

Future Imperatives of Communication for Sustainable Development and Social Change A Policy-intent Report*

Jan Servaes & Rico Lie

City University of Hong Kong - Wageningen University

jservaes@cityu.edu.hk

*** Background**

The following text grew out of a global initiative that was approved by the members of ORBICOM, the network of UNESCO chairs in communication, during their General Assembly of November 2008. The overall aim of the initiative is to provide a global review of the field of Communication for Development to debate its future directions and to plan for the retooling of its practice, research, and policies. This text is part of that exercise. It is the second text out of four foreseen texts. The first text is an annotated bibliography and published as Servaes, J., & Lie, R. (2013). Sustainable social change and communication. *Communication Research Trends, December issue of 2013*, 32(4). The second text is this Policy-intent Report. The authors wish to thank Prof. Claude-Yves Charron, Mr. Neill McKee, Dr. Thomas Hogan, Dr. Patchanee Malikhao, and Mr. Chin Saik Yoon for their valuable comments and suggestions on earlier drafts of this report. The third text is an academic journal article, which has been submitted for review. The fourth text planned will be a Handbook/Textbook (target audience: BA-MA), which uses the same structure as this report.

Table of Contents

Executive Summary

Background

Introduction

Key concepts and practices

Normative concepts

Contextual concepts

Strategies and methodologies

Methods, techniques and tools

Advocacy and impact assessment

Sub-disciplines

Strategic communication and participatory communication

Crisis communication and risk communication

Journalism and international communication

Thematic sub-disciplines

Health communication

Agricultural extension and rural communication

Environmental communication

Fields and areas

Right to Communicate

Education and learning

Innovation, science and technology

Natural resource management

Food security

Inequality and Poverty reduction

Peace and conflict

Children and youth

Tourism

Conclusions

References

Executive Summary

We first identify five clusters of concepts and practices that are currently actively circulating and determine the activities and approaches in the field of Communication for Sustainable Development and Social Change.

These clusters are: (1) a *normative* cluster of concepts (e.g., sustainability, democracy, participation, empowerment, equity, social inclusion, human rights, and, accountability), (2) a cluster of concepts that sets an important *context* for communication activities for development (e.g., globalization, gender, social movements, cultural diversity, and, the Millennium Development Goals (MDGs)), (3) a cluster of *strategic and methodological* concepts (e.g., social marketing, entertainment-education, social mobilization, knowledge management, knowledge sharing, and, co-creation), (4) a cluster of concepts that relate to *methods, techniques and tools* (e.g., (digital) storytelling, the most significant change approach, community/village mapping, empowerment evaluation, mobile phones, social media, film, video, drama and art), and, (5) a cluster of concepts that addresses the practices of *advocacy, (participatory) monitoring and evaluation, and, impact assessment*.

After having discussed these five clusters, we continue to examine *sub-disciplines*, and *fields and areas* of aspects of Communication for Sustainable Development and Social Change. We make a distinction between *non-thematic sub-disciplines*, which cover a domain within communication science (strategic communication, participatory communication, crisis communication, risk communication, journalism and international communication) and *thematic sub-disciplines*, which cover a life science theme in the development sector. The thematic sub-disciplines are (a) *health communication*, (b) *agricultural extension and rural communication*, and, (c) *environmental communication (including climate change communication)*.

Fields and areas are seen as currently of importance and concern within development studies and development interventions and have demonstrated an interest in communication. The fields and areas that are discussed are: (a) right to communicate, (b) *education and learning*, (c) *innovation, science and technology*, (d) *natural resource management*, (e) *food security*, (f) *poverty reduction*, (g) *peace and conflict*, (h) *children and youth, women and senior citizens*, and, (i) *tourism*.

We identified the following future imperatives in the field of Communication for Sustainable Development and Social Change:

- Human and environmental *sustainability* must be central in development and social change activities. Besides political-economic approaches, we need socio-cultural approaches to guarantee acceptable and integrated levels of sustainability and to build resilience. *Building resilient communities* should be a priority issue in the field of Communication for Sustainable Development and Social Change.
- We should recognize that development problems are *complex*. *Complex or so-called wicked problems*, such as the existence of climate change, conflict and war, HIV/AIDS, and malaria, are problems that do not have one single solution that is right or wrong, good or bad, or true or false.
- These problems need negotiating or 'social dialogue' from *a rights-based perspective*.
- Though participatory approaches have gained some visibility, and sometimes even recognition, among mainstream development agencies, an alliance could be forged at the level of *participatory budgeting*.

- There is also a need for *transdisciplinarity* to re-think and re-order the relationships between communication academics, communication professionals (e.g., extension agents, health communication specialists, intermediaries, knowledge brokers, change agents, M&E specialists), technical field specific professionals (technical ICT specialists, agronomists, medical doctors), policy makers (international, national, intra-national), civil society members (e.g., NGOs, social movements, societal agents) and local people (e.g., farmers, fishermen, households, audiences, clients). There is a need for building knowledge and communication networks and to attach importance to stakeholder interactions and knowledge system approaches.
- *New creative techniques and methodologies* need further attention, exploration and experimentation.
- There is a need to connect communication to *learning, education and knowledge exchange* to better understand processes of transformative learning, social learning, experiential learning, organizational learning and double-loop learning in order to better understand processes of change by looking at how people learn.
- Four specific areas of focus for sustaining development momentum are *enhancing equity*, including on the gender dimension; *enabling greater voice and participation of citizens*, including youth; *confronting environmental pressures*; and *managing demographic change*.

Introduction

The history of Communication for Sustainable Development and Social Change or whatever other name is preferred -- (e.g., development communication, devcom(m), com(m)dev, C4D, communication in/for (sustainable) development, communication for (sustainable) social change, communication and education for development and/or knowledge (management) for development) -- is well documented (see, for instance, Gumucio-Dagron & Tufte, 2006; Manyozo, 2012; McAnany, 2012; Melkote & Steeves, 2001; Servaes, 1999, 2008; Wilkens, Tufte & Obregon, 2014).

The United Nations has been an important player in the professional field (see, for instance, McCall, 2011) and FAO, UNESCO, UNICEF and the World Bank have been forerunners. They have organized several meetings and published widely on the theme. Among the most influential documents are Childers and Vajrathon (1968), Inagaki (2007), MacBride (1980), Mefalopulos (2008), and, UNESCO (2007).

Other major public players are the Asian Institute for Development Communication (AidCom), Communication Initiative (CI), the Communication for Social Change Consortium (CfSC), ORBICOM, the Network of UNESCO Chairs in Communication, and the International Institute for Communication and Development (IICD). Academic educational programs are, among others, offered at the Universities of Dhaka, Guelph, Gujarat, London School of Economics, Los Baños, Malmö, Nairobi, Ohio, Queensland, Reading, Sao Paulo, Stockholm, Swansea, Tirupati, Wageningen, and, Witwatersrand.

