

**THE SHANGHAI PRINCIPLES**

**FOR**

**CREATING SAFER CITIES & SOCIETIES  
Through Sustainable Urban Development**

**A New Road Map  
For The 21st Century**

By  
Donald E. Geis

Geis Design-Research Associates  
11704 Karen Drive, Potomac, MD. 20854 U.S.A.  
DEGeis@aol.com 301-983-8358

Developed for the 5<sup>th</sup> International Conference of LACDE--Shanghai

**REDUCING RISKS & VULNERABILITY THROUGH SUSTAINABLE URBAN  
DEVELOPMENT**

*Sponsored by  
The Local Authorities for Confronting Disasters & Emergencies (LACDE)  
The Shanghai Municipal People's Government, and  
The Shanghai Municipal Civil Defense Office*

**Shanghai, China**  
October 15<sup>th</sup>- 17<sup>th</sup> 2002

**Contents:**

**The Shanghai Conference**

**I) BACKGROUND AND INTRODUCTION**

**A New Culture of Risk, Safety and Security**

**OUR CHALLENGE IN AN HISTORICAL NEXUS.**

**The LACDE Mission**

**The Shanghai Conference Objectives**

**II) OBSERVATIONS, THEME PRINCIPLES AND RECOMMENDATIONS**

**1) RESEARCH, EDUCATION AND APPLICATION**

**2) WORKING TOGETHER—A LOCAL, NATIONAL AND GLOBAL CONNECTION**

**3) THE INTEGRAL RELATIONSHIP BETWEEN CREATING SAFER CITIES, SUSTAINABLE DEVELOPMENT AND THE URBAN DESIGN-PLANNING PROCESS**

**The Role of City Design in Creating Safer and More Sustainable Cities & Societies**

**4) RISK, VULNERABILITY ASSESMENT & MITIGATION IN THE CONTEXT OF CREATING SAFER DEVELOPMENT**

**5) INFRASTRUCTURE**

**6) RESPECTING, UNDERSTANDING & UTILIZATING NATURE**

**7) COMMUNITY/LOCAL FOCUS**

**A Bottom-Up Approach**

**8) OVERCOMING OBSTACLES TO CREATING SAFER CITIES**

**Creating Safer Cities Is Good Business for Local Authorities**

**9) POLITICS, POLICY, AND GOVERNMENTAL RESPONSIBILITY**

**10) OUR NEW LEADERSHIP ROLE—THE FUTURE IS NOW**

**Acknowledgments**

## *The Shanghai Conference*

### **I) BACKGROUND AND INTRODUCTION**

#### ***A New Culture of Risk, Safety and Security***

*... Along with our societies throughout the world, disaster-emergency management professionals have entered a new renaissance, and while some things will remain the same, much will have to be reinvented. A new local, national and global culture has evolved since our last conference two short years ago ...It is a Culture of Risk, Safety and Security, and it is one that has moved to the very forefront of our societal concerns, as well as our very own way of life—both personally and particularly, professionally. This new Culture requires us to expand our very role and leadership capacity to meet the demands associated with this new, greatly enhanced challenge.*

*We must through our research, education and application ask ourselves...What are the implications of this new culture on the very nature of our cities, nations and societies, and on our own personal and professional roles? What are our specific goals and what are the best means of achieving them?*

*We must carefully consider the 10 principles and issues identified in this paper as they have evolved from the historic LACDE-Shanghai Conference, to see how they can be most effectively used to broaden and enhance our roles and organizational mission. To accomplish this, we will have to become educators, political activists, promoters businessmen and women, as well as practitioners. This outstanding Shanghai Conference has provided us with the springboard and the road map for dealing with these challenges that we presently face in our world today. It is now up to us to provide the leadership and initiative ...*

## OUR CHALLENGE IN AN HISTORICAL NEXUS.

This historically significant conference through its many expert speakers has provided us with a wealth of valuable information and knowledge. Over 30 speaker from many countries have covered a wide range of subjects, including natural hazards and emergencies, as well as human induced disasters. These subjects have included cyclones, earthquakes and floods to chemical spills, building collapse, fires and terrorism and epidemics.

