

GLOBALISATION AND COVID-19

CONTRIBUTIONS TO CONFLICT MANAGEMENT, PEACE ECONOMICS AND DEVELOPMENT

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GLOBALISATION AND COVID-19

EDITED BY

MANAS CHATTERJI

Binghamton University, USA

URS LUTERBACHER

*Graduate Institute of International and Development Studies,
Switzerland*

VALÉRIE FERT

GMAP-Artificial Intelligence System Mileva, Switzerland

AND

BO CHEN

Central University of Finance and Economics, China



United Kingdom – North America – Japan
India – Malaysia – China

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ABOUT THE EDITORS



Manas Chatterji (Binghamton University, USA, and Guest Professor, Peking University) is a Professor of Management and Adjunct Professor in Economics and the Asian and Asian-American Studies Program at Binghamton University, State University of New York, Guest Professor, Peking University, Visiting Professor, Central University of Finance and Economics, and Distinguished Professor in Poznan University, Poland. He also served as a Richard P. Nathan Fellow in Public Policy at Rockefeller Institute

of Government, SUNY. He is a Distinguished Fellow in the Program in Political Psychology and Decision Making (POP-DM) at Lauder School of Government, Diplomacy and Strategy, Israel. He was also an Honorary Distinguished Professor at Indian Institute of Management-Calcutta, India and George Mason University, USA. He is an Elected Member of Polish Academy of Science – Committee on Regional Planning. He is currently a Fellow of the international organisation Economists for Peace and Security. He previously taught at the Wharton School at the University of Pennsylvania and has held visiting appointments at Cornell University, Erasmus University, University of Karlsruhe, University of Munster and many other universities in the United States, Europe, Asia and South Africa. He established the Mahatma Gandhi International Research Centre on Conflict Prevention and Management in Bangalore, India.

He organised several events in the past. He has organised international meetings on Peace Science, Disaster Management, Health Care, Technology Management, Disaster Management, etc. in many countries including Japan, China, and Russia. During his career, he has edited three journals and serves on editorial boards of many others. Presently, he is the co-editor of *International Studies of Peace Economics and Peace Science* published by Cambridge Scholars, UK. He is also the General Editor of a book series on *Contributions to Conflict Management, Peace Economics and Development* published by Emerald Publishing Company, UK. Twenty-seven volumes in this series have been published and two more are forthcoming. He has authored/edited more than 30 books and published about 80 scholarly articles in the areas of Peace Science, Military Spending, Disarmament, Economic Conversion, Conflict Management, Regional Science, Technology Management, Health Care Management, Energy, Environmental and Urban Management. He got his B.A. (with honours in Statistics) at Calcutta University, M.A. (Statistics) at Calcutta University, and Ph.D. at Wharton School, University of Pennsylvania.



Urs Luterbacher is an Honorary Professor of Political Science and International Relations, Graduate Institute for Higher International and Development Studies (IHEID – Geneva), where he taught from 1973 to 2011. He was also a Visiting Professor at the University of Nebraska (1984) and at the Department of Atmospheric, Oceanic and Space Sciences of the University of Michigan (1990 – 1991). He has done work on problems of international conflict and cooperation and international environmental problems, using formal models and game theory. He is a

Member of ProClim the Forum for Climate and Global Change of the Swiss Academy of Sciences and of the Consultative Organ on Climate Change, a committee set up by the Swiss Academy of Sciences to advise the Swiss government on climate change. He is also the Founding-member of GMAP, a Swiss independent think-tank devoted to the analysis and future-oriented studies of the twenty-first century major transformations. He currently contributes to the Artificial Intelligence System Mileva by implementing statistical methods of verification and various theoretical approaches. For instance, he entered the types 1 and 2 errors into the system, which allow to refine the probability of the forecasts. He is the author among other things of *Dynamic Models of International Conflict* (ed.) with Michael D. Ward. Boulder, CO: Lynne Rienner Publishers, 1985; *Cooperative Models in International Relations Research* (ed.) with Michael D. Intriligator: Kluwer, 1994; *International Relations and Global Climate Change* with Detlef Sprinz, Cambridge, MA: MIT Press, 2001; *Emotions, Decision-Making, Conflict and Cooperation* Bingley, UK: Emerald Press, 2017; *Global Climate Policy: Actors, Concepts, and Enduring Challenges*, with Detlef Sprinz, Cambridge, MA: MIT Press 2018; And also of “Predicting Crises and Monitoring Their Evolution” with Thierry Lorho and Valérie Fert, *International Journal of Peace Economics*, 1(1): 1–40, 2016.