Most of the available historical accounts make a distinction between the modernization paradigm, the dependency paradigm and the multiplicity or participatory paradigm (see, for instance, Melkote & Steeves, 2001; Servaes, 1999; Waisbord, 2001). Alfonso Gumucio, author of the background paper, *Communication for Development: Meeting Today's Agriculture and Rural Development Challenges* (2012), again makes reference to communication models inspired by modernization theories on the one hand, and "communication approaches that emerged at the heat of social and political struggle against colonial and dictatorial powers, conceptually rooted in the dependency theories" (FAO, 2012: 10), on the other hand. The historical accounts have been dominated by framing developments within these paradigms, as the logical offspring of the Western drive to develop the world after colonization and the Second World War. Staples (2006), for instance, explains that, after 1945 the West considered development as an international obligation, the beginning of a broad international civil service, and the start of the continuing effort to find a way of promoting the wellbeing of the earth's people as a whole. However, the collapse of the Soviet Union in the late eighties, together with the rise of the U.S. as the only remaining 'superpower,' the emergence of the European Union, the gradual coming to the fore of regional powers, such as Brazil, Russia, India, China and South-Africa (the so-called BRICS countries), and the recent meltdown of the world financial system with its disastrous consequences for people everywhere, necessitates a rethink of the "power" of development, and consequently the place and role of communication in it. 'Old' rivalries, though not completely gone, are being challenged by 'new' ones with more cultural, religious or ethnic roots. The competition for the 'hearts and minds' of peoples has become more complex today than in the bi-polar past.

However, this text takes a different approach. It starts with the current existing situation in daily development practices and frames this situation from a communication science perspective. It first identifies five clusters of concepts and practices that are currently actively circulating and determining the activities and approaches in the field. These clusters are: (1) a *normative* cluster of concepts (e.g., sustainability, democracy, participation, empowerment, equity, social inclusion, human rights, and, accountability), (2) a cluster of concepts that sets an important *context* for communication activities for development (e.g., globalization, gender, social movements, cultural

diversity, and, the Millennium Development Goals (MDGs)), (3) a cluster of *strategic and methodological* concepts (e.g., social marketing, entertainment-education, social mobilization, knowledge management, knowledge sharing, and, co-creation), (4) a cluster of concepts that relate to *methods, techniques and tools* (e.g., (digital) storytelling, the most significant change approach, community/village mapping, empowerment evaluation, mobile phones, social media, film, video, drama and art), and, (5) a cluster of concepts that addresses the practices of *advocacy, (participatory) monitoring and evaluation, and, impact assessment*.

After having discussed these five clusters, the text continues to examine *sub-disciplines*, and *fields and areas* of aspects of Communication for Sustainable Development and Social Change. The sub-disciplines we discuss are more or less established sub-disciplines within the discipline of communication science and at the same time have established a community of interest within the field of Communication for Sustainable Development and Social Change. We make a distinction between *non-thematic sub-disciplines*, which cover a domain within communication science (strategic communication, participatory communication, crisis communication, risk communication, journalism and international communication) and *thematic sub-disciplines*, which cover a life science theme in the development sector. The thematic sub-disciplines are (a) *health communication*, (b) *agricultural extension and rural communication*, and, (c) *environmental communication (including climate change communication)*. Fields and areas are seen as currently of importance and concern within development studies and development interventions and have demonstrated an interest in communication. The fields and areas that are discussed are: (a) right to communicate, (b) *education and learning*, (c) *innovation, science and technology*, (d) *natural resource management*, (e) *food security*, (f) *poverty reduction*, (g) *peace and conflict*, (h) *children and youth, women and senior citizens*, and, (i) *tourism*. The sections that follow address the role of communication within these areas.

Key concepts and practices

This section makes a distinction between normative concepts, contextual concepts, strategic and methodological concepts, concepts that relate to methods, techniques and tools, and concepts and practices that relate to advocacy, (participatory) monitoring and evaluation (PM&E), and, impact assessment. Practices are seen as activities that use particular approaches. Normative concepts deal with good and bad, right and wrong, morality, ethics, norms and values, and make claims about how things should or ought to be. The discussed contextual concepts are important to better understand the role of the environment in which development communication interventions take place. Strategies, methodologies, methods, techniques and tools are important to know how to design interventions in the field of communication for development. Strategies and methodologies are systematic ways of approaching complex problems. They state the philosophy and vision behind the way things are done and imply a set of systematic procedures. They include an epistemological and ontological positioning. Methods, techniques and tools refer to the ways the strategies and methodologies are actually used. Methods employ techniques and thus include considerations of appropriate tools. Finally, advocacy is discussed as a communication practice that aims to bring about change in governance and policies. Monitoring and evaluation of projects is then discussed as related to assessing the impact of interventions.

Normative concepts

Sustainable Development 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”. Sustainable development 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 (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, 2013).

Three dimensions are generally recognized as the “pillars” of sustainable development: 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).

In addition to the ‘Western’ perspective represented by the Brundtland Commission, one could also refer to an ‘Eastern’ or Buddhist perspective, as presented by the Thai philosophers and social critics Sulak Sivaraksa and Phra Dhammapidhok. Phra Dhammapidhok (Payutto, 1998), a famous Buddhist monk and philosopher, points out that sustainable development in a Western perspective lacks the human development dimension. He states that the Western ideology emphasizes ‘competition’. Therefore the concept of ‘compromising’ is used in the above WCED definition. Compromising means lessen 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 ‘evolvability’ means the potential of human beings to develop themselves into less selfish persons. The main core of sustainable development 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 towards 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).

Different perspectives (such as the TERMS approach developed in Thailand that builds on Buddhist principles and the 'efficiency economy' concept outlined by King Bhumibol – see Supadhiloke, 2013, Servaes & Malikhao, 2007a+b) have, over the years, influenced this holistic and integrated vision of Sustainable Development. Khampa (2009), Supadhiloke (2013) and Sivaraksa (2010) also explore the Buthanese Gross National Happiness Index as a viable way to sustainable development 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.

It may be relevant to emphasize that this 'Eastern' perspective is not 'uniquely' Eastern as it has been promoted in other parts of the world as well. For instance, in the late seventies, the Dag Hammerskjold Foundation advocated three foundations for 'another' or sustainable development: (a) Another Development is geared to the satisfaction of needs, beginning with the eradication of poverty; (b) Another Development is endogenous and self-reliant; and (c) Another Development is in harmony with the physical and cultural ecology (Nerfin, 1977).

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 by arguing 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 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).

Therefore, in contrast to the more economically and politically oriented approach in the traditional perspectives on sustainable development, 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, multidimensional 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 sustainable development (Servaes, 1999). This implies that the development problem is relative and that no one society can contend that it is 'developed' in every respect.

In other words, sustainable rural development is the kind of change that takes the current as well as the future generations of humanity and nature into account. It aims to improve the quality of life

and the integrity of the environment for all. Communication plays a vital role in this kind of change (for more details, see, Servaes, 2013a). Communication for Sustainable Development and Social Change is therefore never neutral. It takes the side of human development with respect for each other and for the environment we live in. In taking such a normative stand, it becomes clear that some concepts, especially some normative political concepts, are valued more than others. Democracy, participation, human rights, empowerment, equity, accountability, leadership, champions and resilience are among those concepts.