The question now is how do we best use this valuable information and knowledge--. What do we do with it, and how can we most effectively use to serve our fundamental mission?

We have seen great and historic changes since our last LACDE Conference in 2000. A whole new historical nexus and culture has evolved—one that not only significantly effects our local, national and global security, but that also effects our very economic, social and political viability. While these concerns have always been here, they have now greatly expanded and a new dimension added after the triggering event of 911 in the United States in September, 2001, and the SARS epidemic (1), immediately following our October meeting in Shanghai. These particular events (along with the many traditional hazards we have had to confront over the years) and their resulting ramifications have significantly affected all of us--our societies and their priorities, as well as our own personal and professional ones. It is a great challenge that we all now need to face and deal with.

It is important to remember that while the context is broader and more immediate, our inherent mission has not changed. It remains to minimize the risks and vulnerabilities we

*(1) We were not yet aware of the SARS epidemic during our Conference. However, since it evolved almost immediately afterwards while I was preparing this report, and because of its great significance to our subject, I decided to include it.*

face, some new and some old, in such a manner as to create the safest and most secure and healthy societies and cities possible—physically, economically, socially and politically.

In the context of our LACDE mission, it is essential to assist local authorities achieve this most important goal, and provide them with the necessary means to get there. Much of these local authorities' viability – economic, environmental and social—will depend on it, as well as the countries they are apart of.

This is what has made the Shanghai meeting so valuable in this journey. It has built the foundation and the road map for all of us to go ahead, identifying significant issues, fundamental themes, and providing direction, not only for LACDE and its members, but for all of us, our communities, countries and the world, whose lives and quality-of-life will be significantly affected by it in the coming months and years.

In this context, the purpose of this report is intended to frame this mission. It has three primary goals:

- I) To summarize the results of the workshop, both from the speakers point of view as well as the comments from the attendees:
- II) To identify what this author feels are the most important issues, themes and principles that have evolved from the Conference, within the historical context of where we find ourselves today regarding our professional roles, and the needs of our societies.
- III) To make recommendations, within the preceding context, regarding what direction we need to take, and what principles we particularly need to focus on to optimize our mission, roles and contributions to these needs and challenges.

## **The LACDE Mission**

As we proceed with the objectives of this Conference Report, it is essential to keep in mind the fundamental LACDE mission and the purpose of the Shanghai Conference.

The mission of LACDE is:

a) “To increase the effectiveness of Local Authorities/Governments in preparing for and confronting potential disasters and emergencies, natural and man-made, i.e.

Natural Disasters:

Earthquakes, volcanoes, hurricanes, floods, fires.

Man-Made Disasters:

Accidents at nuclear power stations, factories (especially chemical solution); railways, sea and air disasters.

Epidemics: Cholera, etc.

b) To promote the study of disasters together with appropriate national, international and other organizations, in order to prevent, or mitigate the effects of, and recover from disasters.

c) To assist Local Authorities in related subjects.”

## **The Shanghai Conference Objectives**

It is also essential to keep clearly in mind the specific purpose and theme of the Shanghai Conference: **REDUCING RISKS & VULNERABILITY THROUGH SUSTAINABLE URBAN DEVELOPMENT**

The themes and objectives of the Conference were to provide:

1) Approaches for identifying, quantifying and communicating risks;

- 2) Activities undertaken to promote risk reduction in cities;
- 3) Strategies for overcoming obstacles to creating safer cities;
- 4) Rescue technologies for urban emergencies,

The title and objectives of this conference were very well defined and clear. They are to address what this author considers to be the fundamental issues of importance in this field today and for the future: To identify and address the risks and vulnerabilities associated with the many natural and human induced hazards, we face today, and how they can be minimized so they do not become emergencies and disasters; this can be done through mitigation and preparedness. If we do this and emergencies/disasters still occur, then to assist local governments to best deal with those disasters, through response, recovery and reconstruction.

