Listen for understanding
- One person speaks at a time
- No interruptions
- No side conversations
- Succinct statements, keeping to the point, staying on track
- OK to disagree
- Focus on issues, not personalities
- · Allow facilitator to actively guide the process
- Focus discussion
- Clarify and encourage clarity from speakers
- Summarize
- · Encourage all to speak
- · Accept people and ideas
- Explore ideas—ask participants to expand on comments or to be more specific when helpful
- Describe what is happening and check it out
- · Offer process suggestions and check them out
- Keep a positive tone to the meeting
- · Help the group keep track of time
- Test for and restate agreements
- Test for and clarify areas where there is no agreement

Some important guidelines:

- You must have an explicit agreement with a group about the facilitator's role and its demands (neutrality, guardian of the integrity of the process, etc.)
- Introduce oneself and explain the constraints of the role
- Stick with those constraints faithfully
- There are several suggestions in the confidential instructions for the facilitator that may help in guiding the discussion.
- It is important to dress conservatively so as not to draw attention to oneself or distract the group.
- It is also important to speak in neutral terms as much as possible to build trust and demonstrate your faithfulness to the group as a whole, not to particular points of view.

The Role of the Recorder

Purposes of public recording:

• To record the progress of the meeting, as the dis cussion occurs, on a flip or wall chart in the

- sight of all participants—the "group memory"
- To provide participants with a running record of the meeting that can be referred to at a later point
- To help the group develop a common perception of what direction the meeting is moving in and the progress being made
- To direct participants to work on a task rather than focus on disagreements with each other

Guidelines for being a recorder:

- Place charts where all meeting participants can see them
- Display all pages so that people can refer back to earlier items
- Use active verbs so that recorded ideas have vitality and convey a clear message
- Aim for a clear writing style, emphasizing keywords
- Abbreviate in a style that everyone will under stand—capture verbatim as much as possible the words that will convey the meaning of the statement
- Be willing to let participants add words or correct the recording
- Write legibly in a size that everyone can read (check this out from the furthest point in the room)
- Do not worry about spelling—everyone makes mistakes in front of a crowd
- Use dark marking pens
- Make the charts lively and interesting by using red or other bright colors for underlining or emphasis only
- Use boxes, clouds, arrows, ovals, or other shapes, even small "pictures"
- Separate changes in topic by using a differentcolored marker or by placing horizontal lines between each item
- Ask the group to help you if you get behind, or if you need a statement clarified
- Number each page and include identifying information about the topic so that charts can be assembled later and information transferred to regular paper
- Record the main points of the discussion during the meeting and decisions that have been made
- Circle or star decisions and agreements that re quire implementation
- Dress conservatively so as not to draw attention to oneself or distract the group

Concepts of Principled Negotiation

 The problem: bargaining over positions, assuming win-lose/zero-sum, sacrificing the relationship or

- fairness to getting your way.
- The approach from *Getting to Yes: Negotiating Agreement Without Giving In*, by Roger Fisher and William Ury (2d ed., with B. Patton), Penguin Books (1991), addresses these problems—is hard on the problem, soft on the people:
 - Focus on interests, not positions—interests are concerns or needs that a participant has regarding a problem, and positions are demands or solutions to address the problem).
 - Understand the alternatives to agreement develop your BATNA (Best Alternative To a Negotiated Agreement)
 - Invent options for mutual gain—separate inventing options from deciding on which option to study further or adopt
 - Insist on legitimacy—use objective criteria, avoid a contest of wills
 - Separate the people from the problem:
 - Focus on making the communication among the participants effective—listen, remain open to persuasion, be clear
 - Build a workable relationship—improve the interaction, consult before deciding, attend to the needs of participants for pleasant surroundings for communicating, break for social izing or informal interactions
 - Make realistic commitments—assess all options as to whether they are compliance prone, practical, and credible
- A final idea: encourage participants to understand how they commonly have different perceptions of each other and the situation. Gather information about the context or frame through which each participant views the situation. Focus on objective facts and question assumptions, conclusions, and generalizations. Perhaps use the "Ladder of Inference Understanding" to illustrate how perceptions can be inaccurate:

Consensus Decisionmaking and Joint Fact Finding

Definitions

Consensus Decisionmaking

"Consensus decisionmaking" means a procedure for arriving at a group decision that all participants can support or live with. Consensus decisions are made without voting. Not everyone may like the solution equally well, nor must all participants have an equal commitment to it. The group works, though, to understand the needs and interests of all stakeholders so that it can be confident that, on balance, it has reached

the best decision possible for all participants, given the available information, time, and resources.

A consensus agreement is reached through a series of steps. First, those with a stake in the decision agree on a definition of the problem to be addressed. Next, participants gather and share information about the nature of the problem, their interests and concerns regarding the problem, and other information needed to support decisionmaking. After gathering information, participants then analyze the information together and generate options for addressing the problems outlined, using efforts to persuade the group of stakeholders about the best course to follow based on accommodating the interests and needs of all the parties. Proposals are often combined or synthesized, or totally new solutions may be developed.

Although the goal of a consensus-building process is to reach a decision that everyone can accept or live with, sometimes this is impossible, and so groups may decide in advance to define the level of consensus needed for a group decision. Some groups define this level as overwhelming support, typically without naming a particular percentage, but with the commitment that the group will make every reasonable effort to understand and accommodate the concerns or needs of all participants, before it decides to move ahead without unanimous support.

Joint Fact Finding

"Joint fact finding" is a procedure for involving those affected by a policy decision in the process of gathering and analyzing the information that will be used to make or support that decision. Typically, joint fact finding is embedded within a consensus-building process. Joint fact finding is distinguished from "adversarial science," where each side tries to persuade the others to accept the relevance and accuracy of its information. In joint fact finding, the group together assesses what information is available and what new information needs to be gathered, and then develops or agrees on a protocol or procedure for gathering that information. The benefits of acting jointly are that better-quality information is obtained and trust in the results of the information is enhanced.

Consensus decisionmaking steps:

- · Agree on a definition of the problem to be addressed
- Gather information and discuss the issue to expand understanding
- Generate options
- Assess the options
- Reach specific agreements
- Outline procedures to be followed as the decision is implemented or to handle unforeseen problems

Why make decisions by consensus?

- Improves the flow of information
- Minimizes surprises
- Builds trusts
- Helps to assure better quality decisions (wiser, fairer, more stable, and more efficient)

- Builds more commitment to implementing the decision
- Implementation is undertaken faster and with broader support

When to use consensus decisionmaking:

- An issue is complex
- Many parties are involved
- No single agency or organization has complete jurisdiction over the solution to the problem
- The issues are negotiable
- Parties are willing to participate

When not to use consensus decisionmaking:

- Emergency
- The focus of the problem is a principle, rather than a weighing of costs and benefits
- Timing is not right
- · Legal clarification is needed
- Community is too polarized

Levels of consensus:

- 1—Enthusiastic agreement with the proposal
- 2—General agreement with the proposal, but have some ques tions or reservations needing discussion
- 3—Cannot favor the proposal until some serious reservations are addressed
- 4—Do not favor the proposal but are willing to trust the wisdom of the group—to "stand aside" and not try to block the proposal from going forward
- 5—Must oppose the proposal

Consensus exists if everyone in the group is at level 4 or above.

What consensus will mean for each group must be defined by that group. Typically, groups will commit themselves to working hard for universal agreement and attempting to accommodate the interests and needs of those who still have reservations, but groups may decide to settle for overwhelming, but not unanimous, support so as to preserve the capacity to move forward toward a decision and prevent being stalemated by the veto of a single participant or group.

Conclusions	"Ed is angry with me today."
Generalizations	"Ed always gives me the silent treat- ment when he's angry with me."
Assumptions /Motivations	"Ed ignored me."
Objective facts/concrete data	"When I saw Ed today, he walked past me and didn't say anything."

Adopting Procedures

Review and adopt general procedures:

- Definition of the problem
 - It is fundamentally important that the definition of the problem be sufficiently inclusive that all stakeholders can see some potential benefit for the interests they care about most
- Expected outcomes
 - Be realistic; the group can always become more ambitious later
 - An outcome to gather information that all participants can trust can be an important step
- Suggest process steps
 - Propose steps to the group for their approval regarding how to hear participant concerns, gather relevant information, generate options, evaluate options, and reach agreements
- Propose a timeframe for each step or each issue
- Suggest that specific people or working groups or committees be put in charge of each step

Review and adopt ground rules:

Personal

Examples: Treat others with respect, listen for understanding, no interruptions, no side conversations, it is OK to disagree ("agree to disagree" about specific items)

Procedural

Examples: One person speaks at a time, be direct and clear in naming topics that will or will not be discussed, share information, allow the facilitator to actively guide the process

Gathering Information and Educating the Parties

Review the history and context of the problem:

- · Presentations by participants
- Presentations by outside resource people
- Note histories of events, as summarized in pleadings, reports, newsletters, etc., but be wary of using one-sided information, such as what may have been presented in the media or other documents

Identify the issues:

- Within interest groups
- With the group as a whole
- For surrounding community

Identify interests:

- · Within interest groups
- With the group as a whole
- · For surrounding community

Agree on data:

- Resource person presents, participants discuss and agree
- Small group of participants negotiates
- Task groups of participants and outside resource people negotiate

Generating Options

Organize to produce options:

- There are several different ways of organizing participants:
 - · All participants work together
 - Task groups work on categories of issues
 - Outside experts suggest options
 - Each participant develops a proposal
 - An intermediary gathers and presents options
- Combinations are possible—also simultaneous/ parallel workgroups
- There are different approaches to developing options:
 - Issue by issue
 - Comprehensive proposals (individual parties may suggest "packages" of options)
- The use of "trial balloons" or a "single text" procedure can be useful, particularly when options must be precise and details are critical. These procedures refer to techniques where one participants or a group listens carefully to the interests that must be accommodated and then drafts a beginning proposal that attempts to do so, which the participants review and try to improve upon without upsetting the balance that the draft embodies. The document is circulated and improved until no more improvements can be suggested — the choice then is the evolved draft proposal (in which all participants have some stake and to which they have contributed) or the status quo (generally a poor substitute).

Reaching Agreements

Three general approaches to reaching agreements:

Develop a general framework of agreements, then work toward specifics

- (agreements in principle)
- Negotiate issue by issue, building toward an overall set of comprehensive, integrated agreements (incremental agreements)
- Each interest group prepares a comprehensive proposal, then all proposals are discussed and blended (agreement "packages")

Steps to reaching an agreement:

- Establish objective criteria based on interests
- · Apply criteria to options
- · Reach consensus on options
- · Produce a draft document
- · Constituency groups review and approve
- Troubleshoot draft agreement—identify implementation problems
- · Reach final agreement

Dealing with Difficult People

Some suggestions:

- · Name what is happening
- Describe how the situation is affecting the person, the group, the situation
- Ask the person or others in the group for suggestions on how to proceed
- Offer your own process suggestions and check them out
- Refocus on the group's goal (developing a mutually acceptable agreement, clarifying where agreement or differences exist, etc.)
- · Refocus on participants' interests
- Allow the person to save face
- Keep in touch—talk with the person in private or ask a friend to check out the problematic behavior
- Expect participants to be reasonable and praise behavior that contributes to achieving the group's goals
- Remind the group about the group agreements adopted earlier
- Take a break and let participants take a brief walk or a moment for reflection
- Suspend your own judgments
- Value each participant's strengths and contributions
- Ask questions that draw the person out to provide more information, or an explanation behind their behavior (e.g., "Help me understand why the information you are presenting is important," "Could you be more specific about why that is a concern?")

Rim Sim Notes for Plenary Debriefing with PowerPoint Slides

The purpose of this debriefing is to highlight for everyone the key lessons that can be learned from the simulation. While the participants are on their break, you and your partner facilitators and instructors should take a few minutes to use the following slides to guide the debriefing discussion. (Cover as many slides as time allows.)

Slide 1: Meeting Outcomes

The purpose of this discussion is to allow the negotiating groups to share their experiences and to portray the range of outcomes that emerged. The faculty member should pick three or four different outcomes—agreement, non-agreement, different packages—and lead participants through a discussion of the events that shaped those agreements, and the challenges each set of negotiators faced:

- Explore the range of agreements reached—any agreements with divergent features from those already mentioned?
- Pick three or four groups to present their diverse agreements and to briefly relate the key events that led to those outcomes. (Do not try to cover every group.)
- Any particularly innovative ideas emerged that did not become agreements?
- What do other participants think about these out comes?

Slide 2: Complicating Factors Affecting Recovery from Natural Disasters

The purpose of this discussion is to highlight some of the complicating factors involved in dealing with, and planning for, natural-disaster preparedness and recovery. Ask participants how they dealt with some of the complicating factors. The questions get to heart of some of the lessons built into this simulation:

- How were the science issues handled in different groups?
- What ideas from the groups might work well in real life?

- What tools and techniques of preparation would help in the future?
- What barriers or obstacles would there be to using these tools and techniques?
- What steps could be taken now to deal with barriers and obstacles?

Slide 3: Lessons Learned

The purpose of this discussion is to review the list of four lessons that the simulation was designed to teach:

- What emerged from your groups about negotiation processes?
- Also ask participants for other lessons they may have learned

Slide 4: Experience with Collaborative Approaches

The purpose of this discussion is to think about using new collaborative approaches in preparing for, and recovering from, natural disasters:

- What do participants make of the idea of coalition building?
- What about joint fact finding?
- What was different about this negotiation versus the traditional way disaster-recovery efforts are planned?
- Were participants able to easily incorporate elements of the consensus-building approach in their negotiating strategy?
- Did it work as they planned?
- What were the high and low points in using collaborative approaches?
- From their experience with this simulation, how do participants feel about collaborative approaches to natural disasters?
- What did they learn?
 - About ripple effects? => Unpredictable; affect many people in a multitude of ways
 - About working with multiple parties with different interests? => Focus on interests; relationships are important; explore coalitions
 - About negotiating agreements? => Hard—a neutral facilitator is helpful/essential in identifying options,

- managing difficult conversations
- About dealing with uncertainty, particularly in scientific information? => Briefly explain the concept of joint fact finding to participants
- Lead participants through a discussion of the advantages and disadvantages of using collaborative approaches:
 - Advantages:
 - Focus on interests, not positions
 - Trading across issues (short term and long term) to create value—mutual-gains approach
 - Focus on relationships
 - Workable, sustainable outcomes (think of ways to make implementation easier)
 - Managing uncertainty through joint fact finding
 - Use of neutral facilitator
 - Disadvantages:
 - Time—trying to identify and meet the interests of all parties takes time
 - Resistance to the idea of working together with other stakeholder

Slide 5: Challenges

The purpose of this discussion is to help participants reflect specifically on the challenges of using the new consensus-building model in real disaster-planning efforts, allow participants to brainstorm obstacles they foresee to its adoption, and then move to the next step of thinking about how to overcome these obstacles.

• Lead participants through a brainstorming session—what are the obstacles to moving from the traditional approaches for dealing with disasters to these new approaches?

- Lack of consensus-building capacity
- Even a desire to collaborate is rare!
- Organizational resistance to working with other stakeholders (who may or may not seem legitimate), particularly if they have divergent interests
- Lack of support from higher levels within each organization
- Incomplete information from science
- Any others that participants come up with...

Slide 6: How to Ensure That Collaborative Approaches Will Work

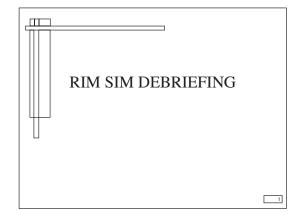
The purpose of this discussion is to help participants think through the next steps they might take to help put collaborative approaches into practice in their own countries and organizations.

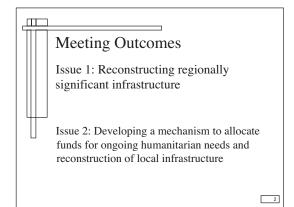
- Another group brainstorming session—what steps can participants take now to build support for this new model?
 - Consensus-building training (become a trainer)
 - · Clearer institutional guidelines favoring joint fact finding
 - Proactive use of neutral parties to help facilitate negotiations
 - Highlight opportunities for enhanced relationships
 - Any others that participants come up with...

In closing, let us all collectively thank the facilitators for their time and talents. They were the key points of contact and helped to keep everything working smoothly.

And thank the hosts for helping with logistics, administrative, etc. Though complex, these details were worked out smoothly and efficiently.

And finally, thank you all for participating so vigorously and well. It was been an enjoyable, energetic, and instructive day for us all!





Complicating Factors

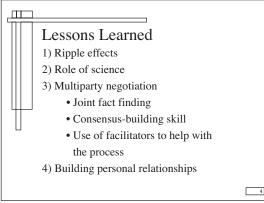
• Different type of disaster impact—some local and some reverberating

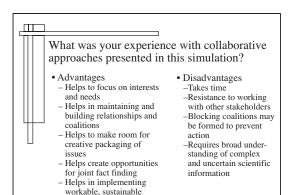
• Conflicting science and technical information and analyses

• Tension between short- and long-term needs

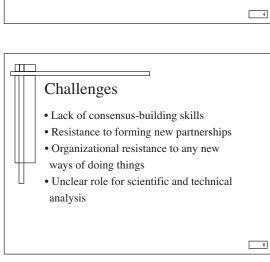
• Multiplicity of stakeholders and their differing interests and priorities

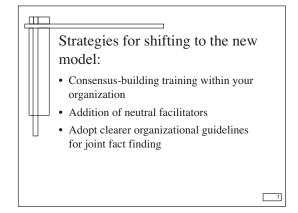
• Limitations of time and resources





outcomes





5

RimSim

GENERAL INSTRUCTIONS

Introduction

Goals of the Exercise

RimSim will involve five hypothetical countries recovering from two natural disasters, six months apart. The exercise has four primary goals:

- Ripple Effects. To provide a realistic environment for participants to experience how the "ripple effects" of a natural disaster (such as a typhoon, earthquake, volcanic eruption, etc.) can complicate short- and long-term recovery. As globalization continues, these reverberating effects will likely be increasingly rapid and unpredictable, with impacts both near and far from a disaster's location.
- Role of Science. To illustrate some of the problems surrounding the use of scientific information in disaster recovery situations. Participants, for example, will face the challenges of having to make judgments in the face of insufficient information, having to weigh new scientific information against established data, assessing the credibility of information presented by adversaries, and determining to what extent to use information that does not point to a definitive conclusion.
- Multi-Party Negotiation. To provide awareness for participants of several negotiating principles: that recovery from a disaster involves multiple stakeholders with different priorities; that the problems posed have many dimensions, including ripple effects manifesting far from the locality of the disaster; that joint fact finding and collaborative information generation can often enhance the confidence that participants have in the information on which decisions must be made; and that knowledge of the many different and changing perspectives, together with negotiating skills, mechanisms, and tools can be helpful in preparing to respond to natural disasters.
- <u>Building Personal Relationships.</u> To involve participants in an "icebreaking" experience that will allow them to experience the value of developing personal relationships as a prelude to collaborative problem solving.