Thinking about *participation* is more balanced today as compared to the 1970s and 1980s when different development organizations started questioning existing theories and practices of development and demanded more participatory approaches to be introduced. Nowadays, not everything needs to be 'bottom-up' anymore and not everybody needs to participate in everything all of the time. Participatory communication, participatory action research, participatory rural appraisals (PRA), participatory learning and action (PLA), participatory needs assessments, and, participatory budgeting found their way into the mainstream of development activities and we seem to have found a new balance, at least in theory. Nevertheless, participation remains one of the key concepts in development studies and interventions, and many other concepts relate in a direct or indirect way to participation. *Empowerment* and *giving people a voice* still address the de-marginalization of particular groups in society. In the context of democratization and civil society movements, we seem to value a concept such as the *involvement of all stakeholders* and center ideas related to the *engagement of stakeholders*, and appreciate *stakeholder analyses and consultations*. We also started addressing the concepts *equity* and *social inclusion* and increasingly frame development and social change activities in *(human) rights based approaches* (Van Hemelrijck, 2013). Rights-based approaches stress that everyone has the right to engage in decision-making processes that affect their own lives.

Much of the political economy and political science literature continues viewing *democracy* in one-dimensional terms, primarily in terms of political rights. This is particularly pronounced in the empirical literature, especially in the recent strand that seeks to identify the determinants of democracy. BenYishay & Betancourt (2008) expand on this view of democracy by incorporating the role of civil liberties, noting that these are conceptually at the core of modern democracy. They offer a conceptual framework that identifies five sources of potential differences in the evolution of political rights and civil liberties, and investigate the empirical evidence on this differential evolution using cross-national panel data based on the Freedom House measures of political rights and civil liberties. Perhaps the most important policy implication of their analysis is that in promoting democracy, it makes sense to emphasize the provision of civil liberties. "Our empirical findings suggest that at least some civil liberties are necessary for political rights but the reverse is not the case. Free and fair elections are necessary for democracy, but they are far from sufficient. Part of their value is that by conferring legitimacy on the winners, they prevent the loss of life and property associated with other mechanisms for transferring power inter-temporally. By the same token, however, they provide no legitimacy for the trampling of civil liberties associated with illiberal democracies" (BenYishay & Betancourt 2008: 31).

Accountability, transparency, (corporate) social responsibility, accessibility, and efficiency are concepts that directly relate to how organizations should operate. The concept of accountability is relatively new to the field of Communication for Sustainable Development and Social Change. Being accountable and demonstrating social responsibility displays good governance. In its basic form, accountability is about taking explicit responsibility for one's actions. Mutual accountability in partnerships is increasingly becoming the norm. Other related concepts that have recently entered the arena of development discourse are *leadership*, *champions* and *resilience*. Centralizing the issue of leadership came with the changed view on participation. Leadership is different from

management and addresses establishing direction, aligning resources, generating motivation and providing inspiration (Kotter, 2001). Leaders are change agents, but champions or ‘animators’ are another particular type of change agents who have been given quite some consideration in change processes. Champions, animators or facilitators often play a role in an early stage of transformation and in a context of resistance to change. They combine specific personality characteristics, behavior, knowledge and power (see, for instance, Kennedy, 2008; Quarry & Ramírez, 2009). Resilience refers to the ability of people to absorb, adapt and re-organize. It is about overcoming vulnerability to change and creating the potential for sustainability (Zolli & Healy, 2012). Building resilient communities as a normative objective has now become a key issue in the field of Communication for Sustainable Development and Social Change (Polk, 2013).

Contextual concepts

This section addresses contextual concepts that are part of the enabling environment in which Communication for Sustainable Development and Social Change operates. Among these concepts are globalization, gender, social movements, cultural diversity, and, the Millennium Development Goals (MDG). These contextual concepts are actively shaping the circumstances that determine existence, direction, success and impact of communication interventions in the development sector.

Communication for Sustainable Development and Social Change is not an isolated process. It is embedded in different contexts, which highly influence the kind of development and change that can be strived for. “Think globally, act locally” might still apply, but seems behind us as a slogan for contextualizing development activities. On the other hand, economic and political *globalization* still has major consequences for developing countries (see, for instance, Held & McGraw, 2007; Goldin & Reinert, 2012). *Gender* also has an important place on the development agenda. Gender and globalization both address power and discourse (see, for instance, Benería, Berik & Floro, 2003). In the 1980s, feminism and modernization found each other and merged in what was called a Women in Development (WID) approach. Women and Development (WAD) followed and was grounded in the dependency paradigm. Today we talk about Gender and Development (GAD). Different from the other two approaches, the focus with GAD is not on women, but on gender and thus on different roles, identities, discourses, responsibilities and power positions between men and women in a specific socio-cultural context. The UNESCO Global Forum on Media and Gender, held in Bangkok on 2-4 December 2013, took the first historic steps toward a Gender-Equal Media (<http://www.un.org/sg/statements/?nid=7318>).

Social movements (and other civil society actors) set another context for Communication for Sustainable Development and Social Change (Fals Borda, 1991; Nash, 2005). Social movements connect to social change in an active way. Examples of such movements are the anti-globalization movement, the fair trade movement, and the indigenous people movement. They set an important context for development and especially for communication in development, as these movements ventilate alternative voices. The way these movements behave, communicate and organize themselves has changed somewhat with the arrival of the Internet and social media. Culture determines the performance of communication and of development. Culture influences the way people act and communicate (and the other way around). *Cultural diversity* is one of the driving forces of development and UNESCO sees it as a key dimension of sustainable development. “Cultural diversity must be seen as a cross-cutting dimension (rather than as a separate, fourth pillar of sustainability), with an important role to play in all development projects, from poverty eradication and the safeguarding of biodiversity to resource management and climate change” (UNESCO, 2009: 189). As we have outlined earlier, the other three pillars of sustainability are economic viability, social responsiveness and respect for the environment.

In the development sector, the *Millennium Development Goals* (MDGs) still provide the most influential guidelines for making decisions on interventions. The MDGs are drawn from the Millennium Declaration that was adopted by 189 nations and signed by 147 heads of State and Governments during the UN Millennium Summit in September 2000. There are eight goals to be achieved by 2015. They are based on 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 sustainable development. 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. At the 2010 UN Summit on the MDGs Member States reaffirmed commitment to the goals and recognized that “greater accountability and transparency in international development cooperation can help to make financial resources more adequate, predictable, targeted and of improved quality” (Development Cooperation Forum, 2012). The MDGs will evolve into *Sustainable Development Goals* from 2015 onwards <<http://sustainabledevelopment.un.org/index.php?menu=1300>>.

Strategies and methodologies

Communication strategies and methodologies that are currently used in the field of sustainable development interventions can be divided in two methodological schools. The first school has a strong position in many development circles. *Communication campaigns* are often used within this school to sensitize people and to influence attitudes and behavior, especially within the health sector and/or related to environmental issues. General marketing techniques are used to sell ideas and to raise awareness, increase knowledge, and influence attitudes. Social marketers often use the distinction between sender, message and receiver to get a grip on the communication situation. Although sometimes not used in the classic ‘Shannon and Weaver’-way (Shannon, 1948; Weaver & Shannon, 1963) that presumes direct linear effects, this school continues in this line of thinking and argues in terms of persuading target audiences to change their behavior. One of the objectives is that change within target populations can be measured by quantitative research methods and techniques. *Entertainment education* is a much used communication strategy to achieve such behavior change. *Social (community) mobilization* goes a step further and aims to mobilize people into action. It differs from marketing in that it involves the community and not solely aims for individual behavior change. It takes the social context into account while seeking diffusion and community ownership of ideas and innovations.