The Conference very intelligently related and wove these concerns into the essential context of Sustainable Urban Development, with out which they can not ever be achieved. Effective hazard and emergency-disaster planning cannot be separated from sustainable urban development; they are indivisible. For our purposes, sustainable urban development is the urban planning and development that provides the quality of life needs for the present-- environmentally, economically, and socially—without diminishing the capacity for future generations to achieve their quality of life needs.

The fundamental question to keep in mind from this conference is how best to do this. What strategies must we focus on with our limited resources that can make the most difference? That must be our primary goal, and will represent the framework in which the following observations, principles and recommendations will be made.

## **II) OBSERVATIONS, THEME PRINCIPLES AND RECOMMENDATIONS**

The goal in this section is two fold: 1) First, to analyze and chose what this author sees, from the context of my experience, as the most relevant subjects and themes in today's new world, as presented by the Conference speakers, and then, 2) to try and weave these themes into what I see as the steps we must take to optimize our missions for the future.

As mentioned before, a wealth of information and knowledge on our subject has been presented at this conference. Speakers, from all over the earth, have impressively presented their work and research on a wide variety of specific subjects, including:

- overcoming obstacles to creating safer cities
- community based issues
- infrastructure
- telecommunication and technology
- terrorism
- hazardous materials
- terrorism
- water
- cyclones and hurricanes
- power outages
- public awareness
- infectious diseases (little did we know how relevant this one would become)
- developing training and organizational frameworks

The following 10 theme-principles that have evolved from these presentations represent what I feel are the most relevant issues for our times today, and for our future. This was a very challenging task to say the least and it must be said here that this process represents this author's opinion, based on my years of combined experience, in urban design-planning, sustainable development, and emergency/disaster planning. Again, in

summary, they are where I believe we must focus our attention, and develop our strategies for the coming months and years.

## **1) RESEARCH, EDUCATION AND APPLICATION**

There is much to explore and implement in this new culture and the research-application-education relationship and function is essential toward this effort. These three subjects are integrally connected as a process and have been talked about extensively to one degree or another over the two and one half days of the conference. In the new Culture of Safety and Security we have previously discussed, they are essential to working toward and achieving LACDE's objectives and mission that has been defined in this Conference and Report. They must become the foundation and Road Map on which we guide and build our programs. Of all the discussion and needs these are the ones that relate to all the other subjects evolving from the conference and where the greatest attention must be given.

As a part of this process, it will be necessary to develop a research agenda consisting of selected specific priorities from the following subjects. To accomplish this, a framework of universities, research organizations, local authorities, businesses and disaster-emergency practitioners will have to be organized and utilized within this context. Since resources will be needed to assist in this effort, private and public groups with mutual interests will have to be identified, contacted and brought on board as partners in this effort. Such potential funding groups might include insurance, power companies, telecommunication and information technological organizations, financial networks, and food producers and suppliers, to mention a few.

For the most part, traditional public entities do not have the required resources to provide the required financial support; it will therefore be necessary to partner with private organizations, who also have a great deal to gain from safer cities and societies, and who have the resources to do something about it. I believe that many opportunities, financially and organizationally exist in this arena as we work toward creating a successful,

financially sound program. The research-education-practical application relationship and framework is essential in our area of emergency-disaster management, as it is in any successful venture in today and tomorrow's world.

LACDE's Safe Cities Program has a great deal of potential toward this end, but will need more specificity in its application if its success is to be optimized in the context being discussed here.

## **2) WORKING TOGETHER—A LOCAL, NATIONAL AND GLOBAL CONNECTION.**

This important theme also has been interwoven through out many of the presentations and is one that is also essential to our missions, but often overlooked. In the new culture, much more attention must be given to it. We will have to recognize and expand our definition of hazard mitigation and emergency-disaster management to include multi-disciplinary and interdisciplinary considerations: education, involvement with policy and political development, benefits and cost issues, social and sustainable development elements, public awareness, resource distribution and services, etc.