The Countries

The exercise involves a group of five hypothetical countries. Three (Alba, Batia, and Concordia) have common borders, and two (Demetria and Erismania) are far away. (See the maps of the region, attached to these General Instructions; a list of the maps is on page 12.)

Alba is a large and wealthy country. Only a small part of its southern coast is shown on the map; this part of Alba has largely been seen by other Albans as a "far-away, backwater" part of the country. Batia is large and poor, although rich in natural resources (particularly oil and gas deposits). Only a small part of Batia is shown on the map; the rest of the country is located off the map. Concordia is a small, rapidly developing country; all of its area is shown on the maps.

<u>Demetria</u> is known for its excellent academic institutions and scientific research capacities; many of its people travel widely and Demetrian consultants have extensive connections throughout the region. <u>Erismania</u> has substantial philanthropic and financial resources, also with many connections to the region. (Additional details about all five countries are presented in the Attachments to these General Instructions.)

The Typhoon

About a year ago a typhoon (Typhoon Suzy) struck along the Concordian coast near Paradise, which had long been recognized as an area prone to typhoons. Damage was extensive in both Concordia and Batia, and a typical recovery scenario occurred. The political authorities took control of the disaster, often ignoring whatever emergency management planning had been done previously, due to the need to "get on top of the crisis." Military units were called in to keep order and to provide temporary shelter and food in the most devastated areas. Budgets of a variety of agencies were drawn upon quickly to cover the massive efforts required to move huge amounts of aid, to restore medical and public facilities and infrastructure, and to meet the needs of displaced populations. The financial demands were immense. During the first six months after the typhoon, the governments and humanitarian agencies of Alba, Demetria, and Erismania provided substantial assistance, as did other international agencies and several other countries. Recovery in Concordia, though more heavily damaged, was far more rapid than in Batia, due to its greater national capacity for organization and its larger resources, causing regional tension.

While the typhoon was a devastating event, with the passage of time, the world community moved on to other crises. During the recovery and later restoration and reconstruction periods, there were complaints that some of the funds did not reach their intended destinations, and that other resources were wasted or sat unused on loading docks or in warehouses. However, the typical finger-pointing and arguing had largely disappeared by the time another disaster struck.

The Earthquake

About six months ago, an earthquake of magnitude 7.9 struck along the Continental Fault. The epicenter of the Continental Quake, as it has come to be called, was located near the city of Yu, the capital city of Batia. The Continental Quake killed at least 25,000 people in the region, and some media have reported the death toll as much higher, ranging up to 75,000 or more. The number of injuries reached 100,000, and many tens of thousands were made homeless. Damage was heaviest in Batia and Concordia.

Several important implications have reverberated from this event. Some are immediately evident: Batia's excellent seaport at Great Harbor was 50% destroyed, knocking it completely out of commission for about a month. There also was extensive damage to Concordia's only major airport, Nodulais International Airport. The international fiber optic cable connection, which comes ashore in the Great Harbor area (near the city of Yu) was cut for about a week, causing widespread communications disruptions throughout the region, particularly in Alba, where a

small technology industry is rapidly developing along the Bluish River between Hombe and Giga.

Other implications have taken longer to appear. The economies of Batia and Concordia were weakened more than was estimated at first. Stock prices of companies engaged in international trade with the three most affected countries have declined--in some cases, sharply. Internal dissension between ministries in both Batia and Concordia now affects day-to-day relationships. And migration pressures have increased, as homeless and jobless people leave these countries in search of new opportunities.

The Recovery Efforts

Typically, recovery efforts from natural disasters follow patterns. Many in the disaster recovery field currently group their activities into four phases, in recognition of the need for consistent and ongoing activity: preparedness, response, recovery, and mitigation.

Some researchers who have studied responses to specific disasters have described four stages of responses, focusing on how communities *react*, as briefly described below:

- the *emergency* period--coping actions, with drastic changes in normal social and economic activity. May last for days or weeks in countries with high coping capacity, but much longer in countries with lower coping capacity.
- the *restoration* period--patching up of utility, housing, commercial, and industrial structures and returning to relatively normal function of social and economic activities. Generally completed in a few months in countries with substantial resources, but lasting more than a year in countries with fewer resources.
- replacement reconstruction period--rebuilding of capital stock to pre-disaster levels and returning social and economic activities to pre-disaster levels or greater. May last for months or years.
- commemorative, betterment, and developmental reconstruction period--this includes large-scale projects usually financed by the government to commemorate the event, to incorporate "lessons learned" from it, by focusing on mitigating damages to, and preparing for, future events, and changing construction practices, land use planning regulations, and altering social and economic behaviors (e.g., in commerce, education, and public institutions).

In the current situation, about two months ago--four months following the Continental Quake--Alba had moved from the emergency period into restoration. Batia and Concordia were just about to leave the emergency period. The International Commission on Disaster Relief and Recovery called a meeting to plan and coordinate restoration and reconstruction efforts and to raise the funding necessary. The meeting was attended by more than 100 people, including substantial delegations from the three most damaged countries (Alba, Batia, and Concordia), delegations from the other two involved countries (Demetria and Erismania), and representatives from various other countries and international bodies. The International Commission meeting developed an agenda for problem-solving and framed proposals or approaches on the two main issues before the group:

- reconstructing regionally significant infrastructure, and
- deciding how to allocate funding to each country for reconstruction of local infrastructure and ongoing humanitarian needs in the three countries most affected by the quake.

The Fund

Immediately following the Continental Quake, the International Commission established a fund with the goal of raising billions of "rims" for recovery and reconstruction. (Rims are the unit of hypothetical currency used in all five countries; the symbol is R.) Due to concerns that recovery money be used effectively, payments from the fund have been conditioned on the recipient countries achieving consensus on principles or approaches that could guide how priorities for reconstruction are set and how funds will be allocated. The world community--through the World Banking Consortium--has agreed to raise the funds necessary for recovery in the region and has designated Erismania's Finance Minister as the principal representative to see that proper financial controls are in place. Demetrian scientists, consultants, and others with a wide range of skills have mobilized and made themselves available to see that appropriate scientific and economic information is available for decision-makers in the region, together with assistance in collaborative processes.

To date the world community of nations--through the World Banking Consortium--has made donations totaling R 5 billion. Pledges totaling as much as R 10 billion in additional funds have also been made. Thus, if all the pledged funds were received, there would be about R 15 billion available in the fund available for overall recovery efforts.

Hampered by its size, the presence of intense media coverage, and the tendency for delegations to make set speeches presenting familiar positions and rationales, the International Commission meetings were not successful in getting agreement on a coordinated plan for using these funds. So it was then decided to form a small, informal, representative group of eight--termed the International Disaster Working Group (IDWG)--to work collaboratively on the two issues.

Tasks Facing the IDWG

The IDWG's tasks are to gain a general understanding of each country's interests, concerns, and priorities, and to work toward a "framework of general principles" that all could support. The hope is that IDWG's informal, collaborative efforts will lead to consensus on principles and approaches to the issues, criteria for allocating funds or making difficult choices, and tools helpful in restoration and reconstruction efforts. The upcoming meeting will be the first for the IDWG. While the World Banking Consortium realizes there is a need for more data and more specific cost information, the conference must go on despite--or perhaps because of--the lack of perfect information. The expectation is that IDWG's work will eventually lead to a comprehensive agreement, but most recognize this may well require substantial work beyond this initial meeting. IDWG is not focused on immediate or emergency needs; another group is addressing those issues. IDWG's concerns are focused on the medium to long-term needs of the region.

The press has carried stories, quoting the head of the World Banking Consortium, saying that about R 10 billion would be devoted to reconstructing regionally significant infrastructure and the balance distributed among the most damaged countries to help meet humanitarian needs and reconstruct local infrastructure. There is no official requirement nor commitment, however, that such an allocation must be made. Indeed, the IDWG is free to make whatever recommendations it believes are warranted about the funds. If the IDWG is not able to reach agreement, participants fear that the pledged recovery funds will not become available and the region's major

problems will grow much worse. All IDWG representatives believe that this would be a tragic loss of an important opportunity, compounding the devastation already felt in the region.

Issues

In preparation for the IDWG meeting, and recognizing that the two issues are complicated and contain many opportunities for tensions and disagreements, staff of the International Commission have analyzed the two issues and their key options.

Issue I: Which Regionally Significant Infrastructure Should be Reconstructed?

The earthquake severely damaged Great Harbor, the rail lines in the region, and Nodulais International Airport, and also cut for a week a major transoceanic fiber optic cable line that came ashore at the city of Yu. These facilities with the most regional significance need to be restored to service. In rebuilding, though, some have advocated upgrading and modernizing to enhance capacity and to minimize future earthquake damage, through instituting new stringent building codes and effective enforcement and compliance programs. Others have advocated siting new facilities in less risky locations, which will require more study about where the safe areas are actually located and what levels of risk associated with each. And some have argued that regional infrastructure should not take an undue amount of the recovery fund, leaving little for local infrastructure and humanitarian, health, and economic development services.

Reconstruction of structures is complicated by the fact that earthquakes in this region will occur again. It will be important to identify the risks associated with different locations. Two different earthquake shake maps will be available to you during the meeting. One has been used by planning officials in the region for years; the other is based on new, not yet accepted, research.

Also, you will have to consider that when building structures in earthquake-prone areas, one choice often made is to construct them to higher standards than required by minimum building codes. More internal strengthening is used, more bracing material, and building inspections and compliance with building codes are strengthened. As a general rule for the exercise, you should assume that the normal estimates of construction costs should be doubled when higher building standards are specified, and should be tripled when enhanced enforcement and compliance programs are added.

While discussion has centered around five proposals briefly described below, variations, combinations, and other options and proposals are encouraged.

Proposal A Reconstruct Great Harbor facilities to make it a new, modern port. This proposal would involve upgrading the port and oil storage tank, rail, and loading facilities to give Batia an updated, high capacity port. Basic cost: R 3 billion.

Proposal B Construct a new port facility at Shallow Bay.

This proposal would involve constructing a large new, full service port facility in areas that are now natural and is advocated on the grounds that it would have the greatest regional benefits. This proposal would involve dredging wetlands and other environmental impacts that will likely be controversial. Basic cost: R 5 billion.

Proposal C Reconstruct the Nodulais International Airport.

This proposal is advocated as the best relatively low-cost way to provide needed regional transportation services for the three countries, since the airport is centrally located and connects to rail lines serving all three countries. Basic cost: R 1 billion.

Proposal D Construct a new, small airport near Giga.

While about the same cost as reconstructing Nodulais International Airport, this proposal would provide transportation to an area of Alba not well served currently. Because not centrally located, a new airport at Giga would not have the same potential for region-wide benefits. Basic cost: R 1 billion.

Proposal E Reconstruct and modernize the rail lines throughout the region.

This proposal would promote regional connectivity more broadly throughout the region. It would have the potential for "add-ons", such as an extension to Giga and/or an extension to Oylpot. This option would emphasize existing patterns of development, since it is not currently planned to serve the Paradise coast. Basic costs: R 2 billion; Giga extension: R 1 billion; Oylpot extension: R 2 billion.

Cost Chart of Options under Issue I (in billions of "rims")

	Basic Costs	With More Stringent	With More Stringent
		Building Codes	Codes and Enhanced
			Enforcement and
			Compliance
Option A	3	6	9
Option B	5	10	15
Option C	1	2	3
Option D	1	2	3
Option E	2	4	6
	+ 1 (Giga extension)	+ 2 (Giga extension)	+ 3 (Giga extension)
	+ 2(Oylpot extension)	+ 4 (Oylpot extension)	+ 6 (Oylpot extension)

<u>Issue II: How Should Funds be Allocated to Each Country for Reconstructing Local</u> Infrastructure and Meeting Humanitarian, Health, Welfare, and Job Creating Needs

The earthquake left the local infrastructure of Batia and Concordia heavily damaged. While there was less dramatic damage in Alba, there has been considerable social disruption in the months following the earthquake, as refugee camps were established on the border between Alba and Batia and as high levels of immigration occurred.

The local infrastructure needs to be reconstructed and repaired in all three countries, but the decisions about which facilities will have highest priority and to what standards the structures will be reconstructed will be left to each country's decision-making, using similar cost multipliers as given above for Issue I. The difficulties with infrastructure are that reconstruction costs tend to be quite high, and once built, infrastructure tends to have long-lasting implications. (Low density housing, for example, tends to increase reliance on automobile use, with implications for public transportation, air quality, and land use planning.)

The discussion will have to address what priorities the countries will choose to give to reconstructing the following types of structures: roads and bridges, schools and other public buildings, housing, sewage treatment facilities and water supply systems, and local businesses. An assessment was made of the damage to local infrastructure in all three countries and is presented in the chart below in general terms, since specific estimates of the cost to repair local infrastructure have not come in yet.

Damage Assessment Summaries

	Alba	Batia	Concordia
Roads and bridges	Light to moderate damage, mostly along the Batian border	Extensive damage over a wide area	Extensive damage, in heavily populated capital area but only moderate damage elsewhere
Schools and public buildings	Minor damage and virtually no buildings totally destroyed	Extensive destruction of structures and damage over a widespread area	Heavy damage, but only in certain concentrated areas, such as the capital region
Housing	Minor losses of structures	Very heavy damage, and thousands made homeless by houses destroyed and made unsafe for occupancy	Heavy losses in the most populated area; scattered damage in other areas
Sewage treatment plants and water supply systems	No systems destroyed, and some damaged and needing repair. Several systems under severe strain due to the refugee camps nearby	Extensive damage to systems over a wide area throughout the country	Heavy damage to a few systems in the urban and surrounding areas
Commercial and business structures	Minor losses	Thousands of structures lost; very heavy disruption	Extensive losses in capital region, but light damage in surrounding areas

Five proposals have been put forward in discussions about how best to allocate the recovery funds. They are presented here to help focus the discussion, but these options are just starting points. Other ideas and combinations are encouraged:

Proposal A Proceed When Ready--First-Come, First-Served.

Let countries apply to the reconstruction and humanitarian assistance fund for assistance as their projects are ready to go and meet any criteria for soundness set by the IDWG--what might be called a first-come, first-served approach.

Proposal B Proportional Distribution

There are likely to be more reconstruction and humanitarian needs than available funds will cover. So the funds might be divided proportionally, based on population, amounts of need in high, medium, and low priority categories, using some commonly agreed

criteria, or some other proportional basis. Fund managers could decide how many priority categories could be served, and divide the recovery funding proportionally for each country, based on the total projected costs for each country as a proportion of the total costs for all three countries. Priority categories not covered in a first round of funding might be considered later, if additional funding were to become available.

Proposal C Using Incentives for Retrofitting and Assistance

Give each country a basic allocation that it could use for its most critical reconstruction and humanitarian assistance needs (say 10 percent of the fund total to each country). The remaining 70% of the funds could be pooled, using such funds to make grants for the kinds of activities that would produce the most improvement in safety for the future or the most effective assistance over the longer term, as determined by commonly agreed criteria. For example, grants could emphasize seismic retrofitting for critical facilities in highest earthquake risk zones, or could emphasize benefiting the largest numbers of people, or the capacity to leverage funds from other private or nonprofit sources, etc.

Proposal D Blue Ribbon Panel

This proposal recognizes that many very difficult choices will have to be made, requiring expertise and independence. This proposal suggests establishing a Blue Ribbon Panel of experts in reconstruction and disaster recovery to make allocations based on general criteria developed by the IDWG. Once these criteria were approved, this mechanism would permit ongoing information-gathering about needs assessments and risk, and could be adapted to changing conditions on the ground, to accommodate to ongoing uncertainty.

Proposal E Targeting Greatest Needs Using Local Assessment Groups

This proposal would also seek to be adaptive and flexible in how funding allocations are made, but would rely on local needs assessment groups in each of the three most affected countries. These groups would be charged with gathering more detailed information on the needs in their country and costs of reconstruction and assistance needed. Representatives of the three groups would meet together to recommend allocations based on criteria developed by the IDWG. These needs assessments and allocations could be made in phases, with, for example, about 20% of the fund allocated in the first round, other percentages allocated in later rounds, in order to reflect feedback from affected areas and changing needs.

International Disaster Working Group

The International Disaster Working Group (IDWG) has eight members:

1. Alban Business Leader

A highly respected, almost-retired leader in the business community in Alba, a former CEO of a major company, known for being able to bring resources to bear on problems and "get things done."

2. Alban Humanitarian Organization Representative

A world renowned scholar in the fields of economics and sociology, who has studied Batian indigenous people and their migrations for many years and who now is representing an Alban humanitarian organization, Putting People First.

3. Batian General

A distinguished military leader from one of the leading families in Batia, who has served Batia in a variety of highly responsible positions and has become increasingly concerned about the need for economic development in the country.

4. Batian Emergency Management Director

A dedicated, knowledgeable, and competent official working to prepare for, and recover from, natural disasters, well liked by others throughout the region, but frustrated with the lack of coordinated responses when crises hit.

5. Concordian Mayor

A relatively young up-and-coming leader who wants to see wise decisions made on the basis of good science and a long-term viewpoint.

6. Concordian Land Preservation Advocate

A well informed, technically competent, passionate advocate for ecosystem preservation and development that can be sustained and will serve broad interests of the society at large, working as a manager of a land restoration fund.

7. Demetrian Economic Development Consultant

A creative, adaptable, highly effective advisor to governments on economic development throughout the region. This person emphasizes small-scale projects that will likely have widely dispersed benefits throughout the region.

8. Erismanian Government Finance Minister

A well respected, well connected government leader in whom the world banking community has placed trust to make sure that the international recovery funds are well spent and accounted for properly.

Goals

The working group's goals are:

- to discuss the two issues and the various interests and priorities of each of the representatives so that all are aware of each others' perspectives and concerns; and
- to try to find a possible *framework of general principles* that could be supported by all five of the principal countries represented in the IDWG.

Ground Rules

The IDWG will be convened by an independent facilitator provided by an international organization to assist the IDWG. The facilitator will be available, as the IDWG wishes, to record points of agreement or disagreement, to see that everyone has an opportunity to participate in the discussion, and/or to facilitate the discussion in other ways requested by IDWG members.

The facilitator has proposed that the IDWG seek to develop recommendations by consensus, where consensus means that all IDWG members can accept the recommendation.

The facilitator has also suggested the following additional ground-rules for all participants to observe during the meeting:

- To treat each other with respect at all times;
- To speak candidly and directly, but briefly and to the point;
- To use their best efforts to understand the interests, concerns, and priorities of the other representatives as fully as possible, regardless of whether they agree; and
- To use their best efforts in the search for agreement by sharing information, being open and creative, and maintaining good working relationships with the other participants.