The second methodological school is dynamically constructed by practitioners and academics working in different sectors and disciplines of development and social change. This school explicitly centralizes the normative concepts presented above. Scholars working within this school attach importance to processes of participation, empowerment, equity and democratization. This is not to say that the first school completely disregards these concepts. However, the first school does not take these processes as point of departure. Instead, scholars working in that line of thought centralize targeted behavior and attitude change. Within the second school there are different platforms and communities of practice discussing various topics and producing different kinds of output. This field often uses the terms *knowledge management*, *knowledge sharing* and *co-creation* in referring to the role of knowledge and interaction in communication processes. This field sometimes prefers to centralize the concept of knowledge in order to address the often existing knowledge gap between stakeholders and to connect to issues of governance and management in the context of the *knowledge economy* and *knowledge society*.

Methods, techniques and tools

The first methodological school mentioned in the previous section uses traditional, long established, widely accepted and often quantitative, measurable methods and techniques such as communication campaigns, social marketing techniques, surveys, broadcast media methods and mass entertainment-education techniques in development communication interventions. The other school uses so-called creative methods and techniques such as (digital) storytelling and the most significant change approach. The methods and techniques that are often used in this second school are more qualitative and participatory in nature. Techniques such as appreciative inquiry, world café, open space, brown bag lunch gatherings, knowledge fairs and mind mapping exercises are just a few among many others that could be mentioned. Tools that are often used here include film and video, drama, sport and art. General toolkits for communication for development methods and techniques are widely available on the internet (e.g., <http://www.kstoolkit.org/>; <http://www.participatorymethods.org/>).

Using (*digital*) *storytelling*, *film* and (*participatory*) *video*, but also increasingly *mobile phones* seems to be very popular in present-day sustainable development interventions. Storytelling is a method that has been recognized and developed as a meaningful intervention method in social change activities in and outside the development sector (e.g., Bell, 2010; Fog, Budtz, Munch & Blanchette, 2010; Gabriel, 2000; Lundby, 2008; Zingaro, 2009). Stories and narratives in audio, print, still images and film can be used in multiple ways. In all cases stories challenge our linear way of thinking and can have a real enabling power. Digital storytelling (Hartley & McWilliam, 2009; Lambert, 2013) refers to people telling stories through means of digital media such as film, web blogs and social media. The use of film and video has been dominated by the term *participatory video*. Participatory video often refers to the process of handing over the camera to ordinary people who can then film each other's stories. The empowerment of the process itself is valued more than the end product. However, this is only one particular form of using video. Other methods (e.g., Kennedy, 2008; Witteveen, 2009) do value the end product and are in need of professional production. Lie and Mandler made an inventory of all kinds of uses of film in 2009. The use of new ICTs also changed its focus. It shifted from using telecenters and information kiosks to using mobile phones. The mobile phone seems to be the new tool of interest as it rapidly spreads around the world. Especially in countries in the Global South this diffusion provides a huge potential for development interventions and social change activities (see, for instance, De Bruijn, Nyamnjoh & Brinkman, 2009; Goggin & Clark, 2009; Manzar & Malhotra, 2013; Nchise, Boateng, Shu & Mbarika, 2012; Rashid & Elder 2009; Salia, Nsawah-Nuamah & Steel, 2012).

Advocacy and impact assessment

Advocacy is another communication practice that needs to be mentioned here as advocacy communication is a key action term in development discourse (Servaes & Malikhao, 2012). Advocacy is a very specific communication process that aims to bring about change in governance and policies. Advocacy is about persuasion and targets to influence the specific audience of decision-makers. Advocacy is a decision-making process that has the assent of the community as a whole. In this process the community, as well as the decision-maker and the analysts, are involved. Therefore, three streams of action are important:

- Media must be activated to build public support and upward pressure for policy decisions.
- Interest groups must be involved and alliances established for reaching a common understanding and mobilizing societal forces. This calls for networking with influential individuals and groups, political forces and public organizations, professional and academic institutions, religious and cause-oriented groups, business and industry.
- Public demand must be generated and citizens' movements activated to evoke a response from national leaders.

Therefore, advocacy can be defined as “speaking and/or acting on behalf of people to secure the services they need and the rights to which they are entitled. Advocacy aims to ensure that people’s opinions, wishes or needs are expressed and listened to” (Suffolk County Council, 2008). Put another way, it aims to convince people with the power (e.g., policy-makers) to address the urgent concerns of a particular group of people (see also Lie & Mandler, 2009: 10-11). Advocacy is high on the agenda of many organizations, including the agenda of the UN. Advocacy toolkits are various and widely available (e.g., Cox, 2012; Kouvaras & Sarli, 2008; Toma, 2011; UNICEF, 2010). Video advocacy is recently added to many tool boxes and refers to the use of video in advocacy communication activities (see, for instance, Gregory, et al., 2005).

Monitoring, evaluation and impact assessment are other issues that need to be mentioned when talking about strategic or methodological practices in the development sector. Specific guides and toolkits on how to do (*participatory*) *monitoring and evaluation*, and also reflexive monitoring in action (RMA) (Mierlo et al., 2010) are widely available on the internet (e.g., Bours, McGinn, & Pringle, 2013 in a climate change adaptation context). Lennie and Tacchi (2013) provide a comprehensive framework for evaluating communication for development in a complex theory and systems approach context and also have a toolkit online (Lennie, Tacchi, Koirala, Wilmore, & Skuse, A., 2011). There is a growing body of literature addressing *impact assessment* of development projects (comprehensive overviews include Bessette 2004, Chambers 2008, Dudwick, et al. 2006, Guijt 2008 , or Patton 2002). In one way or the other we need to assess the impact of development (communication) interventions. This is not only important for donor organizations, but also for being able to improve the quality of interventions. Servaes, Polk, Shi, Reilly and Yakupitijage (2012a, 2012b) review existing impact assessment practices and provide a framework of sustainability indicators for communication for development and social change projects.

Sub-disciplines

This section reviews some sub-disciplines within communication science that relate to development communication or in some way address development communication within their scope. Sub-disciplines cover a communication domain within communication science. The sub-disciplines discussed are: strategic communication, participatory communication, crisis communication, risk communication, journalism and international communication. It is interesting to note that the sub-discipline of political communication has not, or only in a very marginal way, engaged with development communication. The same seems to be true for the sub-discipline of intercultural communication. This is remarkable because it is obvious how the two sub-disciplines could engage with development communication. But before we go into the sub-disciplines, we need to acknowledge the different levels at which communication operates.

To distinguish between levels of communication it is essential to better understand the different kinds of change. Change can occur at the individual level, the group level, the community level, the regional level, the national level, the global level or anywhere in-between. In this regard, sociologists like to make a distinction between (a) *individual and collective levels* on the one hand, and, (b) *global, macro-regional, national, intra-national and local levels* on the other hand.

The first distinction is made to be able to differentiate between *behavior change* and *social change*. Looking at *desired or expected outcomes*, one could think of (a) approaches that attempt to *change attitudes* (through information dissemination, public relations, ...) , (b) *behavioral change* approaches (focusing on changes of individual behavior, interpersonal behavior and/or community and societal behavior); (c) *advocacy* approaches (primarily targeted at policy-makers and decision-makers at all levels and sectors of society); and (d) *communication for structural and sustainable change* approaches (which could be either top-down, horizontal or bottom-up).