We will also have to rethink and improve our organizational-functional frameworks, both internally and externally. This is necessary to ensure that we optimize our professional role, our initiative and contributions to this new evolving culture, to both our countries as well as to the global community. The global context has become an important paradigm in this effort. Everything is related to everything else, and an event in one part of the world can have great and growing impact on the rest of the world—economically, politically and health wise. A large earthquake's possible impact on financial-communication networks is one example of this along with epidemics such as SARS, terrorism and nuclear spills.

Our local, province/state and national authorities will also have to rethink the implications of this new culture of safety and their organizational interdisciplinary roles

in this mission. We will also have to significantly assist in this goal, through education and direct involvement. To accomplish this we will have to ensure our own continuing education in the process

### **3) THE INTEGRAL RELATIONSHIP BETWEEN CREATING SAFER CITIES, SUSTAINABLE DEVELOPMENT AND THE URBAN DESIGN-PLANNING PROCESS.**

The theme of the conference has brilliantly brought this essential relationship to the forefront. Safe and healthy communities and sustainable development can not occur without building bridges between the two. They are inseparable. Sustainable development can be generally defined as a development process that provides the needs for the present generation that will not detract from the needs of future generations. This includes health, safety, the natural-environmental, social and economic viability.

And none of it can be done without effective urban design and planning in general—the comprehensive planning process, growth management and national urban policy. It is important to remember that almost every sustainable and urban planning decision has implications for emergency and disaster planning, from mitigation to response and reconstruction. This includes issues such as infrastructure planning, location of health, police and fire facilities, the protection of power facilities, land use, and general functioning, including distribution of food, water and other resources.

It is necessary to give more attention to these areas, their role and relationship to each other, and their practical application. This area and the research, education areas compliment each other very nicely and should be the foundation for any new work in this field. This author's work on Disaster Resistant Communities provides one conceptual-application model that can be valuable in this effort.

### **The Role of City Design in Creating Safer and More Sustainable Cities & Societies**

Years of research and experience have taught us that there is an integral relationship between how we design/shape our cities and communities and their capacity to minimize the direct and indirect losses from extreme natural as well as human induced hazards—to keep hazards from rising to the level of emergencies and disasters. We must therefore give a great deal of thought to integrating hazard & emergency-disaster management principles and techniques into the city design process.

City design and development must consider:

- the relationship of development to natural (ecological and geological) systems,
- development and redevelopment patterns,
- configuration, scale and capacity of public infrastructure,
- the design, location and service capacity of community facilities,
- neighborhood and commercial district design, and
- in general, the overall capacity, functioning and relationship of the various components and systems of our communities, from food and water distribution to information services.

As Winston Churchill stated within in the context of post WWII reconstruction, “We shape our buildings (and Communities) and then they shape us.” In a natural and human induced hazard context, they shape our capacity for safety, health and public welfare.

To embark on the process of developing safer and healthier cities, and therefore safer societies, without understanding this essential role of the built environment/development and its integral relationship to our security goal will for certain result in failure. This applies as much to the redevelopment of existing communities as to new development.

The design of the multi-scale built environment (development) is the inherent means/language for implementing the principles of mitigation and for ensuring the most effective preparedness, response and recovery functions possible. It is an essential path toward minimizing risk and vulnerability. This basic truth has, for the great part, been

overlooked in the hazards, emergency-disaster management field. It is essential to remember that not only will the built environment be safer if these techniques are followed, but economic, social, institutional, and natural resource and ecosystem functions will also be less vulnerable.

LACDE has done a lot of work in this arena through its Safe Cities Program, but there is more to be done. New research, education and specific application programs should further develop this effort, including considerations such as design guidelines, identifying risk/vulnerabilities and design charretts /best practices.

#### **4) RISK, VULNERABILITY ASSESMENT & MITIGATION IN THE CONTEXT OF CREATING SAFER DEVELOPMENT**

The process of creating safer communities provides the best means for developing the most effective disaster and emergency management programs possible. This includes risk and vulnerability assessments, as well as optimizing the use of mitigation principles and techniques. It also can serve to enhance the effectiveness of the other components of the disaster management process-- preparedness, response and recovery. And, at a time when more and more resources and players are becoming involved in disaster management, the safer-sustainable development approach can also provide a valuable planning vehicle for organizing, relating and optimizing the various roles in this process--emergency managers, community planners, health and safety officials, elected officials, and citizen and business groups.