Agenda (as proposed by the facilitator)

• Pre-meeting role meetings begin

8:30 am

An opportunity for those playing the same role to meet with each other.

• Break (to locate negotiating group) begins

9:15 am

• Game starts and country caucuses begin

9:30 am

An opportunity for those from the same country to meet with each other

• Meeting convenes

10:00 am

Introductions, review of goals for the meeting, review of the proposed agenda, review of ground-rules proposed by the facilitator, and discussion regarding any questions or concerns about the process for conducting the meeting.

• Discussion of interests, concerns, and priorities

Brief statements by each participant on their interests, concerns, and priorities for each issue, followed by discussion, questions, gathering information, generating options, and formulating possible agreements on framework components (principles and approaches, criteria, and tools).

• Lunch (in rooms during meeting)

(whenever convenient)

• Discussion of proposals and possible agreements

Descriptions of proposals that participants believe might gain the support of others, with suggestions for enhancements that will attract the widest possible support without losing other participants.

• Small break out groups (as needed)

At any time during the meeting, small breakout groups of two, three, or more participants may ask the facilitator for time to hold breakout group meetings.

• Working group recommendations formulated

The group selects one or more persons to represent the group to the larger assembly and summarize points of agreement and disagreement and any recommendations for a future process or meetings that will be sent to the International Commission.

The International Commission would like a brief written report, including a "memorandum of recommendations" from the IDWG at the end of its meeting.

• IDWG meeting ends and in-group de-briefing begins

2:00 pm

• In-group de-briefing ends. Walk back to plenary for large-group de-brief

2:45 pm

• Break

Large-group de-brief begins	3:00 pm
• RimSim ends	3:30 pm

Playing the Game

The game/simulation is designed to be challenging, but also interesting and entertaining. Participants who play their characters with energy, creativity, a sense of drama, and a sense of humor will gain the most from the exercise.

You should also be aware that the Confidential Instructions for your role do not give detailed positions on every topic that may arise during the simulation. You may improvise "in character" to deal with unanticipated situations during the exercise, but you should adhere closely to the preferences given in your instructions. In other words, imagine how you would deal with an unanticipated situation if you really were the character you are playing. We encourage you to be inventive about criteria, principles, and ways of bridging differences, as long as you uphold your character's fundamental values and interests.

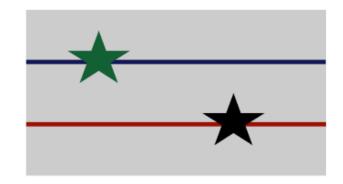
LIST OF ATTACHMENTS

Country Descriptions

Alba	page 13	
Batia	page 14	
Concordia	page 15	
Demetria	page 16	
Erismania	page 17	
<u>Maps</u>		
Map A	Geographical Features of the Region	p. 18
Map B	Infrastructure of the Region	p. 19
Map C	Seismicity in the Region	p. 20
Map D	Earthquake Hazard Shake Map	p. 21

ATTACHMENTS: BACKGROUND INFORMATION ON COUNTRIES





History, Government, and Demographics

Alba was founded more than 150 years ago, following a revolution that overthrew the three colonial powers that had laid claim to its territory previously. Albans are very proud of their longstanding democratic traditions. Alba is a relatively large country in land area, spanning the continent. The population is approximately 140 million, consisting of about fifteen ethnic groups which get along in relative harmony with each other. Most of Alba's population live on the west coast (off the maps provided), where the country's wealth is concentrated. The region of Alba shown on the maps has long been considered a backwater within Alba, until recently. The region's two largest cities are the old manufacturing city of Hombe, situated on the Bluish River, and Giga, a small, but fast-growing city in Alba's emerging "Technology Valley" area.

Economy

Alba's economy is diverse and highly developed. Alba is clearly the wealthiest country in the region, with an average annual income of R 39,000. Alba's standard of living is high, and its investors and banking interests have tended to exert far more influence over the region than do those of any other country, owing principally to their wealth and business relationships. This power has been resented by some, but welcomed by others because Albans have furnished extensive development advice and provided investment capital in Batia and Concordia.

Environmental Concerns

In the past computer and other manufacturing activities in Hombe resulted in pollution of the Bluish River. The contamination virtually destroyed the fishing industry on the river, but this problem has now been largely corrected, thanks to the insistence of Alba's strong and increasingly important environmental movement. Some environmental problems remain, however, on which Alban organizations are focusing attention, with lawsuits and public education campaigns, raising "environmental justice" concerns and questioning the dominance of corporate power.

Current Development Plans

Developers have recently announced a plan to dredge Shallow Bay and build a deep-water port. This would involve extensive dredging and filling of wetlands, construction of port facilities, rail lines, roads, buildings, storage tanks, and other related facilities. The plan is strongly opposed by Alba's environmental organizations, who want to see the wetlands preserved.

Another proposed development is the construction of a major international airport near Giga, to serve the rapidly developing Technology Valley area. Environmentalists and native peoples oppose these plans because the noise and traffic, pollution, and general economic activity would disrupt traditional sacred places in the vicinity.

A third development is the proposed installation of a transoceanic cable crossing, which would make landfall in the Shallow Bay area and help to establish Giga as a communications center.





History, Government, and Demographics

Batia is a large nation established more than a hundred years ago, following a long struggle for national liberation from colonial control by Erismania. While Batia officially considers itself a democracy with regular elections, a few strong families hold most political and economic power. The country is ethnically diverse and religiously divided.

With a long coastline stretching far to the north beyond the maps provided, Batia has a population of more than 110 million. Two hundred years ago native tribes were driven out of the territory now in Alba called the "Horn of Alba," which includes four sacred mountains, the fertile valley of the Bluish River, and extensive mineral deposits near what is now the city of Hombe. Following this humiliation, the tribal chiefs banded together into an alliance, which suffered several bitter defeats at the hands of Erismanian colonists. As a result of this history, many Batians feel anger toward Erismania and a national longing to someday regain sovereignty over the Horn of Alba.

Economy

Batian is the poorest country in the region, with an average annual income of less than R 12,000. Traditionally dependent on rice farming and subsistence fishing, the heavy impact of monsoon flooding in recent years has caused large numbers of Batians to migrate in search of work to Yu, Batia's only large city. Yu supports the new industries of oil and natural gas production with its deep-water port and railway that goes west to Alba. The economy in Batia is now primarily based on shipping and natural resource extraction, chiefly from the interior fields near Oylpot.

Social Impact

Oil and gas operations have impacted the simple economy and lifestyle of the population, threatening traditional village culture. While many Batians have left families behind to work in these industries, the new jobs have not provided significant income since all technical expertise is imported. With an extremely high unemployment rate following the Continental Quake, many have traveled to the port city of Yu or to Alba to try to find employment. Yu is now surrounded

by shantytowns. Lack of education, crime, and family dissolution are growing problems. Diseases including cholera, typhus, and parasite-related sicknesses are also prevalent, along with AIDS, brought in by the sex trade surrounding the port and increasing drug use. The current enlightened leadership desperately wants to address these persistent social problems.

Environmental Impact

The oil and gas industries have had major environmental impacts. The oilfields, discovered during the colonial years, were developed hurriedly and without environmental concerns in mind, and the infrastructure is old and unstable. There have been numerous spills over the years, and recently, villagers have broken into pipelines to steal oil for their own use and for sale on the black market. There has also been longstanding international concern about the corruption that permitted haphazard construction of Batia's oil storage tanks and pipelines; numerous instances of faulty welds, improper reinforcement, and use of substandard steel have been discovered. It is apparent building codes were not enforced during construction.



History, Government, and Demographics

Concordia is a federal parliamentary democracy. Its population of approximately 40 million is ethnically divided among five primary groups. The capital city is Harmony. Over the last three decades since independence, Concordia has grown from a third world country with a very low per capita income into a modern, rapidly developing country with the second highest standard of living in the region.

Economy

Concordia is a rapidly developing country. It has an average annual income of R 28,000. The domestic economy relies principally on tourism, a growing aquaculture industry, and manufacturing and technology. Concordia's population is rapidly becoming educated and expecting to have a dramatically improved standard of living in the future. The government tightly regulates economic affairs in order to maintain balanced growth and national stability, to ensure equitable distribution of income, to prevent the abuse of economic power, and to maintain a balance among competing activities.

The government has developed an economic blueprint, called Consensus 2010, aiming to develop Concordia into a vibrant and robust global hub with an increasing emphasis on knowledge-driven industries. Concordia, owing to its strategic location, educated and industrious population, and advanced airport and transportation facilities, hopes to attract multinational companies to anchor their key knowledge-intensive activities. Aquaculture has grown from a cottage industry, with only local distribution, to a major international exporting

business over the past twenty years. "The aquaculture product is generally considered better than marine fishery catches because production and quality can be planned according to demand," said the deputy director of the National Fisheries Department recently. Tourism continues to be a growth industry, with a number of resorts along the coast and more being planned.

Environmental Regulation

Owing to the importance of environmental conditions, Concordia tightly controls pollution for the benefit of its tourism and aquaculture industries. Reports of pollution in Shallow Bay caused major concern recently. This pollution is thought to have killed thousands of fish. Fishermen are pointing their fingers at factories upstream in Hombe where they claim toxic waste is routinely discharged into the Bluish River, which flows into Shallow Bay. Concordia's Fisheries Department has offered to work with Alba's Department of Environment to ascertain the exact cause of death of the fish.

Future Development Plans

Concordia's three most important development plans are: (i) the expansion of Nodulais International Airport, which was heavily damaged during the Continental Quake; (ii) securing the transoceanic cables so important to establishing Concordia as a communications hub for the kinds of knowledge-based industry that Concordia hopes to attract in the future; and (iii) expanding tourism and aquaculture opportunities along the coast.



History, Government, and Demographics

Demetria is a relatively small island country with a population of 45 million. Prior to the 10th century Demetria consisted of six principalities. Over the centuries, the government evolved into a constitutional monarchy with an elected parliament. During the colonial period, Demetria maintained colonies throughout the world, including in the areas now considered part of Alba and Concordia. Today a prime minister heads the government and the monarchy is maintained only as a ceremonial vestige of the past. Representative government and democratic ideals are strong in Demetria, which is ethnically homogeneous with more than 80% of its population native and the balance comprising a mix of immigrants from former colonies. A weak social class structure exists as a remnant of the monarchy that governed Demetria until early in the 20th century. Demetria has a very high literacy rate and a very high standard of living.

Economy

Demetria has a well-developed economy and is a leading trading power, in large part owing to good relations with its former colonies. Demetria deploys an essentially free-market, capitalistic economy, with an annual average income of more than R 51,000.

Science and Technology

Technological and scientific advances have been major factors in Demetria's history, contributing significantly to its military and maritime power, industrial and economic growth, and social well being. Demetria has well-developed scientific institutions for research and data collection. Demetria also has major research collaborations around the world, particularly with its former colonies. Its scientific institutes are a resource for many countries as they develop their research and technology infrastructure. Demetria is an important and growing exporter of technological and scientific expertise, products, and information.

Evolving Role of Scientific Institutions

Because Demetria is one of the countries situated on the Rim of Fire, it experiences frequent earthquakes and has been impacted by tsunamis and volcanic eruptions. It also experiences the effects of widespread natural processes that include flooding, shoreline and coastal erosion, droughts, and large storms. These processes pose a hazard to life and the built infrastructure and may impact trade with other countries.

Scientists at the Demetria Earth Science Survey monitor and research these processes. The world's oldest geological survey, DESS was founded 250 years ago. Its original purpose was to map potential oil and gas deposits, but in recent years its mission has greatly expanded and evolved. DESS scientists and managers aggressively pursue opportunities to provide scientific services, particularly where science could play a significant role in resolving environmental, political, and other international disputes.



History, Government, and Demographics

Erismania is a democratic, industrialized nation in the Northern Hemisphere, with a population of 80 million. For the past 500 years, Erismania has engaged in imperial campaigns to extend its hegemony to other regions with natural resources, raw materials, and skilled labor pools. Not coincidentally, these regions have also provided forward points from which Erismania has projected and defended its interests militarily. Although in the 20th century its empire receded dramatically, Erismania enjoys unparalleled influence as a world center for banking and finance, private and commercial investment, international negotiations and treaty-making, health care, law and government, and the arts and sciences. In the last decade, roughly 550,000 people have immigrated there each year. Most hail from now-independent former colonies, but a substantial minority have escaped from poverty or ethnic strife in other nations.

Economy

While relatively resource-poor, Erismania has built a strong economy based on manufacturing and technological innovation. It enjoys a favorable balance of trade with both industrialized and developing countries around the world. It is considered one of the world's strongest economic powers, a designation that represents centuries of political, cultural, and technological development. Its average annual income is R 62,000. The massive influx of immigrants in recent years, however, has posed complex social and economic challenges for the Erismanian government. Its educational, health-care, and law-enforcement and judicial systems are overloaded, and the unemployment rate has risen.

Current Posture

While military power was historically its dominant characteristic, Erismania now maintains a neutral posture with respect to nearly all international conflicts. It seeks to play an altruistic role on the world's stage. It already has become a *de facto* world headquarters for more than a thousand humanitarian non-governmental organizations, foundations, and international agencies.

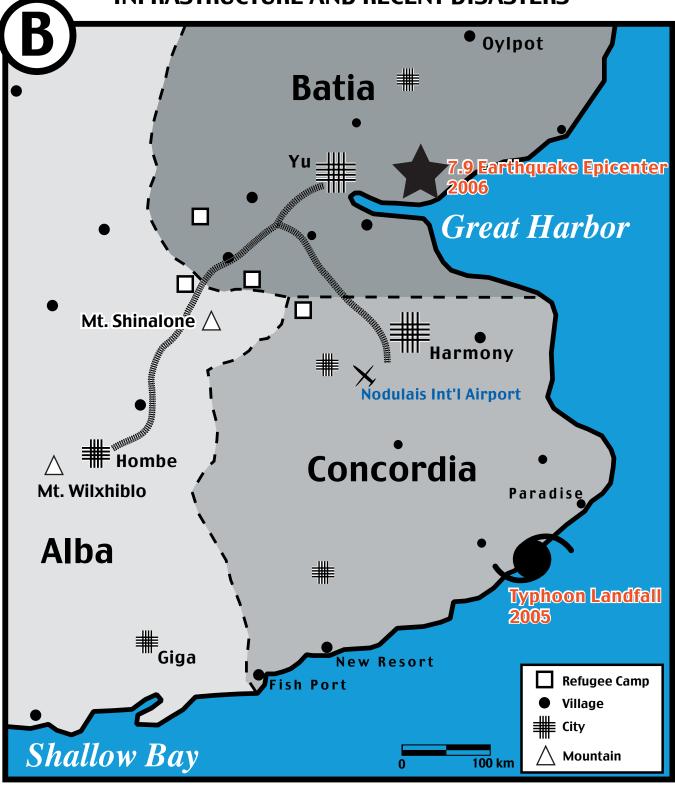
This stance, however, has come with a price. With every crisis somewhere on the globe, the world has increasingly looked to Erismania for rapidly deployable support, much more so than can possibly be accommodated. In response, most of the country's banking and philanthropic organizations have developed a rigid process for assessing which projects to support. This has caused friction with other countries.

It has also led to tensions internally. In the last four years, a small but increasingly strident minority has been protesting this classic emphasis on foreign assistance. Proponents of what has become known as the "Erismania First" movement say that this focus on the world's problems has come at the expense of Erismania's own future. They advocate that Erismania look inward to its growing problems of urban blight, rising unemployment, cultural diffusion, eroding societal standards, crime, and homelessness. This highly diverse group comprises both the left and the right. Those in the Erismania First movement have threatened to cause increasing civil unrest if the nation's executive and legislative branches fail to effectively address Erismania's many internal problems soon.

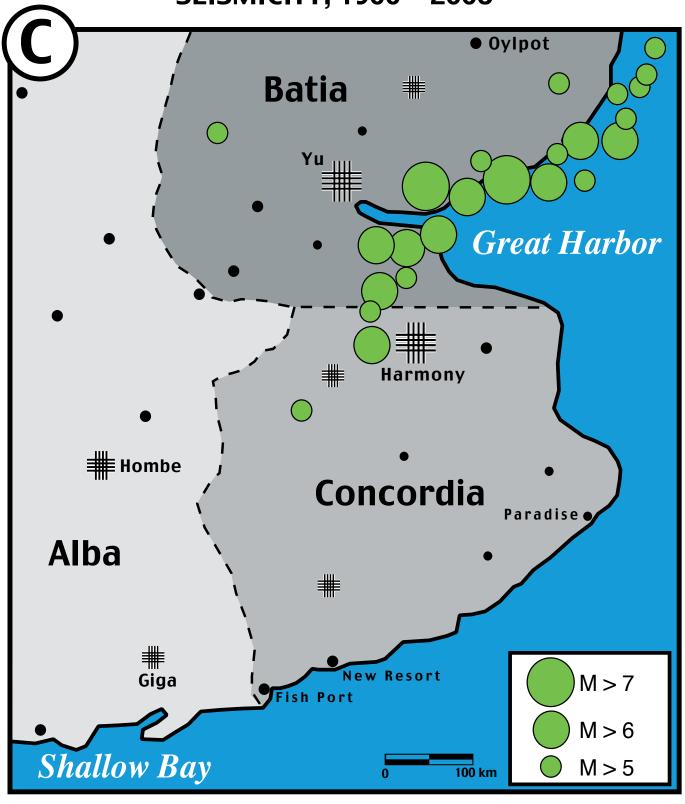
GEOGRAPHIC MAP



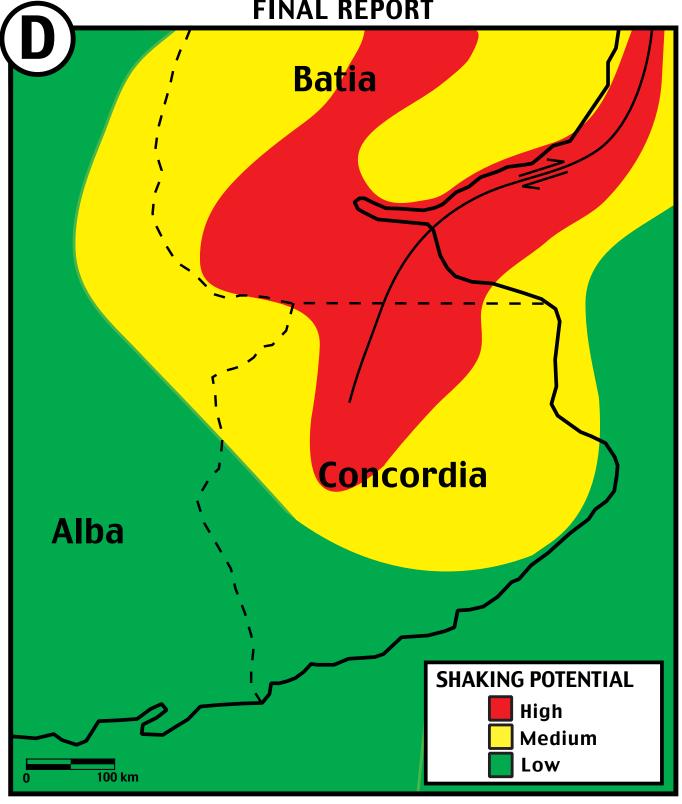
INFRASTRUCTURE AND RECENT DISASTERS



SEISMICITY, 1900 - 2006



EARTHQUAKE HAZARD SHAKE MAP FINAL REPORT



COMMENT FORM

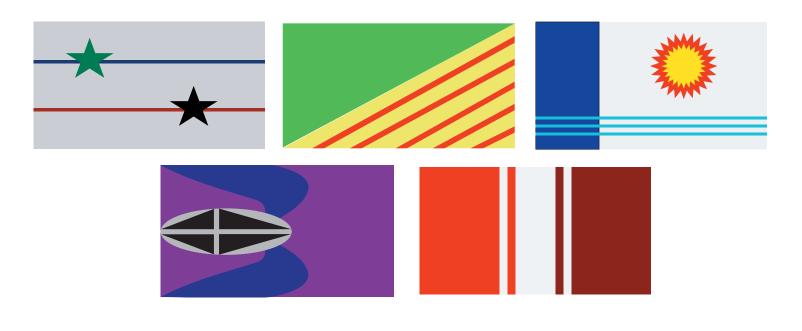
1. If your group reached an agreement, what were its key elements?
2. What tools or techniques were most helpful in reaching agreements?
2. What were the most important chatcales to reaching someoness?
3. What were the most important obstacles to reaching agreements?
4. What were the most important things you, and others in your group, learnedabout the ripple effects of natural disasters?
about the role of science in decision-making?

 about multi-party negotiation principles and consensus-building skills?
• about the value of building personal relationships?
5. How likely would it be for officials and stakeholders in your country or your organization to begin a collaborative approach to understanding the implications of, and preparing to recover from, natural disasters likely to occur in the future?
6. What obstacles would have to be overcome for you to be willing to participate in such collaborative efforts?
7. What tools, techniques, or approaches from the simulation would be most useful to beginning a collaborative approach to disaster planning and recovery in your country or region?

