

Contents

<i>List of Figures and Tables</i>	vii
<i>Notes on Contributors</i>	viii
<i>List of Acronyms</i>	xiv

Introduction: Imperatives for a Sustainable Future <i>Jan Servaes</i>	1
--	---

Part I Setting the Stage

1 Sustainable Development and Climate Change: Beyond the Rio + 20 Summit <i>Kosta Kostadinov and Jagadish Thaker</i>	43
2 Future Imperatives of Practice: The Challenges of Climate Change <i>Chin Saik Yoon</i>	58
3 A Synergy of Gross National Happiness and Sufficiency Economy: Implications for Development Communication in Sustainable Social Change <i>Boonlert Supadhiloke</i>	78
4 Environmental Communication from the Fringes to Mainstream: Creating a Paradigm Shift in Sustainable Development <i>Kiran Prasad</i>	95

Part II Information and Communication Technologies for Development

5 Information and Communication Technologies for African Development: Proportional Technologies and an Ethics of Uses <i>Osée Kamga and Fabien Cishahayo</i>	113
---	-----

- 6 A Role for Universities in ICT for Development Interventions 130
Royal D. Colle and Tran Van Dien

Part III Communicating the Cost of Social Change

- 7 Communicating the True Ecological Cost of Development: Addressing Development and Environment in Orissa, India 147
Maitreyee Mishra
- 8 Socio-cultural Perspectives on Sustainability of Sexually Transmitted Diseases, HIV and Pregnancy Prevention among Thai Students in Bangkok 170
Patchanee Malikhao
- 9 Factors that Stand in the Way of Green Communication in Africa 187
Henri-Count Evans

Part IV Conclusion

- 10 Future Challenges for Communication for Sustainable Development and Social Change 209
Jan Servaes
- Index* 218

Introduction: Imperatives for a Sustainable Future

Jan Servaes

The problems we face today regarding climate change, terrorism, pandemics and deep fractures in world trade, commerce and politics are unlikely to be solved quickly. Let's list some of these "problems" or "risks":

- Infectious diseases such as HIV, AIDS, severe acute respiratory syndrome (SARS), Avian flu and Ebola, for which cures have not been developed and where the main instrument of control in the event of a pandemic is timely and effective crisis communication.
- Climate change may lead to the permanent flooding of low-lying regions.
- Disruption of potable water supply to millions around the world, as the glaciers in the mountains shrink and deplete the water reserves of major population centres.
- Transformation of parts of the global economy to services that trade valuable information secured via intellectual property regimes.
- Political tensions and conflict caused by confrontation and competition among religious and cultural groups across the world.
- Armed conflict and genocide.
- Disruption in affordable, locally produced food supplies causing widespread food insecurity.
- Decline in oil and gas supplies as hydrocarbon reserves peak and the price of energy increases exponentially.
- Disruption in international finance and trade causing the world economy to crash, leading to a prolonged depression.
- Erosion of human rights as the security of states and communities are being threatened by political, economic, financial and ecological challenges.
- Erosion and displacement of deeply rooted cultural and religious beliefs and values of communities.

2 *Introduction*

Whereas in the past we were able to increase food production over a few cropping cycles, or establish income-generating ventures in a couple of years, the “new” problems we face may take years and, in the case of climate change, several generations for the world community to resolve. How do we build consensus and muster the altruistic intent of the present generation to consume less, de-escalate conflict and subject ourselves to medical research so that future generations who will exist long after we are gone may inherit a habitable planet?

The tried and tested methods of agriculture extension, social mobilization, community participation and multi-lateral negotiation are unlikely to succeed on their own as these systemic problems grow in their severity and people submit to innate human instincts for self-preservation and compete even more keenly for rapidly dwindling natural resources, ratchet up violence, resist Hippocratic principles to share limited supplies of vaccines and medicines, hoard energy and water, and close markets to international commerce.

We do not have appropriate strategies to begin addressing these “new” and highly complex challenges.

Sustainable development: Definitions and perspectives¹

In the last 20 years, sustainable development (SD) has emerged as one of the most prominent development paradigms. In 1987, the World Commission on Environment and Development (WCED) – in short: Brundtland Commission – concluded that “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” SD is seen as a means of enhancing decision-making so that it provides a more comprehensive assessment of the many multi-dimensional problems society faces (Ekins, 1993; Elliott, 1994; Lele, 1991; Taylor, 1996).