The first three approaches, though useful by themselves, are in isolation not capable of creating sustainable development. Therefore, *sustainable social change can only be achieved in combination with and incorporating aspects of the wider environment that influences (and constrains) structural and sustainable change*. These aspects include (see also McKee et al, 2002): structural and conjunctural factors (e.g. history, migration, conflicts); policy and legislation; service provision; education systems; institutional and organizational factors (e.g. bureaucracy, corruption); cultural factors (e.g. religion, norms and values); socio-demographic factors (e.g., ethnicity, class); socio-political factors; socio-economic factors; and the physical environment.

This brings us to the second distinction, which is often made in *economic, political and governance arenas* to distinguish between different kinds of institutions operating at different societal levels. Advocacy communication can for instance be situated within this second distinction. The two types of distinctions have relevance to the field of development communication as will be shown in the following sections.

Strategic communication and participatory communication

Strategic communication deals with the organizational planning of communication and relates to persuasive communication, marketing, and public relations. Strategic communication is planned communication with a strategic, intentional goal. Being strategic means thinking in terms of executing a stakeholder analysis, a risk analysis, a SWOT analysis, setting objectives, identifying target audiences, developing key messages and designing an effective communication plan. The social psychological line within communication science has always been strong within the sub-discipline of strategic communication. Some key books are Lewis (2011), Mahoney (2012), Patterson and Radtke (2009), and, Paul (2012). Strategic communication in the field of development communication is often applied in the thematic sub-discipline of health communication (see later under health communication), but is not restricted to this sub-discipline only. UN documents, source

books and guides can be found widely on the internet. A few examples are Cabañero-Verzosa (2003), Cornish, Lindley-French and Yorke (2011), Mozammel and Schechter (2005), Santucci (2005), and, UNICEF (2008).

Participatory communication had and still has a strong presence in development communication (for an overview see, for instance, Srampickal, 2006). Especially in the 1980s and 1990s, when participation became the buzz word in the development sector, participatory communication established itself as a sub-discipline of communication science. It is often associated with the new multiplicity paradigm in development communication and builds on widely formulated critiques on linear, top-down, diffusionist and modernist perspectives on the one hand, and the thinking of Latin American scholars such as Augusto Boal, Jesús Martín-Barbero, Luis Ramiro Beltrán, and Paolo Freire on the other hand (see, for instance, Barranquero, 2011; Huesca, 2002). Several books carry participatory communication explicitly in the title (e.g., Bessette, 2004; Jacobson & Servaes, 1999; Servaes, Jacobson & White, 1996; White, 1994). Different UN agencies have been active in advocating a participatory communication approach (see, for instance, Mefalopulos & Kamlongera, 2004; Tufte & Mefalopulos, 2009). The International Association for Communication Research (IAMCR) has a section on participatory communication, which has since its inception always demonstrated a strong connecting to the field of Communication for Sustainable Development and Social Change.

Crisis communication and risk communication

Crisis communication and risk communication are often linked and can be characterized as: “The study of how government agencies and organizations assess and manage risk and crisis situations, and how they communicate the nature of a crisis to stakeholders and members of the public” (PDE Office, 2011). According to this definition, it involves (a) assessment and management of risk and crisis situations, and (b) communication with the public. Crisis communication and risk communication have both become sub-disciplines of communication science. They address all *assessments, managements and communications* related to unexpected events that could have negative impacts. Several books are available on crisis communication (e.g., Coombs, 2012; Coombs & Holladay, 2012; Sellnow, Seeger & Ulmer, 2011; Zaremba, 2010) and risk communication (e.g., Bennett, 2010; Lundgren & McMakin, 2013; Sellnow, 2009) or both sub-disciplines together (Heath & O’Hair, 2010).

In the development sector crises and risks often refer to *natural disasters*, such as earth quakes, hurricanes, floods and tsunamis on the one hand, and *health issues*, such as those related to HIV/AIDS, avian flu, and foodborne illnesses, on the other hand. Organizations, including governments, are increasingly recognizing the importance of crisis and risk communication. Crisis and risk communication have close connections with the thematic sub-disciplines of communication for development, especially with environmental communication and health communication. The United Nations Office for Disaster Risk Reduction (UNISDR) defines disaster risk as “the potential disaster losses in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period” (UNISDR, 2009: 9). Issues that are being dealt with within this sub-discipline are global warming and related climate risks such as water scarcity, droughts, intense rainfall, river floods, and early warning systems. ICTs can play an important role in disaster risk reduction, in building and increasing resilience and in improving early warning systems (see, for instance, Pearson, 2012; Samarajiva & Zuhyle, n.d.; Wächter, et al., 2012).

Journalism and international communication

Journalism studies is a long established sub-discipline of communication science. Journalism: Theory, Practice and Criticism (Sage) and Journalism Studies (Taylor & Francis) are leading academic journals. Journalism has several connections to sustainable development and social change. Journalists

deliver news to the public by making it public. In this sense it relates to the second part of the definition of crisis and risk communication given above. In the same manner, journalism has a strong connection to health communication and environmental communication (see below). Normative and critical journalism studies takes position in how journalism ought to work in democratic societies and what role journalists play in societal change processes. *Citizen journalism* is a specific field that relates to development and change (see, for instance, Allan & Thorsen, 2009). *Peace journalism* is another area where journalism connects to sustainable change (see, for instance, Keeble, Tulloch, & Zollman, 2010; Lynch, 2008; Lynch, Shaw, & Hackett, 2011; Ross, & Tehranian, 2009; Terzis & Vassiliadou, 2008). In the field of *journalism education* UNESCO plays an important role in the development sector. “UNESCO recognizes the fact that sound journalism education contributes towards professional and ethical practice of journalism. Such journalism is better suited to foster democracy, dialogue and development” (UNESCO, n.d.). UNESCO also publishes a series on journalism education (e.g., Shanahan, Shubert, Scherer, & Corcoran, 2013).

International communication, according to the term itself, deals with communication that crosses international borders (see, for instance, Thussu, 2014). It is sometimes explicitly connected to intercultural communication (Gudykunst & Mody, 2001) or to development communication (Mody, 2003), but in the majority of cases this sub-discipline is mainly concerned with international media, global (tele-)communication infrastructures, international communication governance, policy making and the political economy of global communication. In this sense it mainly deals with development communication by addressing questions of communication infrastructures and telecommunications in or in relation to developing countries. It also addresses policy issues and the regulation of information flows in the South.

Thematic sub-disciplines

This section addresses thematic sub-disciplines that can be distinguished within the field of Communication for Sustainable Development and Social Change. Thematic sub-disciplines cover a life science theme. The thematic sub-disciplines are (a) *health communication*, (b) *agricultural extension and rural communication*, and, (c) *environmental communication (including climate change communication)*.

Health communication

The sub-discipline of health communication seems to have a close link with social marketing and with the discipline of social psychology within the social sciences. Whereas Rogers' theory of diffusions of innovation had, and to a certain extent still has a dominant presence within the sub-discipline of agricultural extension, it is especially the theory of planned behavior (Fishbein & Ajzen, 1975) that occupies a firm place within health communication. Other popular theories are the health belief model (Rosenstock, 1974) and the elaboration likelihood model (Petty & Cacioppo, 1986). Behavior change is the dominant form of change that is focused on here. Research on social change gets less attention. Health promotion is sometimes used to refer to the branch within health communication that studies the persuasive use of communication messages and media to promote public health.

