

See this page also at <http://tinyurl.com/dj54lt>.

### 1.1 Needs:

Economic interdependence among nations and cultures is spawning a global economy. Globalization also highlights clashes of divergent cultures and belief systems, both political and religious. If global peace is ever to be achieved, global-scale education, with the use of the modern digital telecommunications, will be needed to create mutual understanding among nations, cultures, ethnic groups, and religions. The Internet is the future of telecommunications and can be a medium for building peace.

Human activities are now causing global warming, which would lead to disastrous havoc in the years to come. For the sake of our future generation, it is an urgent task to start carving such global warming. However, this will inevitably encounter with conflicts of interests among various stakeholders, e.g., bio-fuel production vs. food shortage in drought-stricken, starving poor African countries, etc., to name but a few.

Alleviating global warming and attaining global peace are the most urgent, complex and confrontation prone problems of our time, since crashes and conflicts of interest are getting ever more fierce year after year with acceleration of globalization and manifold impacts of global environmental changes. In order to avoid devastating and violent confrontations in the coming years, we have to create appropriate mechanism to understand their causes and prepare our youngsters, the would-be decision-makers, to circumvent such catastrophe with their thoughtful action and wisdom with the maximum use of those technologies of Internet and GRID computing technologies which will be described below.

Our projects are (1) Global University System (GUS) Project, <<http://tinyurl.com/sfgm7>> and (2) Globally Collaborative Peace Gaming (GCEPG) Project <<http://tinyurl.com/k2c7a>>, which promote the following principles as effectively utilizing their associated technologies;

- (a) the principle of packet-switching technology (the basic of Internet) is **SHARING**, and
- (b) the principle of GRID technology is **COLLABORATION**.

These principles are key elements for attaining global peace, which should be the ultimate aim of global education and learning, rather than mere transfer of knowledge.

### 1.2 Objectives:

The GCEPG Project (which was initiated in early 1970s [Utsumi, 2003] (Fig. 1.1)) with a globally distributed computer simulation system is to help decision makers construct a globally distributed decision-support system for positive sum/win-win alternatives to conflict and war, particularly focusing on the issues of environment and sustainable development in developing countries.

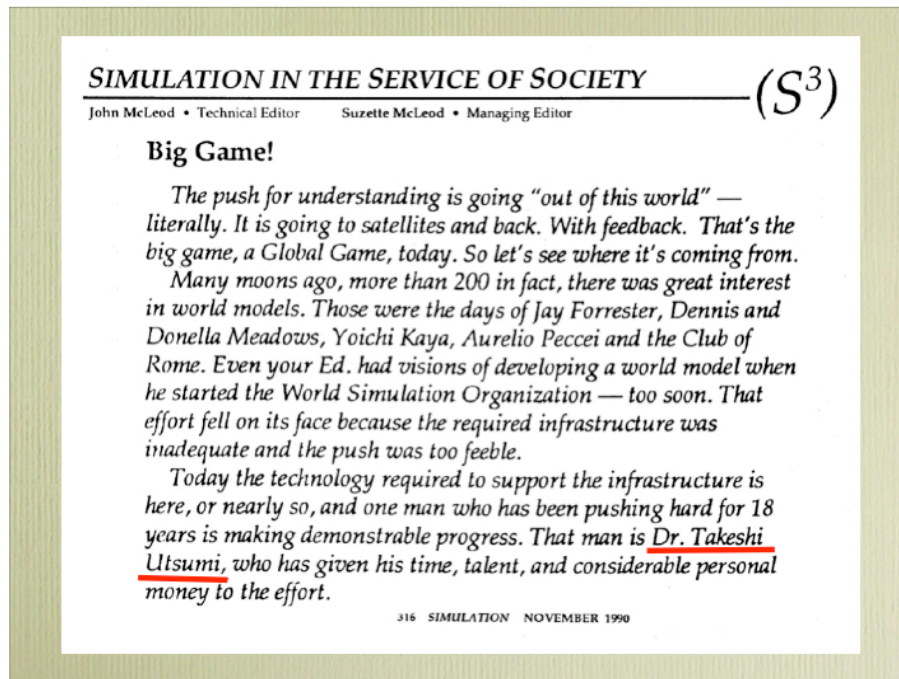


Fig. 1.1: “Big Game!”  
 <Big Game by McLeod copy.pdf>  
 <<http://tinyurl.com/dlubfp>>

The idea involves interconnecting experts in many countries via the global Internet to collaborate in the discovering of new solutions for world crises, such as the deteriorating global environment, and to explore new alternatives for a world order capable of addressing the problems and opportunities of an interdependent globe. Gaming/simulation is the best tool we have for understanding the world's confrontation prone problems and the solutions we propose for them. Systems analysis for systemic change at the global level is a precondition for any significant resolution of today's global scale problems. The understanding gained by scientific and rational analysis and critical thinking based on ‘facts and figures’ would be the basis of conflict resolution for world peace, and, hence, ought to provide the basic principle of global education for peace.