8. How useful was it to have the services of a facilitate record ideas and proposals, and to help everyone part	
9. What other comments would you like to make abo Realistic? How could the simulation be improved?	out the simulation? Was it fun? Instructive?
Name	E
Address Thank you!	Phone



Mitigating Hazards Through Collaboration



Rim Sim Facilitator
International Disaster Working Group

RIM/SIM

CONFIDENTIAL INSTRUCTIONS FOR FACILITATOR

You are serving as the facilitator for the upcoming meeting. You were hired by the International Commission for Disaster Relief and Recovery to assist the group of eight representatives from the countries most affected by the Continental Quake, which struck about 6 months ago.

Historical Background

Here is some brief historical background supplementing what you know from the General Instructions. About two months ago--four months following the Continental Quake--the International Commission called a meeting to plan and coordinate recovery efforts and to raise the funding necessary. The meeting was not very productive, because it was too large, was conducted in the glare of intense media attention, and did not use good process techniques. You were hired to help the smaller, informal group--the International Disaster Working Group (IDWG)--be successful.

The upcoming meeting will be the first for the IDWG. We want it to go well, but there is limited time. So the goals for this meeting are relatively modest and include two topics.

Tasks of the IDWG

First, the group needs to discuss the issues and the various challenges, tradeoffs, and differences of viewpoint known to exist about them so they are all aware of each representative's perspectives and priorities. Everybody knows that there will be disagreements about a variety of concerns and topics:

- long-term vs. short-term concerns,
- local vs. regional priorities,
- infrastructure reconstruction vs. humanitarian services;
- personal hidden agendas vs. concerns for the larger communities or national interests;
- established knowledge vs. new and possibly uncertain information

These should be explored sufficiently so that all know what the concerns are that must be addressed.

Second, the group should focus on trying to find a possible "framework of general principles" that could be supported by all five of the principal countries. We do not expect the group to reach agreement on the substance of the issues. Instead, we think it is practical within the time available to try reaching consensus on principles and approaches to the issues, criteria for allocating funds, and tools that would be helpful in the ongoing restoration and reconstruction efforts.

The hope is that IDWG's work will eventually lead to a comprehensive agreement, but it is recognized that this may take some time beyond the initial meeting.

Suggestions

With this background, try to keep the group working on levels where progress is being made, without getting bogged down or stuck in positional, adversarial discussions. Therefore, you should help them focus on interests and priorities, possible principles and approaches that they might gain agreement on, criteria for decision-making and allocating funds, and finally, tools or resources that would help in the overall process.

One suggestion is that you open the meeting with a round of introductions of the participants in their roles. Follow this by an explanation of your role as facilitator and the proposals you have drafted for their consideration on the meeting agenda, its purposes and goals, and suggested ground-rules. You might then pause for questions or general discussion of the IDWG's process so that all participants are comfortable with the way the meeting will be conducted. Your facilitation style should be light, taking every opportunity to let the group develop its own personality and dynamics and stepping in as necessary to keep the discussion from getting bogged down or seriously off track.

When the group is ready to begin discussing issues, you might begin by suggesting a round of short summaries by each participant of their interests and priorities, but keep things moving along. These short presentations are sometimes called "elevator speeches," short enough in time to consume only the time an elevator takes between floors, say 1 to 2 minutes each. You could invite them to say which option they favor for each issue and why and how in general they would view the other options, approaches, etc. At this point, it might be helpful to record on a flip chart brief comments (words or short phrases only) which might focus on the pro's and con's for each option on each issue. This might be done in a matrix format, so participants will know that something will be said about each option of each issue, although not necessarily by each participant. This matrix format would also allow all to see the range of viewpoints on the various options for both issues, and to keep this information before them for the entire meeting. This array of data might be helpful before taking up the question of where to go from there toward crafting possible agreements.

After all have spoken, you might then open the floor for questions and discussion, particularly focusing on whether participants can suggest proposed principles, approaches, or criteria that they believe all the others would be able to accept or at least live with. Another question that you might pose could be: can anyone think of a proposal for dealing with Issue I (or Issue II) that they believe others would also support? Perhaps even that all might support?

Once you have some proposals to work with, you might ask the group to be creative in suggesting ways of enhancing or improving the proposals so that concerns or objections might be addressed, without making the proposal unacceptable to others.

It will also be important to be sure that everyone has an opportunity to speak, although some will want to participate more than others. Try to make sure that everyone is comfortable with the

amount of speaking time that they each have, but without controlling the discussion yourself too closely.

Science Issues

One of the most important parts of the exercise is dealing with science information. You will see that there are two "shake maps" presented, which seem to indicate different areas of risk. Be sure that the group discusses these two maps long enough to grapple with their implications. Everyone has two maps dealing with earthquake issues. Map C presents information on Seismicity, showing the earthquakes of different magnitudes during the past hundred years in the region. Everyone also has Map D, entitled Earthquake Hazard Shake Map, showing the areas of high, medium, and low shaking potential.

These maps do not present the full story, however. The Concordian Land Preservation Advocate has another map, Map E, which can be passed out to all participants, entitled a Preliminary Earthquake Hazard Shake Map--Not for the Public Distribution. It shows the results of some new research, which indicates that the fault may extend beyond the area shown on Map D and may indicate that risks extend over a larger area. Other participants have been given information about this new information, but they don't all have the map or science reports on which it is based, and they take the position that the group should assume a "worst case" until more definitive information is available. The group should be assisted to discuss the question of how should they react to this new information? What assumptions or procedures would be prudent to make? What further steps might be taken?

You may introduce a third map during the course of the game. It is a more detailed, larger-scale map showing a small area around Yu. A memorandum accompanies the map from a Demetrian scientist to the Concordian Land Preservation Advocate explaining the map and its significance. If you choose to use this new information, you should introduce the map by giving the special instructions, to which the map is attached, to the Concordian Land Preservation Advocate at a point in the game that you think is most appropriate, probably after the group has begun to grapple with the science issues surrounding Map D and Map E. You do not need to introduce this new information, but should do so if you think it would help the group grapple more successfully with the science issues presented by the other maps and reports.

In connection with the new information, you should explain that the memorandum and new map were just delivered to you by a special messenger to be given to the Concordian Land Preservation Advocate. Naturally, everyone will be interested to see what the new information is. Several participants have been told in their confidential instructions that it is important to have full information, and they will thus be primed to want to know of new material that is available. (Please note that the Concordian Land Preservation Advocate has been given 9 copies of Map E and 9 copies of the new map to pass out to all participants, so that everyone at the table will have a copy.)

It is important to the game that you allow the group some time to absorb the new information and some time to discuss its significance. You might prompt the group to discuss these issues using the following questions:

- What principles would be helpful to rely on when new information comes to light?
- How would the group want to make sure that everyone understands the information (through, for example, being permitted to ask questions of clarification, retaining science experts to advice the group, etc.)

You might also mention that facilitators often suggest joint fact finding as a way to deal with scientific and technical issues that are complicated requiring trust and confidence in the information being presented.

Plan for the Day

You will see from the General Instructions that the day is divided into three large sections: premeeting caucuses, the meeting, and the de-briefing.

Pre-Meeting Caucuses

The first hour will be devoted to meetings of those in the same role. These we have called "role meetings" and are the first and most important of the "pre-meeting caucuses." During the role meetings, which will be held in designated rooms, to which you will be directed, we are asking you to team with two other facilitators. Together, you will be asked to convene a meeting of all those in the same role to answer questions and help make sure everyone is knowledgeable about their role and prepared to play it with confidence.

When the role meetings are finished, there will be an announcement that it is time for the meeting of the IDWG to begin; one role player for each role (eight players in all) will then gather together in the negotiating room with you as their facilitator. The first thing you should do, when all the role players have entered the room, is to invite them to meet with the other role player from their same country, if they wish (i.e. the two Albans can meet together, the two Batians, the two Concordians, etc.). This is to permit them time to meet each other and begin to prepare their strategy to represent their country. There is only one Demetrian and one Erismanian; they can meet together if they wish or simply prepare by themselves. These meetings of the country representatives are also considered "pre-meeting caucuses." During these same-country caucuses, you should be sure the two Albans can meet together privately, and that the two Batians also have the same opportunity, and likewise the two Concordians. You might also invite the Demetrian consultant and the Erismanian Finance Minister to meet together, if they would like to do so, but this is optional. While they are meeting, you can use the time to review your plans for the meeting.

The Meeting

When the pre-meeting country meetings, the final part of the "pre-meeting caucuses," are finished, you will help facilitate a meeting of the IDWG. Please be sure to familiarize yourself with the Agenda for the IDWG meeting contained in the General Instructions.

The meeting will go on four about four hours, including time for breaks and lunch. During the day, you should keep track of time for the group and provide opportunities for breaks as needed. You should also help the group select a time for lunch whenever it is convenient.

You might generally partition the time into four approximately one-hour blocks, as follows, or as you think would be best for your group:

10:00 to 11:00	Welcome, introductions of all participants, ground-rules and understandings about how the group will work
11:00 to 12:00	Discussion of each participant's interests, priorities, and goals for the meeting in depth regarding the two issues
12:00 to 1:00	Generating options, discussing criteria for selecting options, and evaluating options and packages of options
1:00 to 2:00	Reaching specific agreements, and discussing how to handle disagreements; bringing closure to the meeting, celebrating whatever progress was made and setting other process plans to continue in the future, if necessary

See the suggestions above for possible questions and topics you might use throughout the day during these blocks of time.

The De-Briefing

When time is called for the end of the IDWG meeting, you will begin the de-briefing phase of the day. The first part of this will be in-group and in role. You should facilitate a discussion, using the comment form to be provided. First ask all the participants to fill the comment form out; then engage them in a discussion of what was learned, what techniques helped in the search for an agreement and what barriers made it difficult to get agreement. Discuss as many of the comment form questions as you have time for in your group. At the end of the de-brief, collect the comment forms from all participants and return them to the game organizers.

The second part of the de-briefing phase will take place in the plenary meeting room, during which all the groups will convene and we will try to draw out common themes and lessons from some of the different games that are instructive to the group as a whole. During the break time while coming to the plenary meeting room, you should put any highlight points you wish to contribute to the general de-briefing on a flip chart (large enough so all in the room can read it) and post the flip chart somewhere in the plenary room, preferably on a wall near to where your group is seated. The de-briefing leader will call upon the facilitators or participants in the groups to describe how their groups worked, what some agreements were, and how they got there.

Thank you for your help in making this exercise instructive and enjoyable for the participants. We hope you will also find it fun and educational!!

RIM/SIM

NEW INSTRUCTIONS FOR CONCORDIAN LAND PRESERVATION ADVOCATE

Note to Facilitator

This message was delivered to you by an overnight message service to pass along to the Concordian Land Preservation Advocate during the IDWG meeting.

Memorandum

To: Concordian Land Preservation Advocate

From: Demetria Earth Science Survey Scientist

Subject: New large-scale preliminary shaking potential map area of Yu

You may recall that when I gave you the draft Preliminary Earthquake Hazard Shake Map derived from the hypothesis that the Continental Fault extended under the Shallow Bay area that I mentioned ongoing field work in the vicinity of Yu. This field work was initiated after the Continental Quake for the purpose of refining the regional Earthquake Hazard Shake Map that is now many years old and used by many as the basis to assess potential earthquake hazard risk in the entire tri-country region. Both the new preliminary map and the old are small-scale maps that do not show details in any specific area. Your group deliberations would benefit by having larger-scale, more detailed maps.

Yesterday we completed a new large-scale map based on the field data collected around Yu. This new map shows greater detail within an area. Whereas both the old and new small-scale regional maps indicate that the entire area around Yu is subject to high shaking given an earthquake, the new large-scale map shows a mosaic of medium and high shaking potential in the vicinity of Yu. I have no doubt that more field work and more data will further refine this map and better define the zones of high, medium, and low shaking potential.

This larger-scale map showing more detail may be of use to you in your deliberations on restoration, and possible relocation, of regional infrastructure. Even larger scale maps, those that show greater detail, would provide information that could be helpful with respect to the restoration or relocation of local infrastructure such as roads and buildings.

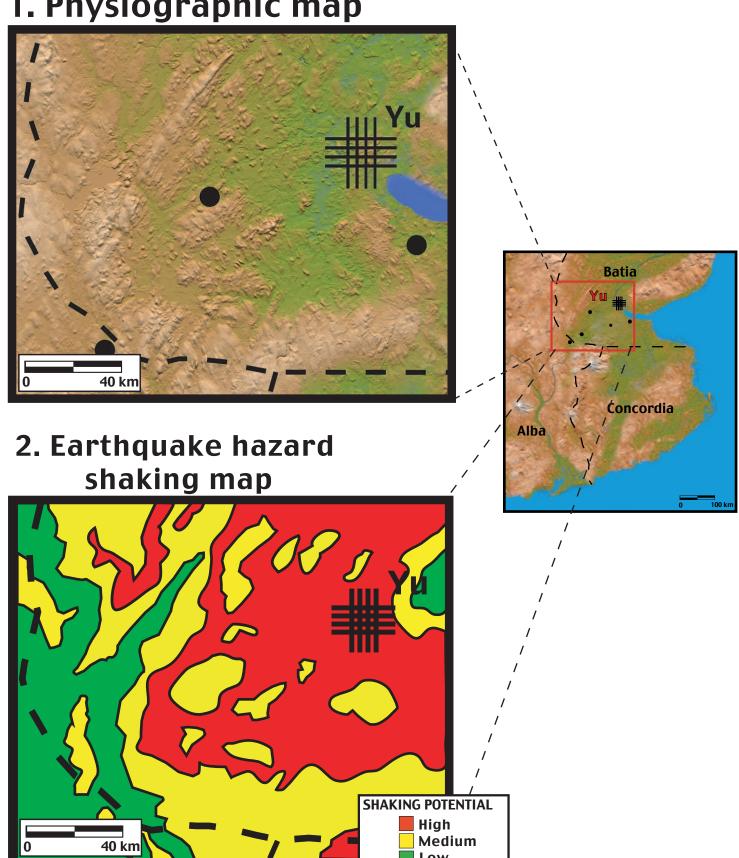
If there is interest by the International Disaster Working Group to recommend that such maps be produced, the Demetria Earth Science Survey would be pleased to conduct field studies over the entire tri-country region to collect data for larger-scale maps. As the opportunity presents itself, please make this known to the IDWG.

Attachment: Map F-- Shake Map for the area surrounding Yu (larger scale)

(9 copies to pass out to all participants at the meeting)

DETAILED MAPS FROM THE CONCORDIAN LAND PRESERVATION ADVOCATE

1. Physiographic map





fold along dotted line

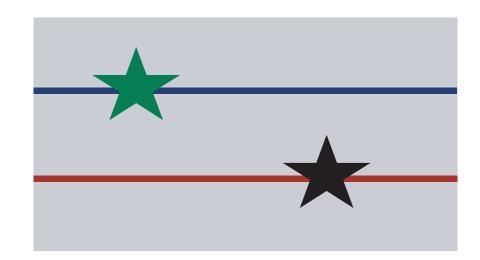
RimSim Facilitator

write your name in the space above

fold along dotted line



Mitigating Hazards Through Collaboration



Alban Business Leader

International Disaster Working Group

RimSim

CONFIDENTIAL INSTRUCTIONS FOR ALBAN BUSINESS LEADER

You are the former CEO of one of Alba's largest companies. In the past few years, you have devoted increasing amounts of time to providing strategic business advice to Alba's head of state, and you serve on prestigious commissions and boards of directors. You believe that economic development should benefit people at all levels of the income spectrum by creating jobs with powerful "multiplier effects" and increasing investment in new businesses.

You offered to serve on the IDWG as an unpaid volunteer because you believed your business experience would be useful in its deliberations. Also, you know that the Alban Business Development Council has long wanted to see development occur in the Shallow Bay area, because some Council members believe that would be the best way to relieve the region's chronic poverty. The earthquake, while a great tragedy, provides an opportunity to mobilize public opinion and secure the resources necessary to accomplish the strategic goals of long-term economic development. You have access to investors and others with resources that could be a great benefit to the region. In fact they have indicated a willingness to invest R 1 billion a year for the next five years--under the right circumstances--in new business development throughout the whole three-country region. You would be eager to see such investment made in the reconstruction of the region through new businesses (such as in construction, retrofitting existing buildings, training in disaster recovery techniques, and other similar opportunities).