Ideas gathered within the containers of Information, Education and Communication (IEC) and Knowledge, Attitude and Practice (KAP) have been dominant within the sub-discipline of health communication. IEC is framed within strategic communication intervention programs, which aim to bring about measurable behavioral and attitude changes, often through knowledge transfer to a specific target population. KAP often refers to the specific quantitative survey research done in this area. The primary focus on social psychology and behavior change implies that a particular type of vocabulary is used in this sub-discipline of health communication for development. Scholars often refer to concepts such as communication strategies, communication campaigns, social marketing and mobilization, persuasive communication and awareness raising. Risk communication holds an important position within this thematic sub-discipline, as it does within environmental communication.

Different from extension and rural agricultural communication, health communication has a firm place within communication science. Academic organizations such as the National Communication Association (NCA), the International Communication Association (ICA), the International Association for Communication Research (IAMCR) all have divisions or working groups that address health communication in the North as well as in the South. Different universities around the world offer a variety of educational programs in health communication.

The United Nations, WHO and UNFPA are leading users of the above terminology and accompanying approach to communication for sustainable development. Health communication in a development context, within and outside the UN, seems to be directly linked to specific pandemics, diseases and risks. HIV/AIDS, malaria and polio are among those specifically addressed. Emerging infectious diseases such as 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, are also paid appropriate attention. The field of family planning, reproductive health, and, sexual and reproductive health rights is another area where communication theory is often applied. Besides the traditional communication and awareness raising campaigns and prevention activities, entertainment-education is an often used methodology in this sub-discipline (Malikhao, 2012).

Leading journals are Health Communication and the Journal of Health Communication. The academic communication associations listed above organize annual or bi-annual gatherings.

Agricultural extension and rural communication

Agricultural extension is one of the oldest sub-disciplines of development communication. It has a particular history within development communication, which started with centralizing concepts such as diffusions of innovations (Rogers, 1962), and knowledge and technology transfer (see, for instance, Chambers, Pacey, & Thrupp, 1989). In the 60s, 70s and through the 80s it was generally agreed upon that 'proper extension' would directly and immediately profit the increase of crop yields for farmers. Rogers (1962) and later Van den Ban and Hawkins (1988) provided the leading textbooks. Extension was perceived in those early days in terms of mechanistic, linear knowledge transfer. That thinking is behind us. In the 70s, 80s and through the 90s, the FAO, first through its Development Support Communication (DSC) branch and later through other channels, has played a key role in changing this thinking. The FAO was the first UN specialized agency –besides UNESCO, which has a mandate for communication– to give communication a central and deciding place in development interventions.

The sub-discipline has moved on to the study of Agricultural Knowledge and Information Systems (AKIS) (Röling, 1989; FAO & World Bank, 2000) and Agricultural Innovation Systems (Klerkx, Aarts & Leeuwis, 2010), and adopted Farmer Field Schools (FFS) as a new methodology to better fit the new thinking. Today we seem to have taken still another step by a renewed and adjusted focus on communication and (agricultural) innovation (see, for instance, Leeuwis & Aarts, 2011 for a theoretical rethinking of communication in the field of innovations), and on knowledge and brokering in complex systems and the role of champions (see, for instance, Klerkx, Hall & Leeuwis, 2009; Klerkx & Aarts, 2013; Quarry & Ramírez, 2009). Innovations are now seen as an assimilation of technical innovations and new social and organizational arrangements. An innovation is a combination of software (i.e. new knowledge and modes of thinking), hardware (i.e. new technical devices and practices) and orgware (i.e. new social institutions and forms of organization) and communication is regarded as a phenomenon in which those involved construct meanings in interaction (Leeuwis & Aarts, 2011).

This new thinking and focus has consequences for how we approach communication in the agricultural and rural sector. According to Leeuwis and Aarts (2011), networks, power and social learning are the key issues in this new thinking about agricultural and rural communication. Rural communication is broader than agricultural extension. It includes health issues, education and socio-cultural, political and other issues that are not directly related to agriculture. Rural communication integrates extension. Therefore, also the agricultural extension officers can play an initiating role in rural communication and can be real champions in a broader sense. These officers often are the first to be in direct contact with rural households, and so these people can signal rural household problems. The media seem to be secondary in addressing the improvement of rural livelihood strategies.

The media field seems to be alive and kicking and flourishes after the emergence of new media. The media and ICT field within agricultural extension and communication has also developed in a specific way. Films and mobile phones have replaced television, radio and even telecenters or information kiosks. Many cases are available for review, learning and up-scaling. For film see, for instance, the work of Digital Green (<http://www.digitalgreen.org>). The mobile phone seems to be the most popular ICT at the moment and many interventions focus on their use.

The journal of Agricultural Education and Extension (JAEE) is addressing this sub-discipline. Other journals occasionally address issues of agricultural extension and rural communication. The

Association for International Agricultural and Extension Education (AIAEE) is a professional association for agricultural and extension educators who share the common goal of strengthening agricultural and extension education programs and institutions worldwide.

Environmental communication

Environmental communication addresses all interactions of humans with the environment and is a relatively new sub-discipline within communication science. Environmental communication not only involves the management of the environment, but also the study of public opinion and perceptions (Cox, 2013). As within the other two sub-disciplines, communication is often closely associated with education. Environmental communication and environmental education sometimes overlap, especially when the terms are used outside academic circles in the public domain.

The sub-discipline of environmental communication seems to be dominated by the issue of climate change, which has been on the agenda for a few years now. Climate change communication even seems to become a field in itself (CI Drum Beat issue no. 482; Kelly, 2012; Lyytimäki et al., 2013; Servaes 2013b). Different from agricultural extension, but maybe similar to areas within health communication, environmental communication, especially climate change communication, often focusses on public engagement and public opinion (see, for instance, <http://www.climatechangecommunication.org>) and risk (see, for instance, AfricaAdapt, Stockholm Environment Institute, n.d.). Agricultural communication is often far more concerned with specific target group communication activities. Communication theories used in the areas of public environmental communication and public health communication overlap. In this context environmental communication also has a close link with journalism. Different universities around the world offer courses and programs in environmental communication, sometimes linked with health communication or with other areas within the life sciences.

In the development sector it is often stressed that again the poor are among those who feel the consequences of climate change the most. This also applies to other areas within environmental communication such as energy security, biodiversity, deforestation, overexploitation of natural resources and extreme weather conditions. It is often in this context that environmental communication is linked to sustainability. Communication for sustainable development emphasizes the sustainability aspects of interactions; human-human and human-nature. Since the Brundtland report *Our Common Future* (1987) and the United Nations Conference on Environment and Development in Rio de Janeiro (1992), sustainable development is now on many agendas. The 2013-report by the Intergovernmental Panel on Climate Change (IPCC) says there is now 95 percent certainty that humans have caused most of the warming of the planet's surface that has occurred since the 1950s. A balance must be sought between economic growth, social equity and the natural environment. Communication plays a decisive role in creating this balance. Sustainability communication is a term used for responsible interaction with the natural and social environment. One of the tasks of sustainability communication is to critically evaluate social discourse of the human-environment relationship (Godemann & Michelsen, 2011). Manfred Max-Neef (1991) and the Dag Hammerskjold Foundation call this 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, p. 85).