### 1.3 Examples of Policy Analysis:

The quantitative policy analysis of globally collaborative GCEPG project will focus on the sustainable development of socio-economic-energy-environment system in relation with global interrelations and interdependencies among Japan, the US, China, Russia, and the other relevant countries. Researchers in those countries will construct their simulation models, which will be interconnected through broadband Internet to form Globally Distributed Socio-Economic-Energy-Environmental Simulation System.

Some of envisioned examples are;

1. Former Vice President and Nobel Peace Laureate, Mr. Al Gore recently proposed to replace fossil fuel with renewable one to generate electricity in the USA in ten years <<http://tinyurl.com/66sk9d>>. Would this be a viable direction? If so, what would be the consequences to other economic and social structures in the US and in other countries, particularly Nigeria? – see below.

By the way, in 1981, I coined the phrase "Global Neural Computer Network" in which each participating game player, with his/her own desktop computer, database and sub-model, would correspond to a neuron, router to synapses, with the Internet serving as nerves in a global brain. Then the Vice President Al Gore used this term in a speech (as the result of one of his staffs at the White House received numerous e-mail messages from my list) and continued with the following words:

*"The Department of Defense is investing well over \$1 billion in the development and implementation of networked distributed interactive simulation. This technology, which allows dispersed learners to engage in collaborative problem solving activities in real time, is now ready for transfer to schools and workplaces outside of the defense sector." [Speaking to communications industry leaders, January 11, 1994, Washington, D.C.]*

2. President Obama recently proposed to supply 20% of the US total electricity generation with wind energy source by the year 2030, compared with only 0.8% currently <<http://www.whitehouse.gov/blog/09/04/22/A-Choice-Between-Prosperity-and-Delay>> and <<http://www.yomiuri.co.jp/eco/news/20090424-OYT1T00150.htm>> in Japanese>. How would this policy affect energy economy of the US as well as in other countries?
3. Dr. Rajendra Pachauri, Chairman of the Nobel Peace-winning Intergovernmental Panel on Climate Change (IPCC), recently advocated reduction of meat-eating for mitigating climate change <<http://tinyurl.com/6etakf>>. How would this affect human health and social structures in the US as well as in other countries?
4. Energy security with the deployment of gas pipeline from Tomsk, Siberia to China, and the construction of hydroelectric dam in the Republic of Altai, Siberia. This gas pipeline will affect the socio-economic developments of Siberia, China, and hence the ones of Japan, the US, Europe and others. Japan will increasingly depend on the energy (oil and gas) supply from Russia, and uranium from Kazakhstan. The construction of hydroelectric dam in the Republic of Altai Siberia will affect the five UNESCO World Heritage sites in the Republic, which attracts an increasing number of tourists (400,000) into small town of Gorno-Altai with only 9,000 residents. The goal of this study will be to find a sustainable solution for this complex societal problem -- a solution that is acceptable for all parties without harming the environment and the quality of living in the Altai Region of Siberia.
5. Economic and community development in Niger Delta Region of Nigeria, along with low-sulphur content crude oil production which 40% is exported to north America for electricity generation, which may be replaced with renewable energy sources if Mr. Al Gore's and/or President Obama's propositions would succeed -- see above -- thus a vital interest of the United States as well as Nigeria, particularly on the allocation of oil revenue to prevent local war in Niger Delta region.

There would be many other conflicts on environmental issues in local, regional and global scales. They will be more severe and fierce as getting close to the 2050, which is the target year of the United Nations Millennium Development Goals (UN/MDGs), since many of its items are expected not meeting with the goals. The decision-makers in those years would be the youngsters in 10s and 20s nowadays. They must then be well prepared to cope with those conflicts with rational analysis and critical thinking basing on the facts and figures.

GCEPG Project will then demonstrate integrated, synergistic approach among grassroots, government, university, stakeholder, etc. Use of graphic info modeling/mapping and potential "peace gaming" (\*) on key issues and solutions will assist each group's ability for standardized data gathering and situational analyses, projecting out possible outcomes for more informed decision making and activities. It brings together most sophisticated university-based mathematical modeling techniques and experts and regular

people who can then more easily see--at a glance--how issues and outcomes can impact and interact each other.

(\*) which term I coined more than 35 years ago. War gaming is to win the war once when it happened, and peace gaming is to avoid the occurrence of war (Fig. 1.2). Avoiding war is much cheaper than waging war.



Fig. 1.2: Comparison of War and Peace Games  
<War and Peace Games-no background-1 copy.pdf>  
<<http://tinyurl.com/cqb8xq>>

It is now possible to combine existing technologies to make sophisticated and more holistic explorations of various scenarios for solving global social problems. Many small computers in different countries can be interconnected, through globally distributed network and information processing, into modeling and simulation instruments for playing peace games on the scale of Pentagon's "war games" (McLeod, 1987), to which our "peace gaming" of GCEPG Project might be equivalent as to contribute to the alleviation of global warming and hence global peace.

## References:

McLeod, J. (1987). "TAK is TICKING," *Simulation*, December, pp 273-4

Takeshi Utsumi, (2003), "**Globally Collaborative Environmental Peace Gaming (GCEPG)**," *Global Peace Through the Global University System*, University of Tampere Press, Tampere, Finland  
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