Valérie Fert is the President of GMAP, a Swiss independent think-tank devoted to the analysis and future-oriented studies of the twenty-first century major transformations, Co-designer and Principal Data Analyst of the artificial intelligence system Mileva, an advanced tool with a unique quantum approach. She was a graduate in history of the French Ecole Normale Supérieure. She focusses on the analysis and forecast of complex geopolitical, economic and societal issues and conducts research on complexity, epistemes and patterns of long-term major geo-

historical transformations. On the basis of the AI system Mileva, she has led future-oriented studies for NASA, the department of cyber international relations of the

MIT, the Sanctions Committee to the UN Security Council, Aga Khan Development Network and numerous NGOs and International NGOs. Also, on the basis of the AI Mileva, she has contributed to the development of a rating system in the field of CSR, totally transparent, interactive, forward-looking and contextualised, thus transforming the rating into a real steering and decision-making tool. This rating system is used by the 215 universities, members of the International Federation of Catholic Universities. Similarly, she is currently contributing to the establishment of an early warning platform for epidemic risks and their potential impacts. She is the co-author, among others, of ‘COVID-19: Towards a World Risk Society’ (under the direction of François Mabilille – L’Harmattan 2021), ‘Predicting Crises and Monitoring their Evolution’ (with Thierry Lorho and Urs Luterbacher – *International Journal of Peace Economics and Peace Science* 2016), ‘Enjeux géopolitiques de l’environnement: énergies, marches, conflits’ (with François Mabilille, ed. Du Cygne – 2013).



Bo Chen is the Dean of the Institute of Defence Economics and Management, Central University of Finance and Economics (Beijing), he served as a Visiting Scholar at the Department of Economics and Department of Politics, University of California at Los Angeles (2008) and Kennedy School of Government, Harvard University (2009). His research interests include defence economics, economy and national security, strategy and conflict economics, war and finance, international political economics, defence industry, and defence budget and military spending. He is the Editor of ‘Cooperation

for a Peaceful and Sustainable World’ (Emerald Group Publishing, 2012), ‘Frontiers of Peace Economics and Peace Science’ (Emerald Group Publishing, 2011). He is the author of 8 books, including ‘National Defence Economics Thought’ (Economic Science Press, 2013), ‘The Frontiers of National Defence Economics’ (Economic Science Press, 2010) etc., and his articles have appeared in such journals as *Defence and Peace Economics*, *China Military Science*, etc. He is also the Co-Chair of the International Conference on Conflict Management, Peace Economics & Peace Science. He holds a Ph.D. in Defence Economics from the National Defence University, a M.S. in Applied Economics from Wuhan University, and a B.S. in Biology from Northwest University.

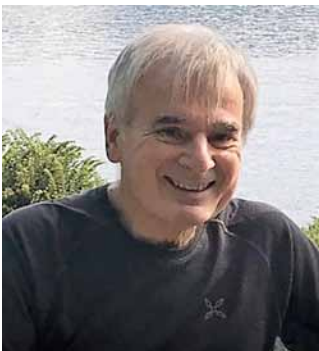
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ABOUT THE CONTRIBUTORS



Rémi Boyer has been a Chief Human Resources and CSR since 2016, a Member of the Group Executive committee of the Korian Group, the leading European Care Services Group for elderly and fragile people, with 60,000 employees across Europe. Before Korian, he spent 20 years in the industry, first at the steel industry worldwide giant ArcelorMittal from 1998 to 2010, based in Luxembourg, and then at the French carmaker PSA Peugeot Citroen, from 2010 to 2016. In these two companies, he held various international positions mainly as

Senior Vice President HR at divisional and Group levels but also as CSR VP and Secretary General to the Group Management Board. He is a Graduate in History and International Relations of the French *Ecole Normale Supérieure*. He started his career as a Lecturer in Contemporary History at the University of Paris Sorbonne in 1991 and also spent two years on the staff of the French Ministry of Education from 1995 to 1997. He is the co-author of a report to the French Government in 1995 on the French Educational System ‘Pour l’Ecole’, directed by the former Minister Roger Fauroux, published by ed. Calmann-Lévy in 1996.