The communication science associations provide several homes for environmental communication scientists. The NCA has a division named Environmental Communication and the ICA has an interest group with the same name. The IAMCR has a working group called Environment, Science and Risk Communication and the European Communication Research and Education Association (ECREA) is

home to the section Science and Environmental Communication. There is also a specific international association for environmental communication; the International Environmental Communication Association (IECA). *Environmental Communication: A Journal of Nature and Culture* is their official journal. IECA also organizes a bi-annual Conference on Communication and Environment (COCE). *Applied Environmental Education and Communication* and the *Journal of Environmental Education* are other leading journals.

Fields and areas

This section addresses fields and areas that can be identified within the field of Communication for Sustainable Development and Social Change. Fields and areas are seen as currently of importance and concern within development studies and development interventions and have demonstrated an interest in communication. The fields and areas that are discussed are: (a) *the right to communicate*, (b) *education and learning*, (c) *innovation, science and technology*, (d) *natural resource management*, (e) *food security*, (f) *inequality and poverty reduction*, (g) *peace and conflict*, (h) *children and youth (and senior citizens)*, and (i) *tourism*. The sections that follow address the role of communication within these fields and areas.

Right to Communicate

Liberalization has led not only to greater media freedom, but also to the emergence of an increasingly consumer-led and urban-centred communication infrastructure, which is less and less interested in the concerns of poor and rural people. Women and other vulnerable groups continue to experience marginalization, and lack of access to communication resources of all kinds. According to Nobel Prize Winner Amartya Sen (1999, 2006), development should be measured by how much freedom a country has, because without freedom people cannot make the choices that allow them to help themselves and others. He defines freedom as an interdependent bundle of political freedom and civil rights, economic freedom, social opportunities (arrangements for health care, education, and other social services), interactions with others, including the government, and protective security (which includes unemployment benefits, famine and emergency relief, and general safety nets). Cultural respect and the right to communicate are essential in this regard (Dakroury, 2009; Dakroury et al 2009, De Cuellar 1995). Ensuring free and equal access to information and the right to communicate is a pre-condition for empowering marginalized groups, as has been addressed by several meetings and international conferences (World Summit on the Information Society, and the World Social Forum).

The issue of equal access to knowledge and information and the right to communicate is becoming one of the key aspects of sustainable development. Vulnerable groups in the rural areas of developing countries are on the wrong side of the digital divide and risk further marginalization. In the rush to “wire” developing countries, little attention has been paid to the design of ICT programs for the poor. The trend ignores many lessons learned over the years by Communication for Development approaches, which emphasize communication processes and outcomes over the application of media and technologies. There needs to be a focus on the needs of communities and the benefits of the new technologies rather than the quantity of technologies available. Local content and languages are critical to enable the poor to have access to the benefits of the information revolution and to be able to actively participate. The creation of local content requires building on existing and trusted traditional communication systems and methods for collecting and sharing information. However, access is only the start of this process. Full participation implies the provision of capacity training and the development of competencies.

Education and learning

The existence of Information, Education and Communication (IEC) and the organization UNESCO itself are proof of the close connection between communication and education. This area ranges from establishing educational infrastructures, ‘training of trainers’(ToT)-activities, vocational education and training (VET) to adult learning and addressing theories of learning, such as social learning and transformative learning.

In many processes of human development, social learning is seen as an important key process and in fact, social learning is intrinsically linked to communication. Social learning and transformative learning are two important theories about how people learn. They directly connect to communication and play an important role in sustainable development and social change. Social learning refers to observational learning in a social context and imitating the actions of others (basic historical text: Bandura, 1977). Transformative learning is the process of transforming frames of reference of adult learners (basic historical text: Mezirow, 1978). This theory of transformative learning is considered uniquely adult—that is, grounded in human communication, where “learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one’s experience in order to guide future action” (Taylor, 2008: 5; Mezirow, 1991: 162).

Innovation, science and technology

Communication and innovation studies and the field of science and technology studies (STS) are closely related fields. Innovation studies and STS link to communication and development in several ways. Combining the areas of communication, innovation and development initiated from the work of Rogers, but the study of these concepts also form disciplines in themselves. Communication studies, innovation studies (see Fagerberg & Verspagen, 2008) and development studies are now established disciplinary fields as is STS. Each discipline has its own way of looking at and incorporating the other concepts. Emerging technologies such as nanotechnology, biotechnologies and sustainable energy technologies are among the technologies that must somehow merge with societal change. It is this merging of technology and society where knowledge sharing and communication are vital processes. The flow of knowledge in a societal and developmental context is the focus of this area.

Communication within and between knowledge and policy networks is analyzed to gain a better understanding of innovation and policy processes. The central theme is the role of communication in innovation processes. Due attention is paid to the integration of knowledge and perspectives of various stakeholders and disciplines. Knowledge and policy networks increasingly involve institutions and persons to facilitate the interaction between the various parties with a stake in the innovation and policy process. Among the sub-themes dealt with are: interactive (policy) design processes, trans-disciplinary collaboration, social learning and negotiation processes, process and system innovation and the organization of knowledge and policy networks (Leeuwis, 2012).

Natural resource management

Natural resource management is the area that deals with the organization, the control and administration of water, land, animals and plants. Sustainable natural resource management seeks a balance between economic growth and the quality of life and the environment. Adaptive management includes issues such as information and knowledge management, monitoring and evaluation, and risk management. Integrated natural resource management (INRM) brings adaptive management together with participatory planning and community participation and firmly grounds it in sustainability. Community-based development, co-management and stakeholder analysis are other processes of importance to INRM.

Natural resource management is often related to issues of stakeholder groups, multi-stakeholder actions and processes of social learning and thus to communication (see, for instance, Muro & Jeffrey, 2008; Röling, 1994; Schuslera, Decker & Pfeffer, 2003). “In the natural resource management literature, the relevance of communication to cooperation has mainly been based on general theories and formal models of cooperation (e.g., Axelrod 1984, Ostrom 1990). Of late, investigators of natural resource management have started using theories and models from social network analysis to argue for the importance of communication and network structure (Newman and Dale 2005, Bodin et al. 2006, Chang et al. 2012). Recently, for example, a book and a special issue

appeared on this topic (Crona and Hubacek 2010, Bodin and Prell 2011). Network analysis promises to be a productive approach because interpersonal communication is a natural and appealing example of a social network relation” (De Nooy, 2013: 44).

FAO has been active in this field. The organization has published ‘Information and Communication for Natural Resource Management in Agriculture. A training sourcebook’ in 2006.

Food security

Food security closely relates to natural resource management and of course to the sub-discipline of agricultural extension and rural communication. Food security was in 1996 defined by the World Food Summit as “when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life” (WHO, 1996). It thus connects to sustainable livelihoods and disruptions in affordable, locally-produced food supplies can cause wide-spread food insecurity. In addressing hunger and malnutrition, but also food safety and healthy diets it directly relates to health communication. FAO published a communications toolkit in this area (FAO, 2011). The kit provides detailed guidelines for food security professionals to develop a communication strategy and to communicate more effectively with target audiences.

The area of food security also touches upon a new information and communication technology that has not been discussed till now, namely Geographic Information Systems (GIS). GIS can help in an indirect way by visualizing spatial data at early stages of crises. Google maps and Bing maps are popular GIS applications. ArcGIS is a more sophisticated, professional one. GIS can help with short-term food emergencies and long-term food insecurities by combining geographically referenced data gathered by GIS technologies and combining them with other types of data. The visualization of spatial data opens up new possibilities for food security analyses and can produce valuable new insights. The same technology is also used in other fields and areas, for instance to monitor the outbreak of health pandemics such as the avian flu. Geo-tagging, participatory mapping, crisis mapping, map-based storytelling are just a few among many new initiatives to be found within the wider field of development communication.