What is required is an evaluation framework for categorizing programs, projects, policies, and/or decisions as having sustainability potential (Lennie & Tacchi, 2010, 2013). Much of the current sustainability debate in the West remains based on the acceptance of the existing capitalist system as it is.

As a result, solutions to the multitude of problems we face, from climate change and biodiversity loss to resource and water scarcity, tend to be built around iterative change. While those modest moves forward are welcome and create a foundation for taking the next step, many of us recognize the risk that we are fiddling while Rome burns.

(Confino, 2011; see also WEF 2012)

In other words, rather than looking at these multi-dimensional and complex problems in isolation and trying to “solve” them in short-term, piecemeal, politically negotiated baby steps, some “bold” thinking and action is required. We need creative and critical thinking and action that value the deeper meaning of sustainability, as the ability to connect social, environmental, ethical, cultural and economic issues in a holistic and participatory way.

Three dimensions are generally recognized as the “pillars” of SD: economic, environmental and social.

The essence of sustainability therefore, is to take the contextual features of economy, society, and environment – the uncertainty, the multiple competing values, and the distrust among various interest groups – as givens and go on to design a process that guides concerned groups to seek out and ask the right questions as a preventative approach to environmentally and socially regrettable undertakings.

(Flint, 2007: IV)

Many authors (see, for instance, Amin, 2006; Bhambra, 2007; Blewitt, 2008; de Sousa, 2007; Esteva & Prakah, 1998; Gawor, 2008; Sanyawiwat, 2003; Shah, 2005) doubt whether the “Western” perspective, as represented by the Brundtland Commission, has fully embraced a vision of SD that looks far beyond slogans of corporate responsibility or transparency. They urge us to look for guidance elsewhere as well. Therefore, we wish to briefly complement the Western perspective with an “Eastern” or Buddhist perspective, as presented by the Thai philosophers and social critics Sulak Sivaraksa and Phra Dhammapidhok.

A “Western” perspective: the Brundtland Commission

An interest in SD gained momentum at the convening of the WCED at the United Nations in 1983 to address growing concern “with the problems of protecting and enhancing the environment”. The 1987 report by the Brundtland Commission, *Our Common Future*, was one of the first cohesive reports to consider economic and social development in terms of sustainability. Core issues and necessary conditions for SD, as identified by the WCED, are: population and development; food security; species and ecosystems; energy; industry; and the urban challenge.

In 1992, *Agenda 21*, a plan of action to produce international and national SD strategies, was adopted by more than 178 governments

4 *Introduction*

at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, 3 to 14 June 1992. This led to the creation of the Commission on Sustainable Development (CSD) later that year to ensure effective follow-up of UNCED. In 2002, the United Nations World Summit on Sustainable Development was convened to assess the effectiveness of Agenda 21. The five areas discussed at this conference were:

1. water and sanitation;
2. energy;
3. human health;
4. agricultural productivity; and
5. biodiversity and ecosystem management.

Pursuit of this kind of SD requires:

- a political system that secures effective citizen participation in decision-making;
- an economic system that provides for solutions for the tensions arising from disharmonious development;
- a production system that respects the obligation to preserve the ecological base for development;
- a technological system that fosters sustainable patterns of trade and finance;
- an administrative system that is flexible and has the capacity for self-correction; and
- a communication system that gets this organized and accepted by all parties concerned at all levels of society.

It is unclear, however, what has gone beyond ratified agreements and stated commitments. Shah (2005) notes that since the commitments made in 1992, little has changed in terms of global poverty. The rising popularity of the term through conferences, protocols and agreements has ironically blurred the definition of sustainability and made the understanding of it vague (Hull, 2008). Hull suggests that a Western initiate model of development has emphasized economic growth through industrialization and technological growth. A huge deterrent to sustainability is global turbo capitalism, where “society serves the economy and not vice versa” (Hull, 2008: 74). Gawor (2008) suggests that SD should be understood as an alternative to “development megatrends of the present, including globalization processes

denoting the need to change the previous values, which contributed to the ride of Euro-American industrial-technological civilization” (Gawor, 2008: 131). Gawor suggests that anti-globalization movements, including activism against the World Trade Organization and International Monetary Fund are a cry for a new alternative (see also Held & McGrew, 2007).

Kosta Kostadinov and Jagadish Thaker, in their chapter in this volume, summarize what has happened over the past decade, culminating in the so-called Rio+20 Summit of June 2012.