Riccardo Cappellin is a Professor of Applied Economics, University of Rome ‘Tor Vergata’. He was among the founders in 1980 of the Italian Association of Regional Sciences (AISRe) and its first Secretary and then from 2010 to 2013 President of AISRe. He is now the Coordinator of the research network: ‘Growth, Investments and Territory’, created in October 2013, which has published three ebooks and organised five Policy Workshops, a Policy forum at the EU- Economic and Social Committee and the Italian Economic and Social Council and sessions at the ERSA and

the Regional Studies Associations. The recent results of these seminars have recently been published on ‘Symphonia, Emerging Issues in Management’, n. 2, 2020, <http://symphonia.unicusano.it/>. He studied at the University of Pennsylvania with Walter Isard, founder of the Regional Science Association,

and with Lawrence R. Klein, 1980 Nobel Prize for Economics. He was an Associate Professor at the Bocconi University, Full Professor at the University of Calabria and then Full Professor at the University of Rome ‘Tor Vergata’, where he actually teaches Applied Economics. His recent publications (available on: <https://uniroma2.academia.edu/RiccardoCappellin>) focus on industrial policies, knowledge and innovation economics, knowledge-intensive services, urban policies, decentralisation and governance in national policies and on European integration.



Zhipei Chi is an Associate Research Fellow in the Institute of Defence Economics and Management at Central University of Finance and Economics, Beijing, China. His areas of interest include technology competition between states, China–US relations and Economic statecraft. He has published several related articles in peer-reviewed Chinese journals and a monograph on the technology cold war between China and the United States. He received his Bachelor and Master’s degrees in Philosophy from the Department of Philosophy and

Religious Studies of Peking University in 2006 and 2009, respectively. After earning his Doctoral degree in Political Science from Arizona State University in 2014, he started his current position at Central University in 2015.



Sophie Croome is a Student in Boise State’s Master of Economics program. Her thesis studies the effect COVID-19 policies influenced people’s recreational activities in Idaho parks. Her research interests are in environmental economics, microeconomic theory, and conflict and peace economics. She is expected to graduate in May 2022.



Marc Finaud is a former French diplomat who has been seconded to the Geneva Centre for Security Policy between 2004 and 2013 and then worked until 2022 for this international foundation, where he trained diplomats and military officers in international and human security, and conducted research in those fields. He is also the Founding-member of GMAP, a Swiss independent think-tank devoted to the analysis and future-oriented studies of the twenty-first century major transformations. During his

36-year career as a diplomat (from 1977 to 2013), he served in several bilateral postings (in the Soviet Union, Poland, Israel, Australia) as well as in multilateral missions (to the Conference on Security and Co-operation in Europe, the Conference on Disarmament, the United Nations). He was also a Senior Resident Fellow (WMD Programme) at the United Nations Institute for Disarmament Research (UNIDIR) between 2013 and 2015. Since 2016, he is also a Swiss citizen. He is the author, among others, of ‘Global Biosecurity: Towards a New Governance Paradigm’, with N. Al-Rodhan et al., Slatkine, Geneva (2008), ‘Multilateralism and Transnational Security: A Synthesis of Win-win Solutions’, with N. Al-Rodhan et al., Slatkine, Geneva (2009), ‘L’arme nucléaire : Éliminons-la avant qu’elle nous élimine’, L’Harmattan, Paris (2020), ‘COVID-19: Toward a World Risk Society’, François Mabillet dir., L’Harmattan, Paris (2021).



Jacques Fontanel, Professor at ILERI at Paris (Institut Libre des Etudes de Relations Internationales de Paris), former Professor and vice-President at the University of Grenoble. He has published numerous articles on the economics of international security, peace and state action. He has been a consultant to international organisations, notably for UN0 and UNIDIR.

He holds a Doctorate in Economics from the University of Paris X Nanterre and the University of Social Sciences of Grenoble. He holds an Honorary Doctorate from the St. Petersburg State University of Economics and Finance.

Main publications:

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- Fontanel, J. (2021). *L'Europe des paradis fiscaux*, Université Grenoble-Alpes. *Liber Amicorum*, Mélanges en l'honneur de Madame la Professeure Catherine Schneider.