You and the Concordian Land Preservation Advocate have had disputes in the past over land development issues. S/he is quite concerned that development of Shallow Bay will destroy wetlands there and will adversely affect the ecosystems along the Concordian coast. To counter this assertion, you should emphasize that development of Shallow Bay will help ensure the long-term economic growth and stability of the region and that this will increase the social well being of people in Alba, Batia, and Concordia. You believe that the scientific evidence described in the attached memorandum regarding seismic safety strongly supports siting development in Shallow Bay, rather than continuing to face the risks inherent at Great Harbor.

As you prepare for the upcoming meeting, you intend to work hard to find points of agreement with the other representatives, even including the Concordian Land Preservation Advocate. From your many years in business, you know that no one ever gets everything they want and that compromises will be necessary.

About a week ago you received the following confidential memorandum, with suggestions about the upcoming meeting of the International Disaster Working Group.

CONFIDENTIAL MEMORANDUM

To: Alban Business Leader

From: Chair, Alban Business Development Council

Subject: Upcoming Meeting of International Disaster Working Group

The purpose of this memorandum is to summarize the positions, determined recently by the Council, to be taken with respect to the issues on the agenda of the upcoming meeting of the International Disaster Working Group. This will supplement your own strategic views as our advisor on business and economic development in Alba and the region.

Principles and Approaches

The upcoming meeting is critical to advancing our strategic plans for economic and business development in Alba and the region. The extensive damage to the facilities in Batia was a terrible blow, but it provides an opportunity to bring new infrastructure to the area that will greatly assist in the development of the Shallow Bay region. This development, in turn, will help in the restoration of damaged facilities in Batia and Concordia and in building a strong economy throughout the entire region, thereby making the tri-country area an international economic power.

The recent earthquake has emphasized how dependent the southeastern provinces of Alba are on the facilities in Batia and Concordia for economic development and international trade and communication. Continued dependence upon facilities in this area threatens the economic well-being and sustainability not only of Alba, but also of the entire region. In addition to the disruption of trade, the migration of refugees into Alba has severely strained our economic resources and has caused deterioration in political relations between Alba and our neighbors.

Since the earthquake, especially in the last several weeks, opinion polls commissioned by the ABDC, show that 71% of Alban citizens favor development in the Shallow Bay area to decrease our dependence on the port facilities in Batia and the airport in Concordia. Polls also show strong support for efforts to bring much needed economic growth to this part of Alba. Sentiment clearly has waned in support of the environmental groups concerned about developing the Shallow Bay area. This change in public sentiment strengthens your negotiation position. Moreover, we are confident that the area can be developed without causing damage to the environment and ecosystem both in Shallow Bay and along the Concordian coast. We will institute proper safeguards during construction.

Attached is a report of the results of a study that we commissioned by a well-known consulting group. The consulting group report has wide distribution and will be known to many of the other participants. This report clearly states that there will be continued risk of an earthquake north of Harmony and throughout the Great Harbor area. The report concludes that there is little or no earthquake risk in the Shallow Bay area. These scientific facts provide a strong case to argue for development of the Shallow Bay area. This is clearly beneficial not only to Alba, but also to the entire tri-country region.

You could make the argument that if redevelopment is permitted in the Great Harbor area, it should be consistent with very stringent building codes that will protect against future loss of life at the levels we have just seen. And experience shows us that building to such stringent standards can be very costly--generally twice to four times the normal building costs. Seen from that perspective, development concentrated in a seismically safer area, such as Shallow Bay, would thus be more cost effective in the long run.

On the basis of future earthquake risk alone, it makes no sense to spend a large amount of money to rebuild infrastructure extensively in Batia and Concordia. Limited restoration of the damaged facilities is recommended, as these facilities will supplement the new facilities in Shallow Bay. Development of the Shallow Bay area would benefit everyone, both from an economic and humanitarian perspective, because it would create many new jobs and would create additional demand for energy development in Batia, as well as manufacturing and other industrial opportunities in Alba, Batia, and Concordia.

Note, however, that since completion of the consulting group report we have become aware of a draft map showing shaking potential from a large earthquake. We have not seen this map, but it is our understanding that in contrast to the consulting report, it presents an interpretation that indicates that the Continental Fault continues through the Shallow Bay area. The author of this report suggests that a major earthquake could occur there although such earthquakes are very infrequent. Our consultant tells us that this is an academic study and represents only one scientist's new theory, which has not been confirmed by others nor subjected to peer review or objective analysis and interpretation. He discounts the new map and stands by his report. If the new map is presented at the meeting, you might argue that it is entirely speculative and, consequently, that it would be unwise to use it to block or undermine the development plans you favor for infrastructure of such great importance to the region. Moreover, even if the report is correct, no earthquakes have occurred in the area in over 100 years. Why should the IDWG make plans based on such an unlikely event, when proper building methods would easily assure adequate protection of the public?

Guidelines for Negotiations on Issue Proposals

In short, we believe that the time is ripe to press for development of the Shallow Bay area and that based on all of the above you should take a strong position in negotiating for our preferred options or in negotiating for principles and approaches, criteria, and tools that will help smooth the way for our preferred options.

To help guide you during the negotiations, our recommendations on each proposal follow. The proposals are listed in order of preference.

Issue I: Regional Infrastructure (the most important issue for us)

Proposal A: (Great Harbor) This is one of our two least preferred proposals. It is not acceptable if the group insists on rebuilding facilities according to the most stringent codes, because this would use too much of the available funds to strengthen a competing port. Negotiate for minimal restoration of Great Harbor along with development of Shallow Bay.

Proposal B: (Shallow Bay) Preferred because it would provide long-term benefits to the region, although it is the most costly proposal. Point out the advantages of this proposal for the long-

term economic growth in the entire region. At the very least you should work to get an agreement on principles, approaches, and criteria that would govern future decisions that, in turn, would support development of Shallow Bay.

Proposal C: (Nodulais International Airport) Nodulais International Airport should only be rebuilt using the more stringent "sustainability" building codes, but this would be far too costly. So this is another of the least preferred proposals.

Proposal D: (Giga Airport) Building an airport at Giga ties to construction of a new port at Shallow Bay. Point out that by extending the regional rail lines that the new airport and port facility would benefit the entire region.

Proposal E: (Rail Lines) The rail lines are important to the movement of bulk goods from the new port at Shallow Bay. They should be restored and extended to Giga to service the new airport.

Issue II: Allocating Funds for Local Infrastructure and Humanitarian Needs

<u>Proposal A: (Proceed when ready)</u> This is the preferred proposal. Each country should be able to decide best on their own needs. Criteria will be developed by an independent body to determine that the restoration plans are sound. Distribution of funds in this way is fair and efficient.

Proposal B: (Proportional Distribution) This is the least preferred option. On the surface it sounds fair to divide the money proportionally according to the amount of damage. However, it assumes that each country would develop their own independent criteria to determine the cost of reconstruction in their country. Without a set of common criteria, or some oversight controls, there would be the strong possibility that the most damaged countries will inflate estimates to get a larger proportion of the available money.

Proposal C: (Incentives for Retrofitting and Assistance) This proposal is acceptable but seems unnecessarily complicated. There are no independent criteria to estimate damage and restoration costs and the hardest hit countries are likely to inflate their estimates of damage. Also, there is insufficient information available to determine how best to distribute the "incentive" funds. There is the need for new geologic and geotechnical maps and engineering studies. How will these be funded and how long will such studies take? If the group agrees to strict assessment guidelines and new studies, this proposal is acceptable.

Proposal D: (Blue Ribbon Panel) This is acceptable. The panel would have to be carefully selected, however, and then their decision would have to be honored. But these principles could be incorporated into the agreements to be negotiated.

Proposal E: (Targeting Greatest Needs Using Local Assessment Groups) This is acceptable if there is oversight on the independent needs assessment groups in each country. With proper oversight, assessments could be done quickly and fairly.

SCIENCE REPORT

To: Alban Business Development Council

From: Geotechnical Engineering Consulting Group

Subject: Earthquake Risks in Alba, Concordia, and Batia

Our consulting group has incorporated many of the lessons learned from our earthquake investigations into our more recent seismic hazard assessment work throughout countries of the Pacific Rim. We have been at the forefront of geologic hazard assessment for over three decades. Representative projects range from community housing size investigations to country scale geologic mapping projects. We are best known for earthquake shake maps.

Please note that Map C, furnished previously, depicts the epicenters of all magnitude 5 and larger earthquakes for the past 80 years. It is clear that the Continental Fault comes ashore in the vicinity of Great Harbor. In fact, the crustal depression that is reflected by Great Harbor is a direct result of the right-lateral movement and a slight westward bend on this fault (see below).



The Great Harbor depression is a pull-apart basin associated with strike-slip faulting.

The seismicity record clearly demonstrates that earthquake shaking in the region is essentially restricted to Batia and the northern part of Concordia. Map D shows the intensity of earthquake shaking that reflects two fundamental parameters: (1) the proximity to the fault rupture and (2) the nature of soil and shallow substrate. Map D characterizes the risk associated with earthquake shaking by incorporating these two parameters. The most intense shaking occurs in the low-lying valleys where sediment fill is thickest.

From these studies we see little to no risk of earthquake shaking in Alba in the regions of Technology Valley, Giga, and Shallow Bay. Our historical records show only one problematic magnitude 5.4 earthquake in Alba itself. That 1911 earthquake was recorded on a primitive instrument and the historical archives do not record any damage.

To conclude based on the record of the past 100 years; we believe development in the Shallow Bay/Giga region can proceed without worry of any near-term earthquake activity.



fold along dotted line

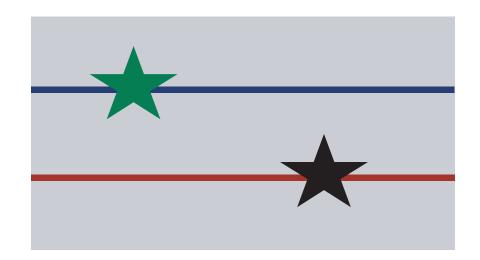
Alban Business Leader

write your name in the space above

fold along dotted line



Mitigating Hazards Through Collaboration



Alban Humanitarian Organization Representative

International Disaster Working Group

RIM/SIM

CONFIDENTIAL INSTRUCTIONS FOR ALBAN HUMANITARIAN ORGANIZATION REPRESENTATIVE

You were born in Erismania, received schooling in Demetria, including earning a masters degree in economics and a doctorate in sociology from a well know university there. You are now living and working in Alba. Your first exposure to Batia happened as graduate student, when you traveled there to study the socio-economic effects of migration on the Batian family structure. After a decade of international work focused on human rights in emerging countries, you returned to the region, marrying and continuing research on the diaspora of the Batian indigenous people from their traditional lands surrounding the four sacred mountains in the "Horn of Alba" area.

Additionally, your activism with several of the villages early in your career spawned much of the grassroots efforts for creating and sustaining local health care facilities. These projects were funded mostly through the World Bank and were particularly embraced by the indigenous Batians, who had originally migrated from their traditional sacred lands in what was once Batian, but is now Alban, territory. With the earthquake's devastation on Batia's infrastructure, much of your local efforts and those of others you have supported over the years are now threatened. In fact, your most recent proposal for funding from Erismanian foundations and governmental sources has been turned down. You believe this may be a sign that Erismania's finance minister, who wields a lot of clout among funders, is more interested--at least at the moment--in economic development, rather than in humanitarian issues.

About a week ago, you received a confidential memorandum from the executive director of Putting People First, an Alban humanitarian organization with whom you have often worked. You had volunteered to help represent Putting People First in the upcoming meeting of the International Disaster Working Group. They have a demanding agenda of goals.

You have also learned that another Alban, a leader in the business community, will be arguing for a major new development project. This is bad news because you believe it would be preferable for the Alban delegation to be united. However, you believe that it may be possible to explore working with the environmental representatives to develop a focus on eco-tourism projects that you believe might appeal to your Alban colleague, the business representative. The idea of supporting sustainable economic development and supporting the recovery of the region might be feasible. If so, this might be an alternative way of achieving the goals of Putting People First.

CONFIDENTIAL MEMORANDUM

To: Alban Representative of a Humanitarian Organization

From: Executive Director, Putting People First

Re: International Disaster Working Group Next Week

As the sole representative from the humanitarian sector in the affected region, you carry the responsibility for representing the interests of the hundreds of thousands of victims of this massive disaster. The ability of those victims to recover and return to a more normal life style will largely be determined by the decisions that will be made at this very important meeting.

Summary of Humanitarian Impacts from the Continental Quake

The Continental Quake was, by far, the most devastating disaster to strike the region in decades. It was estimated to have killed at least 25,000 with early estimates as high as 75,000. The injured number close to 100,000, and thousands of people remain homeless. The economy of Batia is devastated. It is estimated that over 50% of the small businesses in the City of Yu will not be in business by the end of this year. This will have a disproportionate affect on the poor and uneducated residents of the affected region. Some have reported that Batia's unemployment rate is up to 62%. The combination of business failures and petroleum industry disruptions make the likelihood of economic recovery grim at this time.

Medical, school and government facilities in the City of Yu have been especially hard hit, causing the already fragile humanitarian support systems in this city of over 4 million residents to be on the verge of total collapse. The medical issues are especially worrisome in the refugee camps that contain over 28,000 people, both in and around Yu and the growing camps on the Batia and Concordia side of our border. The infrastructure damage to the transportation system, especially in Batia, but also in Concordia, has reduced the supply of critical clean water, food, medical, and other supplies to a trickle. This supply cut has been especially hard on the rural areas, with elderly, infants and other medically fragile populations being the most vulnerable to the impacts.

The resulting migration of over 20,000 refugees into Alba has spread the human impacts directly to our country and threatens to aggravate existing problems of illegal immigration into Alba. The influx of refugees has created a significant need for social services in the Northeastern portion of our country, which lacks some of the infrastructure required to provide the support. Discussions that are going on in Alba about increased development in Technology Valley are a bothersome impediment in securing funds for immediate restoration projects, that include addressing the needs of the refugees.

Negotiating Principles and Goals

While it is important for Alba that you negotiate a balanced and reasonable allocation of the redevelopment funds, it is most critical for the residents of Batia and Concordia. Our Alban political leaders may want us to advocate for the allocation of the bulk of the money so they can pursue their long-term economic development plans, but we can't ignore the overwhelming human needs created by this tragedy. We have an obligation to follow our humanitarian organizational charter and to balance our nationalistic goals with the moral imperative to help our neighbors, who have suffered so much.

The suggestion that the bulk of the recovery funds be expended in Alba to fund long-term Alban development goals is both immoral and irresponsible. Recent suggestions have been raised to create a new port at Shallow Bay, build a new airport, and relocate the region's primary transoceanic fiber optic cable at Giga, while funding only minimum repairs in the worst impacted area. These investments would ignore the reality of the overwhelming human needs in Batia, and is self-serving to Alba at best.

We believe you must look for a compromise that better balances the cost of addressing short and mid-term human needs, while making prudent and wise investments in critical regional infrastructure that will support our long-term economic recovery and growth. While we should not repeat mistakes from the past, such as building poorly designed facilities in high-risk seismic zones, that should not be used as an excuse to shift all critical economic investment away from underdeveloped countries in our region. Alban investors may be able to invest profitably in Batia and Concordia, and you should explore this and advocate for it, if it seems feasible.

Priority Issues and Preferred Outcomes

Issue II is of greatest concern to us. We must fund a number of short and mid-term relief and recovery programs to address critical human needs. While we clearly recognize that humanitarian needs must be addressed in the entire region, be careful of supporting proposals that might fund other countries at the expense of Alba's needs. We offer more specific comments on the issues and proposals on the following pages.

Issue I – Regional Infrastructure

Proposal A: (Great Harbor)

While the Batian economy depends upon an operational harbor, this proposal is unacceptable because restoration of the harbor would likely be done at the highest level in compliance with the most stringent codes. Consequently, this would detract from spending on humanitarian needs.

Proposal B: (Shallow Bay)

This proposal is not preferred because funding it will likely take funds away from more immediately needed restoration and refugee projects. However, if you can get the Alban Business Leader to agree that this will not be the case, do not fight this option. Special Note: During the meeting you may decide to meet privately with the Alban Business Leader to see if you can work out a deal for him to support funding for short-term humanitarian needs if you do not block the proposal to develop Shallow Bay.

Proposal C: (Nodulais International Airport)

Like proposal A, you must understand the necessity of recovering the basic necessities for economic development, but these should come <u>after</u> the immediate needs of the refugees are met. You also should work to ensure that Nodulais Airport is made fully functional as you do not want to entertain the notion of another international airport in Alba. You suspect that the proposal for a regional airport near Giga is but the first step for a much bigger project.

Proposal D: (Giga Airport)

A regional airport in Giga, if limited to that, would be a good idea, but you really fear that this plan is a smoke screen for a much larger project. Also, if it's too large the airport flight paths would tend to disrupt the peacefulness of sacred sites. If you can get assurance that the Giga airport is only to be a small regional facility in support of the international operations at Nodulais you should not argue against this proposal.

Proposal E: (Rail Lines)

A modern high-speed rail line should be your favored proposal. This project will provide many jobs across the entire region and when completed will offer low cost travel operations for all citizens. You also plan to argue for the wisdom of building the extension options associated with this proposal.

Issue II – Allocating Funds for Local Infrastructure and Humanitarian Needs

Proposal A: (Proceed when ready)

This proposal is acceptable, but not preferred. Alba would probably benefit because its projects will be ready to go in a hurry, but it would use funds up before the major humanitarian needs projects can be planned and proposed.

Proposal B: (Proportional Distribution)

This proposal is not preferred; it is to the disadvantage of humanitarian needs in Alba. The damage in Alba was not as extensive as in the other countries although Alba has received large numbers of refugees from the other countries.

The other countries may focus on the extensive damage to infrastructure and argue for large amounts of funds. This would diminish Alba's capacity to respond to the humanitarian needs of the refugees and the native Albans.

Proposal C: (Using Incentives for Retrofitting and Assistance)

<u>This proposal is not preferred</u>. It allocates too much to buildings and infrastructure at the expense of humanitarian needs. There is no accommodation in this proposal for humanitarian needs.

Proposal D: (Blue Ribbon Panel)

This is acceptable as there is oversight for the selection of the Blue Ribbon Panel. There needs to be assurance that humanitarian needs will be considered.

Proposal E: (Targeting Great Needs Using Local Assessment Groups)

<u>This is the preferred proposal</u>. Each country will assess its own needs. This helps to ensure that the humanitarian needs in Alba will be recognized and properly evaluated.