An “Eastern” Buddhist perspective

Phra Dhammapidhok (Payutto, 1998), a famous Buddhist monk and philosopher, points out that SD from a Western perspective lacks the human development dimension. He states that Western ideology emphasizes “competition”. Therefore, the concept of “compromising” is used in the above WCED definition. To compromise is to make a deal between different parties, where each party gives up part of their demands and, therefore, lessens the needs of all parties. If the other parties do not want to compromise, you have to compromise your own needs and that will lead to frustration. Development won’t be sustained if people are not happy.

He consequently reaches the conclusion that the Western perception of, and road to, sustainability, based on Western ethics, leads development into a *cul-de-sac*.

From a Buddhist perspective, sustainability concerns ecology, economy and *evolvability*. The concept of “evolvability” means the potential of human beings to develop themselves into less selfish persons. The main core of SD is to encourage and convince human beings to live in harmony with their environment, not to control or destroy it. If humans have been socialized correctly, they will express the correct attitude toward nature and the environment and act accordingly. He argues that:

A correct relation system of developed mankind is the acceptance of the fact that human-being is part of the existence of nature and relates to its ecology. Human-being should develop itself to have a higher capacity to help his fellows and other species in the natural domain; to live in a harmonious way and lessen exploitations in order to contribute to a happier world.

(Payutto, 1998: 189)

6 Introduction

This holistic approach relates to cultural development in three dimensions:

behaviours and lifestyles which do not harm nature;
minds in line with (Eastern) ethics, stability of mind, motivation to see other creatures as companions; and
wisdom, which includes knowledge and understanding, attitude, norm and values in order to live in harmony with nature.

Different perspectives (such as the TERMS [Technological, Economic, natural Resource, Mental and Sociocultural] approach developed in Thailand, which builds on Buddhist principles and the “efficiency economy” concept outlined by King Bhumibol – see Supadhiloke, 2010; Servaes & Malikhao, 2007a,b; and below) have, over the years, influenced this holistic and integrated vision of SD. Khampa (2009), Supadhiloke (2010) and Sivaraksa (2010) also explore the Bhutanese Gross National Happiness Index as a viable way to SD and a realistic alternative to the Western concept. Sivaraksa (2010: 66) lists the following indicators of happiness:

- the degree of trust, social capital, cultural continuity and social solidarity;
- the general level of spiritual development and emotional intelligence;
- the degree to which basic needs are satisfied;
- access to and the ability to benefit from health care and education; and
- the level of environmental integrity, including species loss or gain, pollution and environmental degradation.

Sivaraksa argues that these indicators need to be further operationalized. A task which Khampa (2009) is currently involved in on behalf of the Bhutanese government. The key is “to create indicators that become instruments of liberation” (Sivaraksa, 2010: 67).

A “middle way”?

It may be relevant to emphasize that the above “Eastern” perspective is not “uniquely” Eastern or Asian, as it has been promoted in other parts of the world as well. For instance, in the late 1970s, the Dag

Hammerskjold Foundation advocated three foundations for “another” development or SD:

- Another Development is geared to the satisfaction of needs, beginning with the eradication of poverty;
- Another Development is endogenous and self-reliant; and
- Another Development is in harmony with the physical and cultural ecology (Nerfin, 1977).

An interesting, often overlooked, contribution has been made by Manfred Max-Neef (1991), who, as the Executive Director of the Chilean Development Alternatives Centre, and with the support of the Dag Hammerskjold Foundation, edited a selection of chapters which together resulted in a transdisciplinary model for “human scale development” with self-reliance among

- human beings, nature and technology;
- the personal and the social;
- the micro and the macro;
- planning and autonomy; and
- the state and civil society

as central to empower groups and social actors: “The fundamental issue is to enable people from their many small and heterogeneous spaces to set up, sustain and develop their own projects” (Max-Neef, 1991: 85).

More recently, the World Commission on Culture and Development, chaired by Javier Pérez de Cuéllar (1995), started from similar assumptions. It argued that development divorced from its human or cultural context is growth without a soul. This means that culture cannot ultimately be reduced to a subsidiary position as a mere promoter of economic growth. The report goes on to argue that “governments cannot determine a people’s culture: indeed, they are partly determined by it” (De Cuéllar, 1995: 15).