Thierry Lorho is a Computer Engineer and Information Scientist, Expert in artificial intelligence and the quantum approach of information theory and the decision theory. He is a Graduate of the Institut Mines-Telecom and holds a MBA from Paris-Dauphine University. Beside his work on the advanced artificial intelligence system Mileva, he has 25 years of experience in the banking information services with a leading European IT Consultancy. He conducts research with Prof Urs Luterbacher (Graduate Institute of International Studies and Development). Both co-authored “Predicting Crises and Monitoring their Evolution”, in “*International Journal of Peace Economics and Peace Science*” (Cambridge Scholars Publishing).



Dr Norio Okada graduated in 1970, received M. Eng. in 1972 and Dr. Eng. in 1977 all from the Faculty of Engineering, Kyoto University. His academic background is civil and environmental engineering, mathematical modelling and systems approach to infrastructure planning and management. His major research interests are twofold: methodological development and application, and field-based research for planning and management of physical and human systems, particularly related to natural disasters, the environment, water resources and infrastructure systems. His methodological foci include (i) risk management and governance, (ii) conflict management and game theoretic approaches, and (iii) adaptive management of complex systems under high uncertainty. Since 2001, he has been leading an extensive international research initiative to establish a new cross-disciplinary research area called Integrated Disaster Risk Management, by organising a series of international conferences and workshops in collaboration with the International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. This research initiative has resulted in the formation of the new academic society called ‘The International Society for Integrated Disaster Risk Management’ (IDRiM Society) of which he has become elected as the first President since September 2010.

He is a Fellow and the former Council Member of the Japan Society of Civil Engineers, Council Member of the Society for Risk Analysis – Japan Section, and a Member of many domestic and international academic societies such as the IEEE Systems, Man, and Cybernetics (SMC) Society. He has served on advisory committees for many government agencies in Japan on environmental and risk management as well as urban planning. Additionally, he has been contributing to

global initiatives related to international research and policy development activities by serving as a member of the Scientific Technical Council of the International Risk Governance Council (IRGC), Geneva, and by leading its new project on 'Risk Governance of Maritime Global Critical Infrastructure under Extreme Events'. Till 2012 he has also served on the Organization for Economic Co-operation and Development (OECD)'s special advisory committee.



Camille Raillon holds a PhD in Political Science on the concept of resilience in the humanitarian space – and has been a Researcher on education, health and resilience issues for more than 8 years. She is currently a Scientific Officer at the Red Cross Foundation and has worked for the last few years as a Research Fellow for the International Federation of the Catholic Universities – IFCU. She has coordinated several research projects on global health, foresight and potential epidemics. Since 2021, she has also been developing the 'French Future Institute', an international network of experts in foresight at the service of NGOs, OSIs and

public bodies. She co-authored the book *COVID-19, Toward a World Risk Society* (L'Harmattan, February 2021).



Shikha Silwal is an Associate Prof of Economics at Washington and Lee University (W&L). Her research interests are in the areas of development, conflict and peace studies, and law and economics. Her recent publication include a journal article titled, "The Economics of Looting and Destruction of Cultural Heritage Objects and Sites," published at Defense and Peace Economics and a book titled, *The Economics of Conflict and Peace: History and Application*, published as part of Elements series by the Cambridge University Press.



Tanguy Struye de Swielande is a Professor of International Relations at the Catholic University of Louvain (Belgium), the Director of the Centre d'Etude de Crises et Conflits Internationaux (Centre for the Study of International Crises and Conflicts), and the Coordinator of the Chair InBev Baillet Latour dedicated to the relations between China and the European Union. He is also a Coordinator of the strategic committee of experts reporting to the Minister of Defence of the Kingdom of Belgium. He is furthermore the

Founding-member of GMAP, a Swiss independent think-tank devoted to the analysis and future-oriented studies of the twenty-first century major transformations. Tanguy's researches include Great powers, the concept of power, strategic foresight, US–China relations, Indo-Pacific and information warfare. He is the Editor of the book series *Scène internationale* (Presses Universitaires de Louvain) and has published different monographs and numerous peer-review articles and chapters.



Dorothée Vandamme, PhD, is a Visiting Lecturer in International Relations at the Université catholique de Louvain and a Lecturer at the University of Mons, in Belgium. She is a Research Fellow at the European Foundation for South Asian Studies. Her research focusses on sociological perspectives of Pakistan's foreign relations and its military institution, and contemporary security dynamics. Her latest publications include 'Bringing Researchers Back In: Debating the Role of Interpretive Epistemology in Global IR' in *International Studies Review*, and "The normative awkwardness of Pakistan" in *Awkward Powers: Escaping*

Traditional Great and Middle Power Theory (Eds. G. Abbondanza and T. S. Wilkins; Palgrave Macmillan 2021).