Conclusion

This will be a critical negotiation for the countries of our region and for the victims of this disaster. There are several competing interests important to our country and our organization. We can't afford to alienate Alban political leaders, but at the same time we can't ignore our obligation to uphold the values that form the foundation of our organization and the international movement to put people first in recovering from disasters.



fold along dotted line

Alban Humanitarian Organization Representative

write your name in the space above

fold along dotted line



Mitigating Hazards Through Collaboration



Batian General

International Disaster Working Group

RIM/SIM

CONFIDENTIAL INSTRUCTIONS FOR BATIAN GENERAL

You come from a large family of Batian leaders. Among your ancestors was a general who played an important role in Batia's liberation struggle more than 100 years ago. Your father (now deceased) served in an important role in the military, your brother currently serves in a ranking military position, your first cousin is the Minister of Interior, and your second cousin is the manager of the port in Great Harbor. You were educated in civil engineering at a prestigious Demetrian university and are married to the daughter of a ruling family that holds the major shares of the railway line.

You have had a distinguished career in the Batian military. Five years ago, during a corruption scandal involving the president, you were asked to join the government until order and stability could be restored and elections held for a new president.

Because of your brief stint in a political leadership position, which provided you with a deeper understanding of the need for national stability and economic growth, you have become very concerned about national security and survival issues. The recent earthquake, with its devastation to your country, was a huge shock.

The political leadership has now called upon you to render another service to your country by serving on the International Disaster Working Group, which is to meet soon. You are preparing to represent your country and the military perspective in the upcoming meetings, because you became concerned about the massive disruption that a natural disaster like an earthquake can cause. Two of the best examples of the personal effect it had on you were the temporary disruption of communication links on which the military depended heavily and the damage to oil and gas pipelines, which provide much of Batia's revenue.

About a week ago you received the following memorandum from the President of Batia.

CONFIDENTIAL MEMORANDUM

TO: General, United Armed Forces of Batia

FROM: President, Nation of Batia

SUBJECT: International Meeting on Recovery and Rebuilding

This memorandum provides guidance to you as my designated representative of the Nation of Batia at the meeting of the International Disaster Working Group, following the Continental Quake of six months ago.

Overall Goals and Principles

Preserving order and stability in Batia is paramount. We must take decisive action to rebuild the local infrastructure, in order to fulfill our humanitarian responsibilities. Your participation in the negotiations must emphasize the need for systematic planning, commitment of ample resources, and efficient management of funding and rebuilding efforts.

Our primary concern is continuity. As you know, the quake damaged infrastructure that enables us to benefit from our natural resources, provide for citizens' basic needs, and sustain our economy. We are having to cope with damaged oil and gas pipelines and tanks, a crippled Great Harbor, which is the region's main transoceanic shipping port, severed long-line fiber-optic cable, and disrupted railroads that bring passengers and cargo to Nodulais International Airport in Concordia and to Hombe in Alba. The severe and widespread damage has led to mass migrations of our people to tent camps along the Alban border.

We are certain that your civil engineering background will serve you well in helping the group make sound decisions about infrastructure repair. The seismic hazard map that we have used in past planning efforts (Map D) is widely available. The map shows zones of the region's vulnerability to earthquake shaking. You should express confidence in the quality of the science on which it is based. Draw attention to zones of high shaking intensity (shown in red) and encourage the group to make best use of the limited funds by prioritizing the rebuilding and retrofitting of hospitals and schools in the high hazard zones, followed by reconstruction in zones of lesser shaking intensity.

You may have heard of other reports and maps about seismic conditions in the vicinity, but they are not well known and have not been subject to peer review, so you should be properly skeptical about their credibility. It is always useful to have more recent information, however, so you should make sure that the participants in the IDWG have the best information possible before making their recommendations.

As you well know, the military plays a critical role in responding to natural disasters. This is a great opportunity for you to serve your country and its citizenry, and your experience in these matters indicates that your public reputation can only be enhanced through successful

management of this national crisis. We acknowledge your concern that your budget, which was used for emergency operations, must be restored as soon as possible, and we understand that the state of Batia's resources has made that difficult in the past.

As you know from our recent discussion, I decided a month ago to shift the reporting responsibilities of the Batian Emergency Management Office from the military chain of command to having the Emergency Management Director report directly to me. You will thus share management of the recovery effort with the Batian Emergency Management Director. Please cooperate as much as possible, despite your discomfort with having "too many chiefs" involved. I can assure you that the sharing of emergency management responsibilities with the director of Batia's Emergency Management Office will not lessen your authority, and I maintain the utmost of confidence in your professionalism and dedication.

Do not agree to any proposals that favor substantial economic development in Alba, such as construction of a new airport or cable connection at Giga or development of Shallow Bay. Such initiatives would promote Alba's long-term preeminence in the region, at the expense of Batia, Concordia, and other countries. As a key military advisor to the Batian government, you must support measures that lessen the emigration of Batians to Alba and Concordia, as well as preserve order and stability along the border.

In summary, Issue II is of primary importance to us; without local infrastructure, humanitarian services cannot succeed. Any proposals that:

- support Batia's long-term economic development,
- rebuild our infrastructure,
- strengthen our present government (including your own position of influence),
- retain our citizenry within our borders, and
- reduce the chances of civil unrest,

must be your top priorities in these negotiations. Also, keep in mind the importance of humanitarian services in the short-term, while local infrastructure is being constructed.

As you discuss Issue II, <u>be creative and think about other options or combinations</u> that might best meet the medium- to long-term humanitarian goals, as well as reconstruction of the built infrastructure. It strikes us that more detailed maps at a larger scale would be useful to help decide issues about local infrastructure reconstruction. <u>Ask if any such maps are available, and if not, suggest that the IDWG recommend that such maps be produced.</u>

We offer specific recommendations on the issues and proposals on the following page.

Issue I: Regional Infrastructure

Proposal A: (Great Harbor) Our first choice. It will not only restore the deep-water port—Batia's great economic engine—to full operation, but also upgrade the facility to meet high standards of construction, durability, and quality assurance. Your engineering background would suggest that these are very important considerations. We expect you will refer to your

background in explaining the seismic map to the group and recommending preferred zones and stringent construction codes to withstand earthquake shaking.

Proposals B (Shallow Bay) and D (Giga Airport): Not Acceptable. Construction of a port at Shallow Bay or a new airport at Giga would benefit mostly Alba, and provide little to Batia, which has suffered more from the Continental Quake and has fewer economic resources. Using precious international funds on these projects would be a travesty.

Proposal C: (Nodulais International Airport) Acceptable. While your engineering expertise suggests that minimal codes and compliance programs are not practical, the regional benefits might make this a workable idea, if the regional benefits can be proved.

Proposal E: (Rail Lines) Acceptable. Batian commercial and passenger transportation will benefit from re-connections to the rest of the region.

Issue II: How to Allocate Funds for Local Infrastructure and Humanitarian Needs

Proposal A: (Proceed when ready) Not Acceptable. On the surface this proposal seems fair. However, Batia and Concordian that have experienced the most extensive damage will be at a disadvantage. It will take them longer to be ready to undertake restoration projects. This option will favor Alba, the country that has the least damage and the country that has the most business skill to take advantage of quick funding.

Proposal B: (Proportional Distribution) Acceptable. Dividing the money proportionally for each country is fair and efficient. Because of the extensive damage in Batia, it should receive the greatest amount of money. Having each country prioritize the funds they receive is a good solution to balancing between humanitarian needs and restoring infrastructure.

Proposal C: (Using Incentives) Acceptable: Like B this proposal, if administered fairly, is advantageous to Batia. A problem with this proposal is that there is too much emphasis on building reconstruction. There needs to be a provision for short and mid-term humanitarian needs. Otherwise the discontent among the refugees and general population is likely to increase.

Proposal D: (Blue Ribbon Panel) Preferred. A Blue Ribbon Panel will take the "politics" out of deciding on the allocation of funds to each country. Such a panel will provide order and efficiency to the process. A panel of experts will develop the best set of criteria for reconstruction and disaster recovery. This is the most efficient and most practical proposal.

Proposal E: (Using Local Assessment Groups) Not Acceptable. Independent assessment groups in each country will only prolong any restoration efforts. The groups will undoubtedly favor their own country and, consequently, there will be no agreement as to the fair allotment of funds. Alba, as in Proposal A, will be at an advantage under the guidelines of this proposal.



fold along dotted line

Batian General

write your name in the space above

fold along dotted line



Mitigating Hazards Through Collaboration



Batian Emergency Management Director

International Disaster Working Group

RIM/SIM

CONFIDENTIAL INSTRUCTIONS FOR BATIAN EMERGENCY MANAGEMENT DIRECTOR

You are the director of Batia's emergency management agency, the Batia Emergency Management Office (BEMO). Because of some past problems and the importance of a rapid recovery from Typhoon Suzy last year and the Continental Quake earlier this year, your office's reporting responsibilities have been shifted from the military chain of command; you now report directly to the president.

You were born in Batia, but educated in Erismania and Demetria, where you earned a graduate degree in political science. You have spent recent years studying the disaster management field and learning from what other countries have done to prepare for inevitable natural disasters.

Your principal concerns are that the natural hazard risks that have now come to dominate the news during the past year were all predicted some time ago. What wasn't known, nor predicted, of course, were the exact events and their timing. But it has been well known for some time that typhoons are common along the Concordian coast and that this region has active earthquake faults. You are knowledgeable of the earthquake risk shake map that has long been used by Batian and Concordian planners. You are also aware of a new map, not yet published, that, if found to be accurate, indicates that earthquake shaking risks would affect a potentially much larger area.

When it comes to Batia, both maps convey that substantial environmental quality risks exist. Yet, no action has ever been taken to prepare for and mitigate against earthquakes. This, you believe, is mostly due to the facts that the political, business, military, and organizational establishments have never worked together or been willing to spend the money necessary take effective action. You understand that it is difficult to get leaders to do what will inevitably be controversial and perhaps expensive, when there is only a small chance of an event occurring.

Since the earthquake you have been spending most of your time organizing and supporting plans for humanitarian relief and recovery. You were able to get help on the ground immediately, which is in contrast to how relief efforts transpired after Typhoon Suzy. You are well liked by the humanitarian organizations and local officials that you deal with and try hard to do the best you can in a frustrating environment. About a week ago, you received the attached memorandum from the Vice-President of Batia, giving you instructions for the upcoming IDWG meeting.

CONFIDENTIAL MEMORANDUM

To: Director, Batia Emergency Management Office

From: Vice President, Government of Batia

Subject: International Disaster Working Group Meeting

The President and I commend you and your staff on your tireless efforts to meet the challenges of the response and recovery operations from the Continental Quake over these last six months.

This has been an extraordinarily difficult time for our country and our people. In addition to the tragedy, the earthquake has focused extensive international attention on our government's handling of the disaster. Next week's meeting of the IDWG, in which you, along with our highest ranking General, will represent our country in the negotiation process, is of utmost importance.

As requested, my disaster briefing team has developed the following briefing point paper to prepare you for the meeting. The President and I are confident that you will serve Batia's interests well. We wish you success.

Situation Report on the Continental Quake

Earlier this year an earthquake of magnitude 7.9 struck offshore of Batia's most populated and industrialized areas. At least 25,000 deaths have been confirmed, with the number of injured people reaching about 100,000. The earthquake has caused extensive damage to public buildings, underground infrastructure, the port of Yu, all main roadways leading in and out of the region of Yu. Most building stock for private residences has been either destroyed or heavily impacted due to the soft ground surrounding the city of Yu.

Currently, 28,000 remain homeless in Batia. Shelter sites continue with international assistance. An estimated 24,000 refugee having fled to the northeastern portion of Alba, many seeking to return to their traditional homelands in the Sacred Mountain. This has built up problems at the border with refugee camps being run by the Red Cross/Red Crescent Societies. Medical issues are now addressed by international humanitarian agencies but are limited due to access.

Negotiating Principles and Goals

There is much at stake in the commission's decisions to repair the transportation infrastructure that services Batia, Alba and Concordia. Please regard Alba and Concordia, as well as Erismania and Demetria, as important partner countries for us in terms of economics, political relations and potential disaster mutual aid. You must successfully press for our agenda while working to support solutions that are mutually beneficial to our region.

While many of the leaders from our neighboring countries are addressing the disaster at hand, many are already looking at this earthquake as an opportunity to fund favored development projects. Examples of these interests are the proposed dredging of Shallow Bay and the relocation of the fiber optic cable to Giga. These are not in the best interest of Batia. While long-term development interests are important, our country continues to face extreme needs in the recovery and rebuilding efforts. Direct your negotiations towards meeting these needs.

We have drained our government monies in the immediate response activities following the earthquake. These activities have included search and rescue, debris removal, tending to the many injured, burying the dead, and providing food, shelter, medical supplies, and much more to the disaster victims. You of all people know how difficult this has been. You also know how enormous our task is ahead. We must continue to meet these critical needs while addressing the task of long-term recovery.

Focus on addressing the immediate needs of emergency management, not long-term growth—those opportunities can come later. First things first—we must get back on our feet by working on the immediate problems not jumping into future issues or ones that are opportunistic. Again, work towards solutions that will assist returning Batia to a normal functioning level. After these immediate domestic challenges are met, we will then work with our partners to identify opportunities for developing Batia's economic assets, and those throughout the region.

Please carefully consider the issues that will be presented in the meeting. We ask that you support decisions to strengthen facilities that will speed Batian recovery efforts foremost, as this is the mission of emergency management. Of course, the efforts that will serve the immediate needs of Concordia and Alba are also of importance as well. Some of the transportation infrastructure issues that will be addressed are important to our recovery, and to that of our neighbors.

We must make important choices to build safer housing, support stronger building codes, and not repeat poor construction practices of our past. We must learn from our previous mistakes of improper building designs in areas that have high risk of earthquakes.

In summary, take an active role in getting the others to understand the importance of the shortand long-term recovery process, especially the need to follow stringent building codes in the reconstruction. We do not want to repeat the same mistakes that got Batia into these problems in the beginning. You should focus on Issue I and to a lesser extent Issue II, particularly:

- Reconstructing Great Harbor
- Restoring schools and other public buildings, and
- Rebuilding potable water and functional sewage treatment systems.

As you discuss Issue II, <u>be creative and think about other options or combinations</u> that might best meet the short and mid-term humanitarian goals as well as restoration of built infrastructure.

Recommendations on Issues and Options

Issue I – Regional Infrastructure

Proposal A: (Great Harbor)

This proposal to re-construct Great Harbor is your preferred choice. Until Great Harbor is fully functional, the job situation in Batia will continue to deteriorate. The earthquake shake map clearly shows a high risk for the Great Harbor area and for that reason redevelopment will be costly because of the need to follow stringent building practices to withstand future earthquake events.

Proposal B: (Shallow Bay)

This proposal, as proposed, is not preferred for a variety of reasons. However, it would channel needed investment funds into a part of the region that appears to be relatively safe from earthquakes, and thus would free up earthquake recovery money for Batia and Concordia, where it is critically needed.

Proposal C: (Nodulais International Airport)

<u>This proposal is not acceptable</u>. Like proposal A, you understand the necessity of recovering selected infrastructural elements to ensure the long-term economic health of Batia and the region as a whole. However, the likelihood is that arguments will be made to reconstruct Nodulais International Airport to the most stringent building codes. This will be very expensive, diverting funds from more immediate disaster relief needs. You could support reconstruction only if it is done at minimal expense.

Proposal D: (Giga Airport)

A regional airport in Giga, if limited to that, is acceptable but it should not be high on anybody's priority list and certainly no money should be spent on this development project until all refugees have been resettled.

Proposal E: (Rail Lines)

A modern rail line is a good idea, and once the problems associated with refugees and homeless are solved, attention can de given to these longer-term solutions. This project will provide many jobs across the entire region and when completed will offer low cost travel operations for all citizens.

Issue II – Allocating Funding for Local Infrastructure and Humanitarian Needs

Proposal A: (Proceed when ready)

<u>This proposal is not acceptable</u>. Batia does not have the same kinds of resources as are available to Alba, and is still assessing its disaster relief needs. Consequently, we will be at a disadvantage with any proposal that advocates a first come, first serve allocation of funds.

Proposal B: (Proportional Distribution)

This proposal is acceptable. Extensive damage has occurred in Batia. Therefore, any proposal that determines a money allocation based on a proportionate amount of damage is advantageous to Batia. However, there will likely be a delay in allocating funds while total damages are assessed.

Proposal C: (Using Incentives for Retrofitting and Assistance

<u>This proposal is preferred.</u> An immediate allocation of funds will give a boost to ongoing disaster relief efforts. There will not be a gap in funding while total damage is assessed. The formula for restoration should favor Batia as our facilities were damaged most extensively.

Proposal D: (Blue Ribbon Panel)

This is acceptable. A fair assessment of damage and the need for restoration should favor Batia. However, this assessment will take an unknown length of time. How will funds for ongoing relief efforts be allocated to continue those efforts while criteria for allocations are developed and approved?

Proposal E: (Targeting Greatest Needs Using Local Assessment Groups)

This is acceptable. The countries that have the most extensive damage will benefit by an independent assessment group in each country. The disadvantage of this proposal is that there is no mechanism to allocated funds immediately to continue ongoing relief efforts without disruption.



fold along dotted line

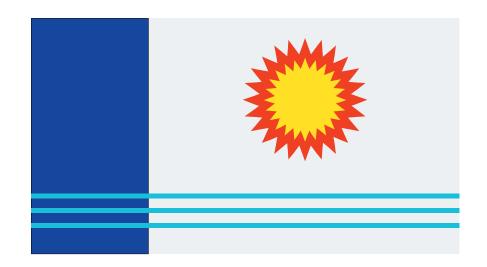
Batian Emergency Management Director

write your name in the space above

fold along dotted line



Mitigating Hazards Through Collaboration



Concordian Mayor

International Disaster Working Group

RIM/SIM

CONFIDENTIAL INSTRUCTIONS FOR CONCORDIAN MAYOR

You are a young person with a rapidly growing constituency among the young and increasingly more educated middle class citizens of your country. You recently became mayor of Concordia's largest city, Harmony, following the resignation of the prior mayor due to a scandal involving poor management of public funds.

During the past two decades Harmony's population has grown by more than 150% and many of its citizens have become more affluent, thanks to the rising Concordian economy. Under your predecessor, Harmony had emphasized economic development over social concerns, and considerable controversy had arisen because of the rapid pace of change, scandals about public funds, and the growing gap between rich and poor citizens.

As a native Concordian, you are proud of what your city has accomplished, but are determined to restore honor to the office of mayor and determined as well to bring more balance to the development that is occurring. You are ambitious and view service on the International Disaster Working Group as both an honor and a special opportunity. You know it will be a challenging assignment with much potential for highlighting the themes of prevention and preparation for disasters, which could have major benefits for your entire region for decades to come. The role also offers the potential to work out better relationships with your national government, with more authority being exercised at the local level. And if all were to go well, your role could only help raise your visibility as a potential future national leader.