Almost all the speakers spoke, to one degree or another, about risk and vulnerability, a primary theme for the Conference. This may rightly be the dominant concern of any approach to hazard and emergency-disaster planning, but I do not believe that is being approached in the most effective and comprehensive manner possible. I cannot help but feel that there is some confusion relative to the 'means and ends' regarding this subject, and how best to use it in our mission. Where does it fit? What is its role in the context of our missions? How can it best be practically applied to our missions of creating safer and more sustainable cities?

We must remember that at least 1/2 of any good solution is first a fundamental and comprehensive understanding of the associated problem. Such is the case for creating safer development. In this context, comprehensively understanding the risks and vulnerabilities is the first and essential step in minimizing disasters while creating safer and more sustainable development.

We must therefore give more attention to defining these risks and vulnerabilities, their relationship to each other, and particularly to the means to accomplish this--prevention, mitigation and the resulting guidelines, principles and techniques required in this effort toward creating safer communities. It should also be pointed out that like most of the principles identified here, it is directly related to and has an essential role to play throughout the other 9.

## **5) INFRASTRUCTURE**

Infrastructure, be it transportation, water-food distribution systems, power, communication or location of health and safety facilities, evolved as one of, if not the most important considerations of this conference. It is a subject that relates to almost everything else, and should be the highest of priorities for research, educational and application efforts.

Properly designed and located infrastructure is particularly critical in both mitigation and disaster-emergency management. It may well be the single most important tool available to us in minimizing risk and vulnerability, because it has so much influence on everything else. A dysfunctional power or transportation system can have major impact implications for the local authority: general loss of community productivity; disruption of access and services for businesses and citizens, keeping residents from getting to work or to their daily activities; keeping emergency vehicles from reaching their destination, with the associated immense health and safety implications; and possible disruption of the food and daily supply needs of the community.

The design/planning of safer and sustainable infrastructure and its related and directly influenced development also enhance the general functioning of a nation and local authority, resulting in more efficient circulation for automobiles, public transportation, more effective utility service, better communication, and more workable natural and social infrastructure. As well as safety considerations, our research and experience has shown that this approach also contributes to a more socially, environmentally and culturally viable community as well. And at a time when our communities need to be more concerned with the general well being of their citizens, safer, more secure and healthier local authorities can be more economically viable as well—a Win-Win result. Thus, to a community that places increasing value on safer, healthier, and more economically viable communities, a fundamental emphasis on infrastructure and its associated development as a means to minimize risks and vulnerability, represents an essential consideration.

These are just a few examples of the considerations associated with sustainable and safer urban infrastructure and its related development. They point up the need for local authorities to give much greater attention to how they design and develop their infrastructure, as well as the associated policy, guidelines and regulatory tools needed for implementation.

## **6) RESPECTING, UNDERSTANDING & UTILIZING NATURE**

While not always direct, the natural systems and their role and importance in the context of risk and vulnerability surfaced through out the presentations. This leads us to another fundamental aspect of dealing with hazards that needs to be emphasized in this discussion.

In the natural hazard context—flooding, hurricanes and earthquakes-- the first and foremost step in creating safer cities and societies is to respect and understand the workings of the natural environment, ecologically, hydrologically and geologically, and then guide development to compliment these systems and their functioning, not interfere with them, as occurs in most cases.

This is also the first step in developing more sustainable and viable communities in general. The majority of human and property losses, and associated social and economic disruption from a natural extreme event occurs as a result of not following this criterion, resulting with inappropriate development that significantly contributes to the problem rather than to the solution. The recent results of Hurricane Floyd in the United States (North Carolina) provide an excellent example of this. The initial losses and subsequent longer-term costs from an extreme natural event such as flooding and cyclones are directly proportional to the degree of change that occurs to the natural systems as a result of development.