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FOREWORD

In the new era of the twenty-first century, we see the emergence of globalisation, the market, production, and institutions. The drivers of globalisation are multinational corporations. Barriers of international trade and investment have been broken. Most people say the impact of globalisation is better for the welfare of the people, and some disagree.

Technological progress has gradually sped up the process of globalisation. In the meantime, international conflict as well as natural or manmade disasters has increased all over the world. The most threatening problem we face now is war, especially nuclear war, and explosive amounts of military expenditure. To analyse this process of globalisation and its relation to disaster and conflict, we need new techniques of emerging social sciences like Peace Science, Regional Science, and tools of Management Science. The process of globalisation is very much related to climate change, war, and destruction of cultural heritage. It is also related to a new type of disaster, namely, the COVID pandemic. To combat the social, economic, and psychological downfall, we need a different type of public policy to reduce inequality and international conflict. This volume addresses all these factors by eminent scholars. This volume is also dedicated to millions of people who have perished or been affected by the pandemic globally, including my beloved sisters.

Prof Manas Chatterji, Binghamton University, NY,
and Guest Professor, Peking University

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I am extremely grateful to my co-editors Prof Urs Luterbacher as the co-initiator of this project, Valérie Fert and Bo Chen for their support. I’m also indebted to Marc Finaud, Head of Arms Proliferation at GCSP, Deborah Zdravkovic, Senior Course Coordinator, Alexandra Borgeaud dit Avocat at Global Support Group, Roberto Bonino at LUSVAL, my graduate student Suzanne Lee, computer specialists James Scott, and Hrishikesh S. Mahajan from State University of New York at Binghamton.

I would also like to express my heartfelt appreciation to doctoral candidate Liyang Dong from State University of New York at Binghamton for her exceptional secretarial and editorial assistance. I am grateful to all the presenters for their cooperation and patience for the long process. I am relieved to finish this book project after months of planning, operation, and execution of this academic endeavour and facing financial challenges.

Prof Manas Chatterji, Binghamton University, NY,
and Guest Professor, Peking University

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CHAPTER 1

REGIONAL SCIENCE, PEACE SCIENCE, AND ANALYTICAL MANAGEMENT RESEARCH TECHNIQUES IN COVID-19 IN THE DEVELOPING COUNTRIES

Manas Chatterji*

ABSTRACT

The objective of this chapter is to discuss how different techniques in Regional Science and Peace Science and the emerging techniques in Management Science can be used in analysing Disaster Management and Global pandemic with special reference to developing countries. It is necessary for me to first discuss the subjects of Disaster Management, Regional Science, Peace Science and Management Science. The objective of this chapter is to emphasise that the studies of Disaster Management should be more integrated with socio-economic and geographical factors. The greatest disaster facing the world is the possibility of war, particularly nuclear war, and the preparation of the means of destruction through military spending.

Keywords: Disaster management; COVID-19; Peace Science; Regional Science; Management Science; military spending

*This chapter is a summary of some well-known scholars' contributions in their published studies on the subject matters of Disaster Management, Conflict Management, Peace Economics, and Management Science. I do not claim any originality on my part.

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INTRODUCTION

There has been a fantastic development in the literature on Disaster Management. However, one area is not adequately represented. It is the role of conflict in disaster management. There are conflicting goals in relief operations and supply chain management due to the existence of social, political, socioeconomic, cultural and other realities, particularly in poor developing countries. One objective of this chapter will be to show how to change the supply chain models used in Management Science, taking into consideration this conflict situation. Secondly, the existence of conflicts between different groups in a country, i.e. ethnic conflict, religious conflict, etc., needs to be resolved to ensure peace. Sometimes they lead to disasters, which are mostly man-made. We need to know the nature of this relationship and determine policies to prevent and manage this situation. Furthermore, often natural disasters lead to conflict. We need to predict and possibly avoid policies which accentuate such conflicts. There are three items I'd like to discuss in detail: One, in Peace Science, disasters due to the possibility of war, particularly nuclear war and the role of military expenditure in economics and development; this is particularly so in the recent Russian war on Ukraine; Two, spatial aspects of disasters in the section of Regional Science; Three, ecological disasters such as cyclones, tornadoes, forest fires, floods, etc. After discussing Disaster Management, Peace Science and Regional Science, I shall discuss how different analytical techniques and models can be used to predict and analyse the impact of all these disasters. The word in this chapter 'disaster' refers to both the natural disaster and man-made disaster like terrorism. Some of the characteristics and materials of Disaster Management are largely borrowed from the studies published by the World Bank (2010 onward).