The basic principle should be

the fostering of respect for all cultures whose values are tolerant of others. Respect goes beyond tolerance and implies a positive attitude to other people and a rejoicing in their culture. Social peace is necessary for human development: in turn it requires that differences between cultures be regarded not as something alien and

8 *Introduction*

unacceptable or hateful, but as experiments in ways of living together that contain valuable lessons and information for all.

(De Cuéllar, 1995: 25)

The Human Development Report 2004 and the *United Nations Millennium Declaration* (2000) advocate these principles of cultural liberty and cultural respect in today's diverse world for similar reasons: "The central issue in cultural liberty is the capability of people to live as they would choose, with adequate opportunity to consider other options" (UNDP, 2004: 17). The United Nations Millennium Declaration (2000) promotes the following principles and values:

- *Freedom*: Men and women have the right to live their lives and raise their children in dignity, free from hunger and from the fear of violence, oppression or injustice. Democratic and participatory governance based on the will of the people best assures these rights.
- *Equality*: No individual and no nation must be denied the opportunity to benefit from development. The equal rights and opportunities of women and men must be assured.
- *Solidarity*: Global challenges must be managed in a way that distributes the costs and burdens fairly in accordance with the basic principles of equity and social justice. Those who suffer or who benefit least deserve help from those who benefit most.
- *Tolerance*: Human beings must respect one another, in all their diversity of belief, culture and language. Differences within and between societies should be neither feared nor repressed, but cherished as a precious asset of humanity. A culture of peace and dialogue among all civilizations should be actively promoted.
- *Respect for nature*: Prudence must be shown in the management of all living species and natural resources, in accordance with the precepts of SD. Only in this way can the immeasurable riches provided to us by nature be preserved and passed on to our descendants. The current unsustainable patterns of production and consumption must be changed in the interest of our future welfare and that of our descendants.
- *Shared responsibility*: Responsibility for managing worldwide economic and social development, as well as threats to international peace and security, must be shared among the nations of the world and should be exercised multilaterally. As the most universal and most representative organization in the world, the United Nations must play the central role.

Therefore, in contrast to the more economically and politically oriented approach in the traditional perspectives on SD, the central idea in alternative, more culturally oriented versions is that there is *no universal development model* which leads to sustainability at all levels of society and the world, that development is an integral, multi-dimensional and dialectic process that can differ from society to society, community to community, context to context. In other words, each society and community must attempt to delineate its own strategy for SD (Servaes, 1999). This implies that the development problem is relative and that no one society can contend that it is “developed” in every respect.

The so-called Copenhagen Consensus project² is worth mentioning in this context. Though still dominated by economic perspectives and researchers (some of them Nobel Prize winners), the panel of experts evaluated a large number of development recommendations, drawn from assessments by United Nations agencies, and identified ten core challenges for the future:

- Civil conflicts
- Climate change
- Communicable diseases
- Education
- Financial stability
- Governance
- Hunger and malnutrition
- Migration
- Trade reform
- Water and sanitation

The major challenge identified was the fight against HIV/AIDS (human immunodeficiency virus/acquired immunodeficiency syndrome). See Patchanee Malikhao’s contribution for more details.

Therefore, we believe that the scope and degree of interdependency must be studied in relation to the content of the concept of development. Where previous perspectives did not succeed in reconciling economic growth with social justice, an attempt should be made to approach problems of freedom and justice from the relationship of tension between the individual and society, and limits of growth and sustainability are seen as inherent to the interaction between society and its physical and cultural ecology.

The multi-dimensionality of sustainable development

The concept of SD has been further addressed from at least three dimensions:

1. as a process;
2. at different levels; and
3. with different contents.

Open, inclusive and participatory communication and information processes are fundamental for successful SD (Wilson, 2007). Furthermore, “when communities articulate their own agendas, they are more likely to achieve positive changes in attitudes, behaviors, and access to opportunities” (Reardon, 2003). Wilson offers four key elements that will promote SD: “Equitable and inclusive political processes, national and international governance processes that are effective, responsive, and accountable, supporting engaged citizens and dynamic civil society, and generating inclusive economic growth, sustainable livelihoods and transparent, efficient markets” (Wilson, 2007).

Chen (2001) and Tremblay (2007) indicate that the goal of SD is to pursue “regional balanced-development”, suggesting that a large challenge is to strike harmony between the environment and the expansion of science and technology. On the one hand, protection of resources is key; however, fair global distribution of resources is contradictory to the structure of competition, which encourages survival of the fittest, with a privileged few gaining access to resources. The goal of sustainability should not be to substitute man-made or artificial capital by natural resources but to have each complement the other. This is what is known as strong sustainability (Horbach, 2005).