To design sustainable, safe cities and societies requires understanding the inherent characteristics and functioning of the various systems of nature: drainage-absorption patterns; watersheds; hydrologic systems and cycles; wetlands and marshes; the coastal beach and dune systems; slope and soil characteristics, and the general flora and fauna habitats. Development should be designed and built so that its functioning, capacity, scale, and density are in balance with the capacity, scale and limits of the natural environment of which it is apart. Our objective then becomes in affect one of helping nature help us by providing the initial framework and direction for appropriate and safe development, development that then by its nature minimizes vulnerability and risk.

## **7) COMMUNITY/LOCAL FOCUS**

While national and province/state involvement is necessary to develop effective emergency and disaster planning, the local community/authority is the fundamental entity where the program foundation must be built. These plans must therefore be tailored to the local authorities if they are to be effective. LACDE's mission directly lends itself to this goal and therefore, in this fast evolving culture of safety, must continue to develop and optimize its efforts toward this end.

If safer cities, development and societies are to be created, they will have to be created at the local government level. While political and policy support at the province/state and federal government levels are important, it is only here at the local level where most

development and legal tools required to implement such an effort exists, particularly the planning-development process. It is essential to keep in mind that almost every planning and development decision made at the local level regarding the built environment (development) has implications for creating more sustainable, less vulnerable and, therefore, safer, more secure communities and, therefore, societies.

### **A Bottom-Up Approach**

In this context a grassroots or bottom-up approach is necessary. It is essential to understand and fully utilize each nation's and community's unique culture: government, the business community, the media, citizen groups, etc. Using a goal oriented approach, the principles and techniques associated with minimizing risk and creating safer communities must be integrated into the local political, cultural and planning-development framework many times already in place in each community. They should be perceived as enhancing existing programs, not just creating new ones. Such an approach must be built from the grassroots level, respecting the unique qualities of each local authority, built from the bottom up, not only superimposed from the top down. Knowledge, technical information, best practices, support and the demonstrated benefits, if needed and asked for, can be provided by LACDE, but each community must be encouraged and empowered to implement their own program, in their own way.

## **8) OVERCOMING OBSTACLES TO CREATING SAFER CITIES**

### **Creating Safer Cities Is Good Business for Local Authorities**

Safer cities, ones that minimize risk and vulnerabilities, are simple better communities to attract and do business, as well as provide a better quality-of-life for their residents. Many speakers indirectly and directly touched on the obstacles of implementing safer city programs in their countries and communities.

This is another area that deserves much attention in LACDE's research and application efforts, because it is probably the one that can pay the most dividends, for the local

authorities, the societies, and LACDE itself. It is an excellent context to connect our hazard mission to, because everyone is interested in saving money, multi-benefits and competing in the global economy. A research program should explore and specifically define the relationship between developing safer cities and economic viability, and present this as a selling point for advancing LACDE's mission.

Minimizing Risks and Vulnerabilities represents an excellent investment for national and local governments. In our newly evolving Culture of Safety and Security, safer communities in a sustainable context have never been more important considering the cost savings, both direct and indirect, that we have come to understand they represent. If there ever was an example of an ounce of prevention being worth a pound, or as we are seeing in a hazard-disaster context, many, many pounds of cure, this is certainly it.

Research has shown us that utilizing effective techniques for reducing risk and vulnerability will provide many multi-benefits for the local authority. Creating safer and healthier cities will enhance the functioning of a community, resulting in more efficient circulation for automobiles, public transportation, and more workable natural and social infrastructure, and more efficient resource distribution. This all contributes to a more socially, environmentally and culturally viable community. And at a time when countries and local authorities are competing in a global economy they are becoming more interested in the overall quality-of-life for their citizens. Safer and healthier communities are more conducive to economic development. Thus, to a national and local government that places increasing value on safety, health, economic development, and quality of life, creating safer cities, by minimizing vulnerability, represents an important investment, one that will help it attract new investment, business and citizenry.