I. Disaster Management

A. Types of Disaster (World Bank)

- Natural disasters: earthquake, flood, landslides, etc.
 - Man-made disasters: war, famine, terrorism, chemical disaster (Bhopal)
 - Global warming and environmental disaster
 - Tsunami disaster
- Linkage between man-made and natural disasters
- Economic impact
- Hazard type
- Scale and geography
- Structure, status and level of the economy
- Economic interdependence and level of technology
- Cost of natural catastrophes
- Natural catastrophes, infrastructure and poverty
- Risk reduction
- Risk transfer
- Ethics in supply chain models
- Humanitarian disaster management

- Disaster management in poor countries
- Socioeconomic, institutional and political variables in disaster management
- Role of international organisation in disaster management
- Natural disaster, political instability and vice versa
- Climate change and civil conflict
- Disaster management leading to peace?

B. Reconstruction (World Bank)

- Measures taken in advance on adjustments after the fact
- Means of smoothing consumption
- Insurance transaction
- Credit transactions
- Depletion of buffer stocks
- Adaptation to risk
- Friedmann Permanent Income Hypothesis
- Risk reduction mechanism
- Income diversification
- Credit and informal insurance
- Mutual aid
- To avoid worst outcomes, households facing limited formal insurance and credit arrangements use various mechanisms to smooth consumption. They can take measures in advance and reduce uncertainty over income realisations, or they can rely on adjustments after the fact. These include accumulation and running down of assets or pooling of income risk using informal insurance and credit arrangements.
- A need assessment could not be carried out at the start of the recovery phase, in order to understand ways of building on existing livelihoods.
- There was insufficient credit available in the recovery period, even despite the very widespread network of Bangladeshi micro-finance institutions. In terms of supporting livelihoods, this should be the first priority of external agents.
- NGOs with an ongoing development programme are most likely to be effective in the recovery phase, targeting poorer households and supporting their households.
- Risk Transfer provides a safety net for economic loss to property. Just as governments provide safety nets to people in times of need, risk transfer provides safety for the losses to property from unexpected events.
- Kinship based network
- Credit association and banks
- Rural money lenders
- Participatory mitigation strategy
- Pooling resources
- Sharing knowledge
- Pooled resources in households, communities, private sector and government
- Disaster exposure and pathological risk

- Disaster and business planning
- Risk as seen by the public and experts
- Knowledge and ethical responsibility in industrial disaster
- Organisations must improve their ability to learn from incidents in order to reduce the frequency and severity of the disaster
- Balance between prevention and relief. What is the present state of disaster response?
- Real Problem is not lack of communication equipment, but the flow of information that was inaccurate, incomplete or misunderstood.
- Major natural disasters can and do have severe negative short-run economic impacts. Disasters also appear to have adverse longer-term consequences for economic growth, development and poverty reduction. But negative impacts are not inevitable.
- Vulnerability is changing quickly, especially in countries that are experiencing economic transformation – rapid growth, urbanisation and related technical and social change.
- Moral Principles for Disaster Management and Relief Strategies (DMRS)
- Egalitarianism. DMRS is good if they bring equality.
- Welfare Maximisation – Maximise the net aggregate welfare. Efficiency neglecting the poor.
- Libertarianism is unreasonably harsh.
- Distributive Justice – Distribution of social and economic goods.
- Corrective Justice – when one person helps a person cooperate with the other person
- Natural disasters cause significant budgetary pressures, with both narrow fiscal short-term impacts and wider long-term implications for development. Reallocation is a primary fiscal response to disaster. Disasters have little impact on trends in total aid flows.
- Natural hazard risk management should be integrated into long-term national investment policies and development strategies and appropriately reflected in the allocation of financial resources.
- High quality, reliable scientific information is a necessary condition for effective disaster risk management. The international risk community should support global and regional research and information systems on risk. It should also ensure that there are adequate complementary monitoring and regional dissemination programmes at the national level. Priorities include climatic variability, regional and national flood forecasting, and geophysical hazards.
- To understand and assess the economic consequences of natural hazard and implications for policy, it is necessary to consider the pathways through which different types of hydro-meteorological (climate-related) and geophysical hazard affect an economy, the different risks posed, and the ways in which societies and economy adapt to or ignore these threats.
- Experts have long said that one effect of global warming will be to alter precipitation patterns-increasing rainfall in some places while decreasing it in others. A warmer atmosphere, according to this view, causes more water to evaporate from the surface. Also a warmer atmosphere holds more moisture,

so that when a storm system comes through a given locality to make it rain, the rain is heavier.