The economic development that has brought many benefits to your country and city is now threatened, due to the impacts of the earthquake. You are highly motivated to see that the meeting succeeds in crafting recommendations that are practical and can be implemented. You also want to strongly emphasize that planners must think of the long-term needs of the entire region, particularly in social development. You should appeal to the group to think of solutions that will balance both the interests of all three countries directly involved, as well as finding a better balance between local and national interests. After all, if the concerns and interests of leaders operating at the local level, where implementation must occur, are not addressed, plans made at the national and international levels may not be implemented.

About a week ago, you received the attached memorandum, outlining some talking points for the upcoming meeting.

CONFIDENTIAL MEMORANDUM

To: Concordian Mayor

From: Chief Political Strategist

Subject: Talking Points for the Upcoming International Disaster Working Group Meeting

In keeping with your desire to see emphasis on highlighting the themes of prevention and preparation for disasters, we have put together some specific talking points you might use in the upcoming meeting of the International Disaster Working Group.

First, you should insist that adequate funds be directed for prevention and mitigation work, such as adopting a comprehensive seismic code that will protect new buildings against future disasters as effectively as possible and also setting strict guidelines to assure effective enforcement of the code. Naturally, these views may not be popular among some of our party's main contributors in the building and development industries. And these positions will be resisted by other leaders in our political party. But you must emphasize that the time has come for doing what is best for the nation as a whole in the long-term, not merely rebuilding in ways that perpetuate the risks to lives. With the scrutiny on you as a rising leader in the political world, and the emphasis by other international interests in sound planning and wise decision-making, now is the time to draw a line in the sand and begin to build a national reputation. It will not hurt in the long run for you to be known for your willingness occasionally to buck local interests of some of your supporters (such as the building industry) in favor or broader public interests.

Second, you should also point out that local leaders have a host of problems that the group must be aware of and take into consideration in addressing the issues: For example, you must deal with the fact that some of the city's funds have been frozen by the city's budgetary authority due to the continuing investigations of the previous mayor. Also, your municipal advisors and various interest groups are proposing a variety of competing developments (such as "tourist facilities" in areas that are important ecologically) that the proponents and opponents may feel passionately about, but which you must choose between, risking making some constituents happy and others unhappy. So you should emphasize that local leaders should be given maximum flexibility to respond to their local needs and make their own decisions, with little direction from the national government.

Recommendations on Issues and Options

Issue I -- Regional Infrastructure

Proposal A (Great Harbor):

This proposal is not acceptable. It would only be feasible if rebuilding were to be done to strict seismic code standards and with an enforcement mechanism in place to see that the code is followed. But Batian institutions are not reliable enough to assure that at this time.

Proposal B (Shallow Bay):

You should express mixed reactions to this proposal. It would be a serious competitor to the development plans we have for the airport, because Alban interests would want to add an airport at Giga. It also would involve destruction of much of the ecological value of the area, thus potentially undermining the fishing industry and possibly damaging ecotourism along the Concordian coast. On the other hand, it might increase access to the Paradise coast, which would benefit our resort plans and it might bring more investment into the area.

Proposal C (Nodulais International Airport):

Reconstructing this regionally significant transportation facility is your highest priority. The local economy depends on a reliable international transportation system. Also it would be the fastest way to bring transportation back for the entire region.

Proposal D (Giga Airport):

A regional airport at Giga, if limited to that, is probably a good idea. But there will inevitably develop competition between such an airport and Nodulais. So generally you should oppose this unless it were to be part of a region-wide air-transportation plan with widespread support and implemented in a way that would protect Nodulais's share of the market.

Proposal E (Rail Lines):

You are generally supportive of the rebuilding of the rail lines, because they will provide for ongoing regional economic development and will reach areas not otherwise served by infrastructure. But the costs could be so great that this reconstruction might crowd out other, local needs.

Issue II -- Allocating Funds for Local Infrastructure and Humanitarian Needs

Proposal A (Proceed When Ready):

The concern with this proposal is that the nations with more resources and support at the national level will be ready to proceed sooner and may take most of the funds before local leaders can get their plans together. In view of this other options would be preferable.

Proposal B (Proportional Distribution):

This procedure sounds fair, but it will inevitably result in a more mechanical application of funds, rather than flexibly allocating funding to where the needs are greatest. It also puts no emphasis on the long-term standards for reconstruction that would help to prevent such massive disasters in the future.

Proposal C (Using Incentives for Retrofitting and Assistance):

This is the preferred option. It would assure that the most up-to-date seismic codes and good enforcement would be implemented, because funding would be used to provide incentives for doing so. The concern you would have is that this program not become bogged down with too many regulations, so that it would continue to be applied flexibly.

Proposal D (Blue Ribbon Panel):

<u>This is the least preferred option</u> because it would rely on a panel appointed by leaders of the national government, and would likely be bureaucratic and unresponsive to the concerns of local leaders.

Proposal E (Targeting Great Needs Using Local Assessment Groups)

This idea seems like a good one in the abstract. But sometimes local groups do not have access to expertise and may be swayed by the arguments of local builders and others with short-term interests who could undermine the determination to focus on the long-term best interests of the entire region. So you have serious reservations about this proposal regarding whether it would be implemented appropriately.



fold along dotted line

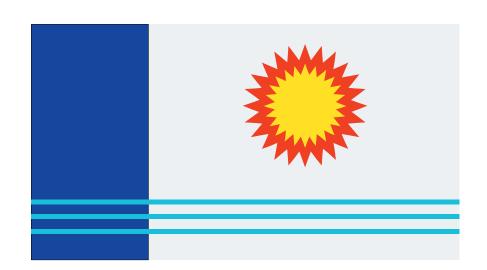
Concordian Mayor

write your name in the space above

fold along dotted line



Mitigating Hazards Through Collaboration



Concordian Land Preservation Advocate

International Disaster Working Group

RIM/SIM

CONFIDENTIAL INSTRUCTIONS FOR CONCORDIAN LAND PRESERVATION ADVOCATE

You are a native Concordian and now the manager of a large environmental restoration fund working to preserve land throughout this region from development. Your organization has been fighting a losing battle for decades to preserve areas from development. You fear that the earthquake and the frenzy of post-disaster development activity might overpower your organization's objections to the development projects that are proposed. If this happens, it will permit a rash of unwise new infrastructure that will have untold follow-on impacts, thus compounding the disaster.

You hold degrees in plant physiology and microbiology from a very prestigious university in Demetria. You are a member of World First, and participate regularly in international protests against corporate abuse of the environment. On the local scene, you have gone public with your opposition to the planned dredging of Shallow Bay and development of a new port there. You have also publicly opposed the highly unwise expansion of the aquaculture enterprise touted by the Demetrian Economic Development Consultant. Such development will further damage already-fragile ecosystems. You are also opposed to further development at Paradise Resort in Concordia, as remaining natural lands must be preserved.

An Alban Business Leader with whom you have had disputes in the past will be at the meeting. The Alban Business Development Council has publicly advocated development of the southeastern part of Alba for many years and the Alban Business Leader who is representing them will likely argue strongly for building a new port facility in Shallow Bay instead of restoring Great Harbor. In the past his position has been that such development will benefit not only Alba but also Batia and Concordia. You oppose development of Shallow Bay because it would destroy pristine wetlands there and dredging in the bay would release pollutants and sediment into the offshore water that would adversely impact the coastal waters and beaches of Concordia. You are an advocate of sound science and in the past have used scientific studies to support your arguments that dredging of Shallow Bay will adversely impact the ecosystems, not only in the bay, but also down-current along the Concordian coast.

The Demetrian Economic Development Consultant will likely argue against development of Shallow Bay to improve his/her chances of convincing the working group to recommend restoration of Nodulais International Airport and other infrastructure in Concordia, as well as development of new facilities along the coast from Fish Port to Paradise. Although you do not want to see additional development along the Concordian coast, you can use the arguments of the Demetrian Economic Development Consultant strategically to help counter arguments to develop Shallow Bay.

Your goal is to save the wetlands and remaining natural ecosystem in the Shallow Bay area and to impede further polluting development of the Concordian coast from Fish Port to Paradise. You recognize, however, that additional development somewhere in the tri-country region is inevitable, and may even be desirable, if it could be sensitively done. You are interested in low-scale, locally controlled eco-tourism projects and plan to explore whether the humanitarian representative and possibly others on the IDWG would be interested in supporting such developments.

To minimize the impact on the environment, you support restoration of the Great Harbor area. Because the Great Harbor area is at risk of experiencing future earthquakes, you are in favor of restoring infrastructure to the most stringent building codes to withstand the effects of another earthquake. This strategy of restoring Great Harbor, Nodulais International Airport and other infrastructure in the northeastern part of the tri-country area and preserving the environment in Shallow Bay and along the southern Concordian coast is best for the long-term health and growth of the entire tri-country region.

One week ago, you received a memorandum from the Director of the Concordian Land Preservation Authority (CLPA), outlining a strategy for the upcoming meeting of the International Disaster Working Group. The memorandum is attached.

Also, during the time you studied in Demetria, you became good friends with a highly regarded scientist at the Demetria Earth Science Survey. He has sent you a preliminary map (Map E) derived from new information about the extent of the Continental Fault. (The map and a science report and a presentation abstract relating to it are attached.)

Map E shows contrasting information from that contained in the long-used map showing that the Continental Fault ends in northern Concordia. The new map shows that the Continental Fault extends through Shallow Bay and that there is the possibility of a very large earthquake in that area. Such a large earthquake could severely damage any facilities developed there. Your scientist friend told you that such earthquakes are very rare, but that when they occur, they are of magnitudes greater than 8.5 and the effects are likely to be devastating. He admits that the new map is based on meager information. However, s/he is internationally recognized as the leading expert in the field. S/he told you that fieldwork in Shallow Bay conducted a month ago supports the hypothesis that very large earthquakes have occurred in that area in the past with recurrence intervals on average of 500 years. Archeological data suggests that an earthquake occurred in the area around Giga in about 1650.

CONFIDENTIAL MEMORANDUM

To: Manager, Fund for Land Conservation

From: Director, Concordian Land Preservation Authority

Subject: Reconstruction and Settlement Plans Following the Recent Earthquake

You have been selected for a most important assignment. The purpose of this memorandum is to provide you with guidelines to represent the position of the Authority at the International Disaster Working Group meeting.

Principles and Approaches

The earthquake may have caused grave damage to Great Harbor and Nodulais International Airport, but most of the plans that are being offered for reconstruction will exact more harm than the earthquake itself. Pro-growth advocates, many backed with foreign capital, are using this funding as an opportunity to promulgate their own self-serving agenda. The refugees, the ones who suffered the most from the earthquake, will be the ones who continue to suffer in the future unless you can be an effective advocate for relieving their plight. Many of the refugees represent the old labor force and have not benefited from retraining for the new economy. Their roots are with the land, and we share their concern that rapid growth will adversely alter and contaminate the soil, water, and air that are the heritage of all Concordians. Our group, the Concordian Land Preservation Authority, is dedicated to the long-term sustainability of land in Concordia.

Our stance is not a "no growth" one, as our adversaries have charged. But our charter requires us to evaluate and execute with due diligence all building plans. In the rush for a quick recovery following the most recent earthquake, we worry that some poorly planned development projects will circumvent the traditional review process. We hear about billion-rim-funding needs when most refugees do not have enough food for simply two meals a day.

Guidelines for Negotiations on Issue Proposals

Others at the upcoming meeting will have their own viewpoints and may be devious in their approaches to the negotiation. To help guide you, our recommendations on each proposal follow.

We are particularly concerned about the proposal to develop the southeastern part of Alba with a new port facility at Shallow Bay. As you know, scientific studies have shown that such development will not only devastate the ecosystems in Shallow Bay, but will also impact the environment along the Concordian coast. Argue strongly against development in this area.

Your primary goal is to ensure the sustainability of ecosystems, particularly those from Shallow Bay to Paradise. This is best for the long-term health of the entire tri-country region. We believe that a clear recognition that humans are part of the ecosystem will help to achieve this goal. Consequently, focus your efforts on Issue II, as solutions to the refugee problem will also benefit the environment

In summary:

- Oppose development of Shallow Bay, but recognize that tradeoffs may be necessary.
- Support complete restoration of Great Harbor, Nodulais International Airport, and existing rail lines. Argue to restore these according to the most stringent building codes even though this is an expensive option.
- Press for immediate relief for the refugees. However, help to find a solution that benefits the region in the long-term.

As you discuss Issue II, <u>be creative and think about other options or combinations</u> that might best meet the short and mid-term humanitarian goals as well as restoration of the built infrastructure.

Issue I: Regional Infrastructure

<u>Proposal A: (Great Harbor) This is our preferred proposal.</u> Argue for restoration of facilities at Great Harbor to the most stringent codes with strict compliance to code. This will ensure sustainability following the next earthquake, which is inevitable.

Proposal B: (Shallow Bay) This is unacceptable. It is no secret that the Alban Business Leader has long advocated development of Shallow Bay. He presents such development as in the best interests of the entire tri-country region. Our lawyers have discovered that he has significant land holdings in the Shallow Bay area. It seems to us that you can use this information to suggest to the group that his motives are not altruistic but personal in that he has much to gain when his land is developed.

Proposal C: (Nodulais International Airport) This is acceptable, but here again argue for restoration to the most stringent codes.

Proposal D: (Giga Airport) This is unacceptable, as it will impact the natural areas of southeastern Alba.

Proposal E: (Rail Lines) Reconstruction of the existing rails will not adversely affect the environment providing that proper precautions are taking during the reconstruction. Do not support extension of the rail lines, however, because this will add to disruption in Techno Valley and vicinity where there are many sacred sites with extremely valuable environmental importance.

Issue II: How to Allocate Funding for Local Infrastructure and Humanitarian Needs

Proposal A: (Proceed when ready) This is acceptable. However, in the rush to start projects there is the potential that environmental safeguards will be ignored. In discussion of this proposal make sure that the environment is protected.

Proposal B: (Proportional Distribution) This is acceptable. An assessment reconstruction and humanitarian needs will take time. Consequently, this helps ensure that environmental safeguards can be put into place for any plans that are developed.

Proposal C: (Using Incentives for Retrofitting and Assistance) This is acceptable. Again the conditions of this proposal will take time to implement and that is advantageous to helping ensure that environmental safeguards are in place. At the same time an immediate allocation of funds helps to ensure that ongoing and mid-term humanitarian needs are met.

Proposal D: (Blue Ribbon Panel) This is not acceptable. Typically such panels are stacked with experts who are pro-development. Argue against this proposal.

<u>Proposal E: (Targeting Greatest Needs Using Local Assessment Groups) This is the preferred proposal.</u> Each country will convene its own group to assess needs. We will be better able to choose a balanced group that will more fairly consider the need to preserve land. This is the best proposal to restore needed infrastructure yet at the same time preserving remaining natural lands.

SCIENCE REPORT

As you know, the topic of risk assessment is controversial, particularly when considering economic loss reduction models. These models are further obscured when dealing with earthquakes owing to uncertainty in predicting or forecasting future earthquake events. For some faults, such as the strike-slip Great Continental fault in Batia, the rich history of seismicity allows the use of probabilistic statistics to narrow the uncertainty for earthquake scenario forecasting. Where earthquake recurrence data are lacking, the uncertainties are so large that any meaningful risk assessment is often not possible.

However, the absence of seismicity, used by some to suggest that there is no risk, can be misleading and or misused. We know of some reports that characterize Alba to be without risk, and this is simply not the case. The Pacific Rim, some times called the Ring of Fire, is a long and continuous region evincing a variety of earthquake scenarios. And the most important point here is that few regions along the rim are in fact sheltered from earthquake risk. Some places such as California are sliced on a decadal time-scale by sliding tectonic plates that experience tremors in the 6 to low 8 range. Other places such as Chile and Alaska have much fewer earthquakes but they can be high 8's to 9 on the Richter scale. A lot of research has recently taken place along the Cascadia margin of Oregon, Washington and southern British Colombia. Here the tectonic plates are converging, but for the past 200 to 300 years the plates seem to be stuck or lock together, therefore the region is seismically quiet with regards to the deep subduction related movement. Nonetheless, plate tectonic motion continues so the stress is building and one day there will again be a large earthquake in this region.

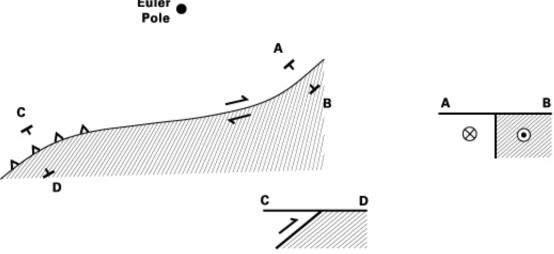
I have attached a scientific paper by Dr. Tremor Mercalli where he has analyzed the earthquake potential for the Great Continental fault. He concludes that Alba is at risk for a major earthquake, a kind of earthquake similar to what is expected some time in the future along the Cascadia margin. Until more research is conducted to learn the history of recurrence intervals, however, no one is able to apply statistics to help forecast like scenarios. From a deterministic point of view, we know the earthquake is likely to be large. But when it is to occur is just not known. Based on Dr. Mercalli's thesis, I have asked our risk assessment department to make a preliminary estimate of the earthquake risk. The map is attached. Please do not copy this map, as the analysis has not yet been reviewed. Clearly more research is needed.

If you should have any questions, please fell free to contact me. You may also want to contact Dr. Mercalli, but let me warn you, he may be difficult to understand.