## **9) POLITICS, POLICY, AND GOVERNMENTAL RESPONSIBILITY.**

The need for this subject, both directly and indirectly, also surfaced throughout our Conference, and it is certainly one that deserves a great deal of attention in our mission. The first and primary responsibility of governments, no matter what form that government takes, is to protect the health, safety and well being of all its citizens.

Minimizing risk and vulnerability from natural and human induced hazards, fall directly into that responsibility.

Living in communities as safe as possible from natural and human induced hazards should not be thought of as a luxury, or a bonus. Living in such communities should be considered a basic necessity. They should in fact be thought of as a basic human right, associated with the inherent health, safety and public welfare responsibility that our governments—national, state and local—are charged with providing. At the very minimum, the use of the state-of-the-art knowledge available on this subject should be required when developing and redeveloping these communities.

It is therefore a context that we all must give more attention to in developing strategies for and implementing our mission goals. This is an essential component and role in our new culture of safety and security.

Nothing significant can ever be accomplished in the area of creating safer cities and societies without the support and initiative of our governments and responsible political leaders—locally, nationally and globally. The principles and techniques associated with minimizing risk and vulnerabilities must be effectively interwoven into our national and local policy if we are to have safer communities and societies. It represents not only a responsibility for our governments, but it represents every bit as important a responsibility and challenge for us, hazard professionals, as we expand our role, become more proactive and assist our leaders and citizenry to become more aware of the issues being addressed here.

#### **10) OUR NEW LEADERSHIP ROLE—THE FUTURE IS NOW.**

As discussed, we in the disaster-emergency management field are entering a new renaissance and while some things will stay the same, much will have to be reinvented, changing the lens, as we proceed. It is a new culture—one of safety and security taking a new and much enhanced role, and we will also have to expand our role and leadership capacity to meet these new challenges. We will have to become much more proactive in

our approach, an approach that will help develop more of a public awareness of the importance to our citizenry and political and business leaders.

We must through our research, education and implementation ask ourselves: What are the implications of the principles we are taking about here on the very nature of our cities, nations and societies, and on our own personal and professional roles? What are our specific goals and what are the best means of achieving them? What strategies will work most effectively, and perhaps most importantly, how can we get the private, business community more involved?

We will have to carefully weigh these principles and issues identified in this paper. We will have to become educators and political pro-activists as well as practitioners. We will have to ensure that we remain familiar with the best practices of the field, and we will have to work much closer with each other and with a wider range of interdisciplinary associates—economists, policy specialists, ecologists, urban planners and the like, at both the local and national level, as well as within the global community. We will have to become researchers and become more aware of the relationship of hazard issues with sustainable development and the urban planning process.

It will be essential to work as much with the private business community as the public community, because, quite frankly, the private side often has more to lose, and thus to gain, and has more resources. Our challenge will be build bridges between our mutual interests and those of the business community, no matter what country we live in. Our success, both in the near and long run may very well depend on this. In fact, this author feels strongly that this is actually the case.

We must also become much more familiar with how the elements and systems of our cities and societies actually function, and the relationship between this functioning and their capacity for minimizing the risks and vulnerabilities discussed at the Conference and in this report. This includes such considerations as: food production, distribution, and use by the community; water supply, storage and distribution; information technology

networks; and power facilities and their systems. These systems and their effective functioning are essential to our goal of minimizing risks and vulnerabilities and subsequently to creating safer, more secure societies.

We will also have to explore the role of and relationships between natural hazards, such as flooding and hurricanes, and the human induced ones such as terrorism and infectious diseases such as SARS. This will be necessary to ensure that we optimize our resources and their successful applications. The field has become too large and complicated to do otherwise.

We will have to explore more fully the role of City Design and planning including the implications of centralization and /or decentralization. We will have to be able to deal with theory and models as well as the ‘nuts and bolts’ of pragmatic implementation, and how these macro and micro ends can compliment and assist each other.

We will have to frame these issues into the context of practical research, education, salesmanship and application, working with governments, the business community, universities and the full range of citizens who live in our countries. We will have to ensure equity, making sure that all people of varying economic conditions are protected.