- A clear link of natural disasters to poverty is through infrastructure. The linkages can be described in at least three components: access to infrastructure is often a measure of poverty; infrastructure is a key component of economic growth; and a loss of infrastructure may have significant indirect and secondary costs that directly affect the poor.
- Discussions revolved around a range of issues facing urban areas:
 - Economic impact and globalisation;
 - Adaptation to climate extremes and climate change
 - Preventive strategies to reduce disaster risk
 - Social infrastructure and the vulnerability of the poor
 - Social perception of risk
 - The impacts of disaster on critical infrastructure linkages
 - Threats to mega cities from new types of hazards
 - Urban vulnerability and environmental issues relating to climate change, coastal megacities, flooding, urbanisation and urban land markets
 - Increased global economic activity is resulting in environmental degradation that in turn increases the frequency and intensity of natural disasters, making their impacts more devastation
 - It is proposed that if industrialised countries are in recession, disaster recovery for developing countries may take longer, since small assistance will be forthcoming and a worldwide recession will make any sort of recovery difficult
 - Cultural heritage is also an important component of social infrastructure and quality of life. Impact of disasters upon urban cultural heritage and cities efforts to save historic buildings and precious works of art
 - Issue of critical infrastructure, retrofitting existing infrastructure and what happens when infrastructure fails
 - Faith-based organisations can play in implementing successful disaster risk reduction strategies
 - In the case of essential services, the failure of one system can cause several other critical systems to fail, resulting in a domino effect. Realisation of the inter-linkages and possible multi-system failures should be taken into account when identifying risks and attempting to mitigate them in the disaster management process.

C. Public Policy (World Bank)

- Government policy that manages the food supply in a flexible manner, including allowing private sector food imports, can help to stabilise the price of staple foods after major natural disasters. Public intervention in food management and operation is essential.
- Households living in marginal environments worst impacted by flood are often permanently in the relief phase of development. Planning a relief to the development continuum may need to rethink interventions related to these households.

- The power of taxation has traditionally helped governments best able to cope. In politically unstable countries and those subject to recurrent disasters, a resource gap may exist.
- Though cost efficiency should not be the sole criterion for assessing investment in development and risk management projects, it provides important information for efforts aimed at reducing potential economic aspects due to natural disasters, thus contributing to more economic development.
- We need to discuss whether individuals and businesses have enough economic incentives to carry out socially appropriate levels of mitigation for reducing future disaster losses.
- The first lesson learned is planning for the impacts of catastrophes. The second lesson is that the ability to finance losses following a catastrophe is crucial to recovery. Hence, planning for catastrophes is also essential. Finally, evaluating the potential benefits of risk transfer alternatives.
- The major policy recommendation that emerges is that risk management must be a formal component of development planning for countries with high natural catastrophe exposure. Through planning, countries can reduce some of the negative impacts on development and improve the situation of the poor during and after crises. Such risk management involves major steps risk identification, reduction and financing.
- Case Studies
- Excessive growth and disaster
- Flooding in Patna, India, 1,500 lives are lost every year in India due to floods.
- May 1997 Earthquake in Iran, overall performance and rescue operation is excellent.
- Organisational response, coordination, communication, training management and group dynamics; 1995 eruption of volcano in New Zealand.
- Consensus building and training and organisation changes effective in 1993 (compared to 1983), Tucson, Arizona flooding.
- Health planning
- Different disasters have different health effects. Preparation and availability of medical health facilities, personnel and equipment. Immediate casualties and death, secondary illness, destruction and damage to health services. Response capability of health services.
- Index of seismic vulnerability by considering topography, geology, seismotectonics, geotechnical aspects, structural performance, lifeline, emergency services, socio-economic condition and reserve capabilities.
- 26 January 2001, Gujarat, India Earthquake, 20,000 people killed. No hazard mapping, lack of proper knowledge about earthquake resilience. No persistent design of decision support system after earthquake.
- Mumbai Rainfall, July 2005.
- Kobe Earthquake in 1995. Magnitude of impact, strategic preparation maintained by repair organisation.
- Relation between stress and experience of the workers

- As a result of its extensive experience with disaster case studies in Latin America and Caribbean (ECLAC) developed a manual to assist countries and international aid agencies to frame immediate post-disaster assistance.
- Tsunami disaster in South and South-East Asia.