Skowrowski (2008: 119) calls for “environmentally friendly socio-economic development that takes account of the finite nature of environmental resources and possibilities.” He distinguishes between culture at its essence, and material forms of culture, suggesting that civilizational culture need not be based on mastering the natural environment and shaping nature. The two basic approaches to SD are, first, approaching a balance or reconciliation of traditional economic growth with ecological and environmental conditionings and, second, a philosophy or ideology that conceptualizes civilization in a holistic manner.

Mannberg & Wihlborg (2008) acknowledge that global and local visions of sustainability are often unaligned. They suggest that the root

Index

- activism, 5, 95–6, 103, 158–62
 advocacy, 70, 75, 159–62, 173,
 210–13
 Africa, 15, 23, 60, 64, 113–27, 133,
 171, 187–204
 Agbobli, 120–1
 agriculture, 60–1, 86–8, 97, 116, 195
 AIDS, 9, 16, 67, 69, 137, 171–81, 209
 another development, 7, 16
 appropriate strategies, 13, 83, 107,
 114, 119–24, 143, 216
 Asia, 15, 23, 60, 64, 73, 95–108,
 133, 171

 Bangkok, 25, 65, 88–91, 170–85
 Bangladesh, 26
 behavioral change, 6, 18, 25, 69, 71,
 72, 130, 172–75, 210
 Bera, 156, 160
 Bessette, 73–4
 Bhutan, 6, 24, 78–93
 biodiversity, 2, 4, 64, 99–100, 211
 bottom-up, 15–16, 72, 209
 Bourdieu, 124
 broadcasting, 16, 88, 101–2, 115,
 123–4, 136–8, 190–1
 Brundtland, 2, 3, 47
 Buddhism, 3, 5–6, 24, 80–6, 87–8, 90,
 174–6

 Cameroon, 114
 capacity training, 14, 70, 86–91, 138,
 200–1, 214–15
 childers, 131
 China, 15, 26, 44, 46, 52,
 105, 180
 Cishahayo, ix, 24, 113–29
 citizen's rights, 4, 10, 26, 80, 91, 161,
 188, 191, 214
 climate change, 1, 23, 43–54, 58–76,
 105, 149–50, 187–90, 200–2
 Colle, ix, 24, 130–44

 communication paradigms, 16–20, 73,
 209–12
 communication technologies, 6, 11,
 13–14, 24, 53, 67, 84, 101,
 113–27, 131–42, 176, 191–5,
 213–14
 community development, 2, 11–15,
 20, 53, 65–6, 70, 72, 74–5, 84–91,
 101, 151–60, 174, 210–12, 215
 community media, 88, 101–3, 210
 conflict resolution, 2, 58, 61, 74–5,
 116, 189, 210
 Cote d'Ivoire, 116–17, 122, 124–5

 de Certeau, 117, 120
 De Cuellar, 7–8, 15
 dependency, 9, 15–19, 162, 192
 development paradigms, 2, 12–16,
 22, 73, 78, 84, 92, 95–105, 124,
 188, 202
 Dhammapidhok, 3, 5
 diffusion, 16–19, 114, 119–21, 177
 digital divide, 113, 132, 179, 192, 214
 Dutta, 53

 ecology, 5–7, 25, 47, 80–2, 96–100,
 147–60
 education, 9, 21, 58, 80, 83, 130–42,
 174–5, 182–3, 209–11
 Elliot, 177
 empowerment, 7, 16, 88, 92, 101–7,
 161–5, 214
 environment, 10, 48–9, 59, 63, 88–90,
 95–7, 148–50, 161–2, 195–6, 213
 Evans, x, 187–206
 evolvability, 5, 90

 fair, 21
 FAO, 60, 61, 131, 134, 139
 freedom of expression, 8, 24, 85, 93,
 100–7, 127, 212
 Freire, 19