We must also optimize the use of information development and transfer technology in the process of achieving these principles and goals. This can make our efforts much easier and much more productive.

In this new renaissance we will have to become renaissance men and women to meet these new challenges, every bit of the way keeping our goals in sight as we take this journey toward achieving safer local authorities and societies.

It will also be important for us to understand that “necessity being the mother of invention” we must accept that crisis and risk can be viewed as opportunities, the opportunity to create a better quality of life for all our citizens, by promoting and providing healthier and safer cities and societies to live in. This is another critical selling

point, and one of the numerous multi-benefit considerations that in a world of limited resources may well become our most important selling point.

And finally, in summary, we will have to specifically focus on tailoring these principles and strategies for local authorities, in such a manner as to assist these local governments to integrate them into their own cultures and circumstances, and in their own way, so that they can achieve the very best results possible.

---

*Copyright 2003, Donald E. Geis, Geis Design-Research Associates.*

All rights reserved.

---

### **Acknowledgements**

I want to take this opportunity to thank LACDE, the Shanghai Municipal People's Government, and the Shanghai Municipal Civil Defense Office for the wonderful opportunity to participate in this excellent and historic Conference, and to present my observations and recommendations at the Conference and in this report. The Conference and Report should not be considered finished, but rather should be looked at as only a beginning for continuing this important work.

*DEG... May 9, 2003*

---

### **ABOUT THE AUTHOR:**

***Donald E. Geis, Principal  
Geis Design-Research Associates  
Adjunct Professor, The University of Virginia  
11704 Karen Drive, Potomac MD 20854  
301-983-8358  
DEGeis@aol.com***

Geis presently has his own consulting business, *Geis Design-Research Associates* in Potomac, MD. and teaches at the *University of Virginia, Department of Urban and Environmental Planning, in the School of Architecture*. Most recently, he has developed a major white paper for the Shanghai, China government on developing more sustainable and safer cities. He has also

served as a member of former Maryland Governor Glendening's Smart Growth Advisory Group for Planning-Development Implementation/Regulations.

His work/research focuses on the development of Quality-of-Life Communities, Sustainable Development/Smart Growth and Transit-Oriented Design/Development (TODD) He is also known for his work on Disaster Resistant Communities (DRCs), a concept that Geis is credited with creating back in the early 90's, and that is now being extensively used throughout this country as well as internationally. The DRC concept focuses on sustainable planning-development considerations as they relate to natural hazards as well as human induced hazards.

Geis has extensive experience in these areas, both in the U.S and internationally. He has written and lectured extensively and has received numerous honors and awards for his work. He has worked with many public and private organizations in this country, in China, Mexico, Central and South America, the former Soviet Union, Europe, Canada and Israel.

In an advisory/consulting role, he has worked at various levels with: The Shanghai, China Government; The Partners for Livable Communities; The Neighborhood Reinvestment Corporation/Training Institute; the H. John III Heinz Center for Science, Economics and the Environment; the National Science Foundation; the US Federal Emergency Management Agency; Howard University; the University of Colorado; the University of Maryland; private architectural/planning-development firms; local communities/governments; the Association of the Collegiate Schools of Architecture; the American Institute of Architects; the Department of Energy; the Aspen Institute; The state of Florida; the Coastal Services Center, NOAA; EDA, the US Department of Commerce; and the Union of Local Authorities in Israel.

His professional and academic experience include:

- Ten years as the principal of his own consulting firm, Geis Design- Research Associates, Potomac, MD;
- Four years as Director of Community Design/Planning Programs at the International City/County Management Association (ICMA);
- Seven years as Program Director for Community and Environmental Design Research at the American Institute of Architects Foundation; and
- Twelve years on the faculty of the University of Virginia, School of Architecture, Department of Urban and Environmental Planning (presently adjunct faculty);
- Three and one half years as senior planner and lead for Urban Design Programs for the City of Pittsburgh.

Geis has a Masters degree of Architecture in Urban Design from Carnegie-Mellon University.