II. Conflict Management, Peace Economics and Peace Science

A. Conflict Management

The following argument and evidence follow Isard closely.

Isard (1992) argues that conflict is different from having a problem or dispute. A dispute can be solved by an agreement on how something should or should not be done. A dispute arises when interests clash. Problems and disputes are related to an action, however, conflict can exist without such a specific focus. It may be expressed through a problem or dispute. The underlying conflict may be the cause of superficial problems. The scope of a conflict may be maximised or minimised; it may prove to be manageable or unmanageable. Isard continues to argue that conflict is based on perceptions and feelings rather than facts. It can only be reasoned by dealing with feelings and perceptions as such. It may be difficult to eliminate the conflict but appropriate prevention and management techniques can lessen its impact and particularly help to avoid violence. Since conflict increases stress, an accompanying stress management procedure will greatly help to reduce the negative effects. Since conflict develops over time, in many situations it is predictable. A flexible collaboration approach (sometimes coercive) from the beginning rather than direct confrontation should be adopted. Not all conflicts are inherently destructive.

The realisation of conflict starts with a careful analysis that includes identification, preparation, separation of facts and feelings, an awareness of context and past history. Conflicts do not take place in isolation. They inevitably have a context which includes some specific issues, partisan interests and positions. There is also a strong relationship between culture, communication (verbal and non-verbal) and conflict. Communication is a bilateral enterprise. Active listening is a requirement for conflict resolution. Since conflict management is a proactive process, arbitration requires careful planning and preparation. Sometimes, parties do not want to have a bilateral discussion and wish to have a third party intervention/mediation. There is a considerable amount of literature on the subject of negotiation arbitration, mediation, etc., particularly in labour disputes. Unfortunately, these methods have not been used in political conflicts.

Peace Science, on the other hand, relies upon a highly theoretical focus to attain peace in political conflicts. Although it proclaims itself as a general field of conflict resolution, it is heavily oriented to political science/mathematical international relations. It focuses on peace analysis utilising tools, methods and theoretical framework, as well as concepts, procedures and other analytical techniques of the various social and natural sciences, such as law, engineering and other disciplines. The field has been highly developed with rich contributions from political scientists and mathematical economists.

Some of the founders of Peace Economics and Peace Science are:

Walter Isard – General Theory: Social, Political, and Regional with Particular Reference to Decision-Making Analysis (1969)

Walter Isard – Understanding Conflict: The Science of Peace (1992)

Rudolf Rummel – Understanding Conflict and War (1975)

Stuart Bremer – The Globus Model: Computer Simulation of Worldwide Political and Economic Development (1987)

Other approaches to Peace Economics and Peace Science are:

- Investment, research, and development, productivity and economic growth
- Developed country analysis: specific studies
- Developed country analysis: cross national studies
- Developing country analysis
- Political economy, organisational and other non-economic sectors
- Data trend
- Conflict cycles
- Tellis model for anticipating ethnic conflict
- Wittman model of war termination
- Resource conflict in Hirshleifer and Neary models
- Richardson model: A system approach to the study of hostility
- Samuelson Gun Butter model
- Computable general Equilibrium (CGE) model
- Nuclear weapons and security
- Missiles defence and security
- Space weapons
- Weapons for mass destruction

B. Conflict Management: Theory and Procedures (Following [Walter Isard & Smith, 1982](#) and [Isard, 1992](#))

- Culture and social organisation
- Individual and group behaviour
- Cognitive science, psychological and sociological approaches
- Political science/geography/Regional Science
- Models to predict outcomes
- Principles of negotiation/qualitative and quantitative
 - Conflict management: lessons from industrialisations
 - Religious and moral perspective
 - Conflict: internal and international
 - Development
 - Security
 - Terrorism

C. Isard's Conflict Management Procedures (postulated from [Walter Isard 1992](#))

Let us now establish a framework of conflict management analysis that has been developed through the exegesis of social science theories. [Isard and](#)