- Gandhi, 95
 gender equity, 8, 26, 48, 95–108, 174–6, 214
 Ghana, 26, 137
 globalization, 4, 22, 25, 82, 91, 104, 170–1, 176–78
 GNH, 6, 78–93
 Gore, 59
 grassroots, 11, 88, 92, 114, 148–58, 159–62
- Habermas, 125, 127
 health, 4, 12, 61–2, 63, 80, 102, 108, 116, 132, 138, 171–84, 214
 HIV/AIDS, 9, 67, 137, 170–85
 Hofstede, 85
 Hopkins, 171
 human development, 5–8, 26, 78–93, 97, 216
 human rights, 1, 24, 47, 67, 103, 157–64, 180–2
- ICT, 22, 24, 113–27, 130–43, 191–4
 India, 24, 26, 46, 51, 95–108, 138, 147–65
 indigenous peoples, 98, 99, 103–7, 147, 151–8
 Indonesia, 26, 118
 internet, 18, 24, 86, 101, 103, 121, 130–8, 161–3, 184, 188, 202
 ITU, 132–4
- juma, 135, 140
- Kennedy, 73
 Khampa, 80, 91
 Khor, 44–6
 Korea, 141, 150, 155
 Kostadinov, x, 5, 23, 43–54
- Laswell, 16
 leadership, 11, 14, 52, 72, 86–8, 100–8, 138–41, 194, 216
 Lerner, 17, 21
- MacBride, 19
 Malik, 26, 216
 Malikhao, xi, 9, 25, 84, 170–85
 mass media, 1, 23–24, 87, 101, 148, 160, 176–78, 183–4, 188, 196–8, 210
 Mauritius, 26
 Max-Neef, 7
 McLuhan, 122
 millennium development goals, 8–9, 44, 96, 113, 126, 130–6
 Mishra, xi, 25, 147–65
 modernization, 15–22, 79, 148, 162
 multinational corporations, 12, 44, 52, 107, 152, 158–63, 194–8
 multiplicity, 13, 16, 19, 73, 125, 164
- neoliberalism, 148, 163, 170, 176
 Nepal, 136, 138
 NGOs, 24, 46, 53, 113, 115, 130–4, 159, 174, 197, 201
 Niger, 115–16, 123
- Ogan, 22
 Orissa, 25, 101, 105, 147–65
- participation, 2–4, 11, 19–20, 26, 53, 72, 73, 104, 124, 135–6, 142, 178–9, 190, 210–12, 213
 Patkar, 104–5, 107
 people-centered approach to development, 53–4, 71–6, 80–1, 96–8, 114, 158–62
 poverty eradication, 51, 98, 108, 126, 134, 137, 148, 172, 215
 Prasad, xii, 6, 27, 95–108
 public-private partnerships, 196–9, 211
- Research, 20–3, 71–4, 137, 175–85, 215
 Rio +20 Summit, 5, 23, 43–7, 62
 Rogers, 17–18, 119
 Rwanda, 26, 116
- Schiller, 19
 Scholte, 170, 178
 Schramm, 17
 Sen, 85
 Senegal, 119–20
 Servaes, viii, 1–27, 47, 53, 73, 79, 84, 114, 198, 209–16

220 *Index*

- Shah, 3, 4, 21–2
 Sharma, 99, 100
 Shiva, 97, 149, 150
 Sivaraksa, 3, 6
 social justice, 8–9, 24, 47, 159, 161, 172, 214
 social mobilization, 2, 11, 73–4, 103, 210, 215
 South Africa, 26, 43, 46, 52
 Supadhiloke, xii, 6, 24, 78–93
 sustainability, 2–3, 10–12, 43–54, 80–3, 92–3, 96–7, 114, 122–7, 134–6, 158, 172–5, 191, 209–16
 sustainable development goals, 44–5, 50, 215
- Tacchi, 2
 Tchwenko, 116, 121
 telecenters, 25, 116, 118, 120–1, 130, 135, 136–7
 TERMS, 5–6, 11–12, 13–14, 83–4
 Thailand, 11–12, 24, 26, 78–93, 170–85
 Thaker, 5, 23, 43–54
- top-down, 18, 21, 72, 97, 211
 Tunisia, 26, 132
- UN, 3–4, 8–9, 12, 43–7, 60, 80, 95, 140, 173, 189, 212, 215
 UNDP, 8, 48, 82, 113, 124, 173
 UNESCO, 27, 101, 113, 134, 139
 UNFCCC, 105, 189
- Van Dien, xiii, 24, 130–44
 Vietnam, 136, 138, 141–3
- WCED, 2–5
 WHO, 61, 62
 World Bank, 52, 113, 134, 138
 WSIS, 132, 140
 WTO, 5
- Yohe, 49–50
 Yoon, xiii, 23, 58–77
- Zambia, 140
 Zimbabwe, 25, 190–2, 197–201