Plate Tectonic and Risk Assessment of the Continental Fault, Alba to Batia

PRESENTATION ABSTRACT ANNUAL MEETING OF ASSOCIATION OF EARTHQUAKE GEOWIZES By Dr. Tremor Mercalli

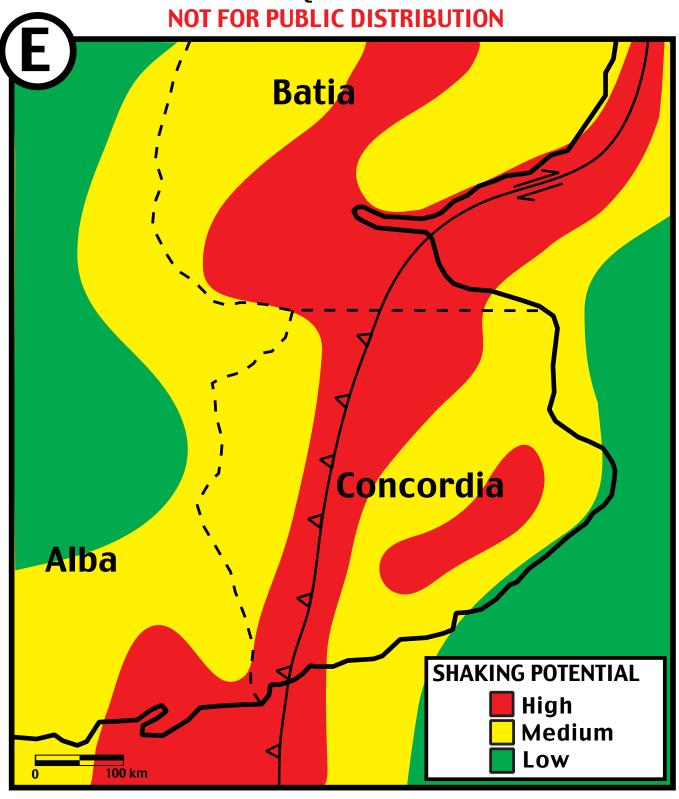
With advances to our understanding of crustral dynamics - based on principles inherent in Global Plate Tectonic theory - it is now possible to evaluate earthquake risk in areas where historical seismicity may be lacking. A case in point involves the Continental fault. The record of earthquake activity seems to indicate that this great fault suddenly stops in northern Concordia. Parallels have been drawn with the San Andreas fault in California, USA, which terminates in the northern part of the state and does not continue into the states of Oregon or Washington (Hall, Jones and Smith 1974). A more modern interpretation of both of these large strike-slip faults is that the crustal sliding motion is transformed into crustal subduction. The presence of calc-alkalic volcanoes in both instances corroborates the association with subduction. These fault motion transformations may be due to fault geometries and the location of Euler poles of rotation or to the termination of a plate boundary at a triple junction. The latter is the case with the San Andrea fault in California while the former is inferred for the southward continuation of the Continental fault into Alba. In both cases however, the history of seismicity of the strike slip segments is likely to be different and seemingly more active than the genetically related subduction segments. And from this we can also suggest that the magnitude of earthquakes for the subduction segments are likely to be much larger, possibly as high as 9.5 (Flafter, Yang and Shikotsi, 2004).



This schematic diagram depicts the kinematics of plate movement where a vertical fault plane, with horizontal sliding motion (see A-B), can be transformed into an inclined fault plane with one plate overriding the other (see C-D).

Attachment: Map E (9 copies to pass out to all participants at the meeting)

PRELIMINARY EARTHQUAKE HAZARD SHAKE MAP





fold along dotted line

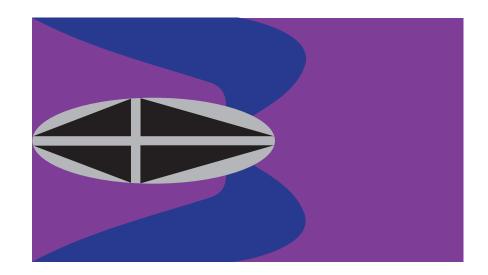
Concordian Land Preservation Advocate

write your name in the space above

fold along dotted line



Mitigating Hazards Through Collaboration



Demetrian Economic Development Consultant

International Disaster Working Group

RIM/SIM

CONFIDENTIAL INSTRUCTIONS FOR DEMETRIAN ECONOMIC DEVELOPMENT CONSULTANT

You are an internationally recognized economic development consultant. While born and educated in Demetria, you have spent many years working for various companies and government agencies in all three of the affected countries in the region: Alba, Batia, and Concordia. For the past several years, you have done a lot of work in Concordia and were a friend of the former mayor of Harmony, who recently had to resign due to a financial mismanagment scandal.

Under your leadership, Concordia has worked at a rapid pace on economic development for the past few years, under a unique program that you directed, entitled Concordia Ongoing Development Exercise (CODE). The guiding principle of this organization is to foster small cottage industries where the local citizens retain control. This is in sharp contrast to some efforts by powerful business persons in Alba, who appear to want to compete in the global economic market emphasizing large-scale development and global institutions, which can put small countries like Concordia at a severe disadvantage in turbulent times.

You have been a consultant on economic development for virtually your entire career. You have been asked by various national leaders to help resolve conflicts between more local interests, such as the aquaculture business sector and the consortium of foreign investors who are interested in promoting the development of major resorts all along the Paradise Coast of Concordia. You believe that both of these business sectors will be good for Concordia and good for the region. You have been involved in similar collaborative efforts in other countries and would like to bring the benefits of collaborative development to work in this region.

You are also very interested in "eco-tourism." Significantly, you have been approached by potential investors in a series of locally controlled eco-tourism and other small business development projects recently. These investors have pledged to invest up to R 1/2 billion a year over the next eight years (totaling up to R 4 billion) to experiment with, and demonstrate, whether such economic development could be viably and profitably undertaken.

About a week ago, you received the attached memorandum, outlining the negotiating positions that you should use in the upcoming meeting.

CONFIDENTIAL MEMORANDUM

To: Economic Development Consultant

From: Regional Trade and Economic Development Organization

Subject: Instructions for International Disaster Working Group Meeting

The Regional Trade and Economic Development Organization is providing you with this memorandum to outline some talking points for next week's International Disaster Working Group meeting. There are great potential opportunities, but they all appear to depend on developing the capacity for collaborative action.

Goals and Principles

This region has struggled for more than 30 years to improve its economic standing. As you know, we now have growing tourism and aquaculture industries that rely on a clean environment. Our effort to attract venture capital for growth in the telecommunication sector is showing positive signs. Concordia's economic blueprint, Consensus 2010, mandates improvement in its transportation infrastructure in order to attract multinational telecommunication industries to its economy. The recent earthquake exacted a great deal of damage to the infrastructure in the region, which needs to be repaired as soon as possible.

The negotiations that have preceded next week's meeting provide several options that would benefit the region. So as devastating as it was, the Continental Quake should not be used as an excuse to redirect public funds for poorly conceived humanitarian relief. Rebuilding infrastructure to its pre-disaster condition will only ensure another disaster in the future, as Batia is known to be geologically unstable. The refugee problem reflects a long-standing situation between Alba and Batia. The earthquake made a bad situation worse, and rushing in with aid without a clear understanding of a long-term solution is, in our opinion, a total waste of good money.

In summary, there is a lot at stake in the upcoming meeting. We must take the initiative and build for the future. Your emphasis should focus on:

- Reconstructing the rail lines and other regional infrastructure, and
- Proportional Distribution of funds for reconstruction

As you discuss the issues, be creative and think about other options or combinations that might best meet the short and mid-term humanitarian goals as well as restoration of built infrastructure.

Recommendations on Issues and Options

Issue 1 – Regional Infrastructure

Proposal A: (Great Harbor)

<u>This proposal is not acceptable</u>. The Batian economy depends on an operational harbor, but the expansion plans would produce increased ship traffic, particularly oil tankers. The potential environmental risk to the Paradise coast would be important to guard against and the cost could be very high to do this.

Proposal B: (Shallow Bay)

This proposal is conditionally acceptable. A new port at Shallow Harbor could increase access to the Paradise coast providing an economic stimulus to the area. However, we would need to be assured that proper precautions are taken during construction to ensure that there will be no adverse environmental consequences. Any environmental degradation to the Paradise coast will severely damage both the tourist and fisheries industries.

Proposal C: (Nodulais International Airport)

Reconstructing Nodulais Airport would also be a useful project, although its regional significance must be demonstrated. The local economies in the area depend on having a reliable international transportation system, and the airport may be a significant part of this, but only with inter-connections. You tend to believe that an air transportation network centered in Concordia would have fewer potential benefits to the region than would a modern rail network.

Proposal D: (Giga Airport)

A regional airport in Giga, if limited to that, is a good idea. Rail transport from population centers in Alba to resort locations along the Concordian coast would make for a lengthy trip up the Hombe Valley, across Batia and back southeast to the coast. Commuter air transport from Giga would open up the Concordian coast for weekend and other short-term visits for many of the more financially well-off citizens in Alba.

Proposal E: (Rail Lines)

<u>This proposal is preferred</u>. The rail line would be planned to serve the whole region and could be used to transport both heavy bulk goods, as well as people and lighter products. It is energy efficient and the rights-of-way are already in place, with considerable expansion potential.

Issue II – Allocating Funds for Local Infrastructure and Humanitarian Needs

Proposal A: (Proceed when ready)

This is acceptable. However, an objective reviewer would have to be cautious about this idea, because it might be unduly advantageous to Alba, since damage there was relatively light. Alba's greater capacity for rapid recovery might give Alba an unfair advantage because the Alban government will be ready to go with projects sooner than the other, more devastated countries.

Proposal B: (Proportional Distribution)

<u>This proposal is preferred.</u> Concordia's major population areas have been damaged extensively. Consequently, it should receive a large amount of funds to reconstruct the built infrastructure as well as to meet humanitarian needs. This seems like the best use of funds to benefit the entire region--concentrating on reconstructing areas where the damage was greatest.

Proposal C: (Using Incentives for Retrofitting and Assistance

This is a very acceptable idea, almost as good as the proportional distribution approach. It would focus attention on preventing damage in the future by emphasizing retrofitting and strengthening building code standards. But it might get bogged down in bureaucracy and favoritism as grants are made and incentive programs implemented.

Proposal D: (Blue Ribbon Panel)

This is acceptable. A Blue Ribbon Panel would likely reach wise decisions, assuming the panel is properly selected and free of conflicts of interest or biases. Your concern is that this proposal might place too much power in the hands of the panel, with no recourse if the panel were to over-reach its authority.

Proposal E: (Targeting Greatest Needs Using Local Assessment Groups)

This is not acceptable as conceived because each independent group will tend to favor its own country. Batia will argue that it has the most damage and deserves the most funds. The process might break down into squabbling among a large number of "self-interested" national groups. Also, it seems likely that it would take a great deal of time for the independent groups to work out their own priorities and then for some more broadly focused group to sort them all out, so funds could be properly allocated.



fold along dotted line

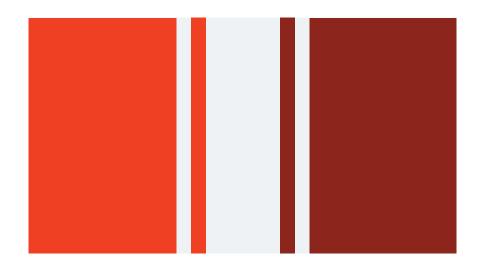
Demetrian Economic Development Consultant

write your name in the space above

fold along dotted line



Mitigating Hazards Through Collaboration



Erismanian Government Finance Minister

International Disaster Working Group

RIM/SIM

CONFIDENTIAL INSTRUCTIONS FOR ERISMANIAN GOVERNMENT FINANCE MINISTER

You are a native Erismanian. You were educated in Erismanian universities and now live with your family in the Erismanian capital, having served for the past several years as Finance Minister in the government of your long-time friend, the Prime Minister. As you look back on your years in government and other responsible positions, you are pleased to be able to live a comfortable, predictable life in a secure country with many opportunities to serve both your nation and the world community.

You would deeply like to see the economic development projects in the three-country region succeed. To this end you believe that initial successes may be used to show the donor countries that future, larger donations would be good investments. You are hopeful that the amount of fugure contributions for long-term disaster recovery might even be increased (from R 15 billion to R 25 billion over the next four years). But this depends on having good success with the initial contributions. You intend to urge your colleagues on the IDWG to make the best possible "track record" for the successful, collaborative use of initial Fund contributions to support "leveraging" more contributions.

That predictability was upset to some degree when the earthquake occurred six months ago along the Continental Fault in Batia and Concordia. You have been deeply involved in the recovery efforts and have been planning to attend the International Disaster Working Group meeting on behalf of Erismania and the world community, which has established a relief fund through the World Banking Consortium. Others have asked you to oversee the financial and accounting procedures so that donor nations can be assured that the funds contributed will be well spent and fully accounted for when the time comes for reporting back on long-term-recovery projects.

About a week ago, the Prime Minister sent you a briefing memorandum, outlining the points to keep in mind as you began to prepare for the upcoming meeting. The memorandum is attached.

CONFIDENTIAL MEMORANDUM

TO: Minister of Finance

FROM: Prime Minister, Nation of Erismania

SUBJECT: International Meeting on Recovery and Rebuilding

This memorandum provides guidance to you as my designated representative of the Nation of Erismania at the international meeting on recovery and rebuilding, following the Continental Quake of six months ago. As a trusted representative of the World Banking Consortium, which is contributing money for the recovery efforts, your advice and judgment will be important to decision-making about how best to contribute to the affected region's long-term recovery.

Overall Goals and Principles

Your primary objective should be to help the group make the wisest possible funding decisions, on behalf of both Erismania and the world's donor community. Paramount criteria for each option are (a) effectiveness and (b) long-term durability. Please take very seriously the need for strong financial accountability. As you know, this is a time of retrenchment across financial markets worldwide. Stock exchanges across the world have slumped in the past eight months.

The decisions you advocate should be based on sound science. The seismic hazard map that the region has used in past planning efforts (Map D) is widely available. That map shows zones of the region's vulnerability to earthquake shaking. You should indicate that you have confidence in the quality of the science on which it is based. Draw attention to zones of high shaking intensity (shown in red) and encourage the group to make best use of the limited funds by prioritizing the rebuilding and retrofitting of hospitals and schools in the high hazard zones, followed by reconstruction in zones of lesser shaking intensity.

We have been informed, however, that new research has been done and that a noted scientist has produced a report and a hazard shake map showing possible risks in the Shallow Bay area. You should look for every opportunity to learn more about this, because it may be important information to consider. Decisions should always be based on the latest and best information available, so make sure that the issues regarding this possible new information is brought out and clearly dealt with in the IDWG meeting.

Also, please be aware that you might face resistance to your proposals from the Alban Representative of a Humanitarian Organization. You recall that several years ago, your ministry denied funding to that organization. While the reasons to decline support were solid and well communicated from Erismania's perspective, the Alban Humanitarian might express resentment of whatever you advocate in these negotiations.

You should also remember that the Erismania First movement is a growing force in our national debate—so much so that my policies and actions are accountable to them as much as to the

populace at large. Any options to which you agree in this meeting will be extremely visible and subject to close public scrutiny. Therefore, you must keep in mind the need to justify to Erismanians your recommended commitments of their subsidized monies. I will not be able to endorse any negotiated agreement for which there is little or no demonstrable return on investment. The continuation of my administration is at stake.

Yet there are also competing imperatives that we must confront. First, our nation's reputation as a world leader in providing humanitarian and philanthropic support must remain unblemished. Second, public confidence in our ability to assist our global fellow citizens in the aftermath of natural disasters, must not be shaken. Last, our nation is far from immune to such disasters, even on the opposite side of the globe. Over the last several centuries, Erismania has made substantial financial and political investments in—and has historic ties with—the now-sovereign countries struck by the Continental Quake. Our access to major natural resources, raw materials, and offshore labor pools has been impaired. With thousands of displaced Batians and Concordians still living in refugee camps near Alba, the productive sector upon which we have long depended for oil, gas, and manufacturing has been hurt. Similarly compromised is the reliability of our transportation and communication linkages, including trans-Pacific shipping from the deep-water port at Great Harbor in Batia; long-line fiber-optic communications cables that came ashore there; and railroads to Nodulais International Airport in Concordia and to Hombe in Alba.

In line with our principal goal of spending Erismania's and other countries' funds wisely, you should weigh each opportunity and cost as best you can. Do not support any large-scale projects with poor potential yields, or with weak economic viability in the long run. Advocate options that reflect a solid commitment to careful planning and to local control in their implementation. Our government and the world's donor community can contribute major support where it will have the greatest impact. However, you must bear in mind that there are many outstanding needs in the world, and that Erismania's resources are limited; we are not "infinitely able" to help with everything. Thus you should seek to negotiate agreement for those options in which local resources—whether monetary or in-kind—are part of the equation.

In summary, any options that:

- support the region's humanitarian needs most cost-effectively,
- strengthen our prior investments in infrastructure and labor,
- sustain our world leadership role for altruism in international crises,
- leverage local support, control, and implementation, and
- integrate systematic, long-term planning,

must be your top priorities in these negotiations.

As you discuss Issue II, <u>be creative and think about other options or combinations</u> that might best meet the short and mid-term humanitarian goals as well as restoration of built infrastructure of the entire region.

On the following page, we present more specific comments on the two issues and the various proposals under each.

Issue I: Regional Infrastructure

- **Proposal A:** (Great Harbor). Acceptable. It would not only restore the deep-water port—Batia's great economic engine—to full operation, but also upgrade the facility to meet high standards of construction, durability, quality assurance, and effective enforcement. But there are concerns about spending so much money in a risky country.
- **Proposal B: (Shallow Bay). Not acceptable.** Construction of a port at Shallow Bay would benefit the whole region, if done with sensitivity to the environment and safety. However, we must be concerned about the uncertainty that earthquake risk extends to Shallow Bay. Also, this option would require too much money and would crowd out other more important projects. Bring this question about the risk of earthquakes in Shallow Bay up at the meeting.
- **Proposal C:** (Nodulais International Airport). Acceptable. While interpretation of the seismic hazard map suggests that minimal building codes and compliance programs would not be practical, the regional benefits make this a workable idea to provide substantial impact.
- **Proposal D:** (Giga Airport). Our First Choice. This proposal would have substantial benefits without great costs. Alba is the most promising country for investment and the region this new airport would serve presents the most promising new business opportunities.
- **Proposal E: (Rail Lines). Not acceptable.** Regional commercial and passenger transportation would help the countries' economies a great deal, and would provide long-term benefits to all countries. But the cost is too great; there would be a lot of "political" complications regarding extensions, which would use virtually all of the money expected to be donated for infrastructure improvement in the whole region for just one transportation mode.

Issue II: Allocating Funding for Local Infrastructure and Humanitarian Needs

- **Proposal A: (Proceed when ready).** Acceptable. However, there should be safeguards that ensure money will not be wasted in the rush to a "first come, first served" approach.
- **Proposal B: (Proportional Distribution) Not acceptable.** While appearing fair on the surface, past experience has shown that countries will tend to "over estimate" the amount of damage and consequently inflate the amount of money requested. Be very skeptical of this proposal.
- **Proposal C: (Using Incentives).** Acceptable. Giving each country a basic allocation of the available funds will tend to force them to make a realistic assessment of the damage since they know that they have only a fixed amount of money to begin with. The remaining funds will be allocated to those who demonstrate the most need and best use of the money.
- <u>Proposal D: (Blue Ribbon Panel). Preferred proposal</u>. A Blue Ribbon Panel of experts will be the best safeguard to ensure that the funds are properly spent and that no waste nor corruption occurs. Strongly argue in favor of this proposal.
- **Proposal E:** (Targeting Greatest Needs Using Local Assessment Groups). Acceptable. In effect, expert panels would be selected by each country to conduct assessment needs. However, there needs to be oversight as to the selection of these panels. Without oversight, each panel will favor its own country and this will not lead to the best use of funds for the region.



fold along dotted line

Erismanian Government Finance Minister

write your name in the space above

fold along dotted line