Inequality and poverty reduction

The relationship between communication and poverty is complex. Poor and marginalized people who do not only have unequal access to land, livestock and food, but also to information and communication. The knowledge gap theory informed us that in many countries in the South there is a lot of information available for the relative few rich people and politically powerful elite, and only little information and marginal access to communication is available for the relatively large poor population. In visualized economic development theory they form reversed triangles. It is difficult for the poor to participate in decision-making processes and to have their voice heard in distant economic and political arenas. It is in this area that issues of participation and empowerment, engagement and dialogue, equity, democratization and rights issues are most pressing.

Furthermore, economic growth is only a limited measure of progress if we consider happiness and well-being. Wilkinson & Pickett (2009) have convincingly argued that societies with more equal distribution of incomes have better health, fewer social problems, and are more cohesive than ones in which the gap between the rich and poor is greater. Therefore, poverty reduction often directly relates to livelihood strategies and to governance issues. The DFID rural livelihoods model, which distinguishes between several capitals has been dominant in better understanding livelihood strategies and communications. Poverty is also often directly related to high rates of illiteracy and lack of education. ICTs can help in several ways and different cases demonstrate how (see, for instance, Harris & Rajora, 2006; Weigel & Waldburger, 2004)). It is difficult to replicate and scale up the use of ICTs as serious evaluations are often lacking. The World Bank analyzed the role of

communication in poverty reduction strategy (Mozammel, 2011). The report focusses for instance on the communication and governance challenges facing three stakeholder groups; government, donors, and civil society (Van Wicklin III in Mozammel, 2011: 78-89).

Peace and conflict

Conflict prevention, conflict resolution, conflict management, conflict transformation, humanitarian relief, peace-building, and the consolidation of peace (peace-keeping) all address the undesirable situation of disharmony, disagreement or controversy. These situations include among others civil wars, armed conflict and genocide, ethnic disputes and cultural and identity clashes on the one hand and peace negotiations and mediations on the other hand. A stable social system includes having conflicts. The existence of conflicts is in itself not necessarily problematic. In fact, conflicts form an essential part of all healthy relationships (Raven 2008). The crux lies in managing the existence of the conflict and the magnitude and impact of the conflict. Needless to say that communication plays a crucial role in that process of management.

Conflict management connects to the area of conflict communication. Within the discipline of communication science, much of the work done in the thematic sub-discipline of conflict communication relates to interpersonal communication and studies the skills and competencies that are necessary for dealing effectively with those conflicts (Servaes & Malikhao 2012; Terzis & Vassiliadou 2008). Besides its focus on interpersonal conflicts, it is also concerned with organizational and community conflict (see, for instance, Oetzel & Ting-Toomey, 2013). “Most communication theorists prefer the term conflict management to conflict resolution because the former suggests an ongoing communication process focusing attention on interaction, whereas the latter suggests episodes that must be dealt with as they occur, focusing attention on the discrete content of each episode” (Nicotera, 2009: 164). The area of conflict management frequently makes reference to different *negotiations styles*. Repeatedly the distinction is made between competing, collaborating, compromising, avoiding and accommodating (Thomas, 1976) and especially Ting-Toomey in her face negotiations theory applied these styles to intercultural contexts (basic historical texts: Ting-Toomey, 1985, 1988; see also Oetzel & Ting-Toomey, 2013).

Children and youth, women and senior citizens

Youth stands out and seems to be an emerging area of interest in the development sector. It has overlap with all other fields and areas that have been distinguished and discussed, but communicating with children and youth is a specialized field and is increasingly seen as an important area in itself to address. Cross-cutting themes are, among others, youth sexuality, HIV/AIDS, sexual and reproductive health and rights, formal and informal education, and media literacy. Specific youth problems are, among others: a reduced interest in studying agriculture, unemployment, bullying, identity formation and a lack of young people’s engagement in community issues. However, not only the needs of children and youth, also those of women (Malik, 2013) and senior citizens (De Cuellar, 1995) should be recognized. UNICEF has a global mandate and according to their own saying “supports an environment that guarantees the participation of children and women in social development programmes through raising awareness and mobilizing communities, developing capacity, and strengthening partnerships among key allies and stakeholders” (UNICEF, 2013).

In the area of *youth development* and communication, creative techniques such as using film and (performing) arts are often used with children and youth. Moreover, young adults are pioneer users of new media. NORDICOM and Ørecomm have been active in addressing the theme of media, youth and social change (Tufte, Wildermuth & Hansen-Skovmoes, 2013; Von Feilitzen, Carlsson & Bucht, 2011).

Tourism

International tourism deals to a large extent with *intercultural communication*. Tourism is for many countries in the South an important area for development. It incorporates significant social changes. Cultural diversity and identity are issues that especially come to the fore in this area of international tourism. Sustainability is also an important issue in the field of tourism.

In 2006, the World Bank Development Communication Division, the USAID Development Communication and Sustainable Tourism Unit, and the United Nations World Tourism Organization (UNWTO) organized a conference on the role of development communication in sustainable tourism. The peer reviewed academic journal *Tourism Culture & Communication* addresses aspects of this area.

Conclusions

The field of Communication for Sustainable Development and Social Change is active and dynamic. The field matured, settled in sub-disciplines and found accommodation in different fields and areas of development and social change. Still, there are future imperatives to identify.

These future imperatives are:

- One way of *mainstreaming communication for development* is firmly grounding the field of Communication for Sustainable Development and Social Change in thematic and non-thematic sub-disciplines of communication science. These sub-disciplines provide a foundation by underpinning the work of development communication professionals and academics and giving them a solid basis to work from.
- Human and environmental *sustainability* must be central in development and social change activities. Sustainable interventions are necessary to ensure a world worth living in for future generations. Besides political-economic approaches, we need socio-cultural approaches to guarantee acceptable and integrated levels of sustainability and to build resilience. *Building resilient communities* should be a priority issue in the field of Communication for Sustainable Development and Social Change: "...common themes concerning the maintenance of ecological balance, a move away from environmentally unfriendly modernization, and an emphasis on local systems that shift from solely Western-led development and focus on local culture and participation are crucial to an understanding of sustainable development" (Servaes et al., 2012b: 117); and "...the scope and degree of sustainability must be studied in relationship with the local concept of development contingent upon the cultural values of each community" (Servaes et al., 2012b: 118).
- It is essential to recognize that development problems are complex. *Complex or so-called wicked problems*, such as the existence of climate change, conflict and war, HIV/AIDS, and malaria, are problems that do not have one single solution that is right or wrong, good or bad, or true or false. These are problems in which many stakeholders are involved, all of them framing the problems and issues in a different way. Therefore, solutions need to be negotiated, for instance in multi-stakeholder platforms. Such types of negotiating or 'social dialogue' are promoted for concrete purposes, such as, reclaiming indigenous knowledge or monitoring and evaluation, but increasingly also from *a rights-based perspective* that all people have a right to be heard, especially when "the main debates take place in documents which they do not write, or in meetings which they do not attend" (Slim, & Thompson, 1993: 4).
- Though participatory approaches have gained some visibility, and sometimes even recognition, among mainstream development agencies, an interesting alliance could be forged at the level of *participatory budgeting*. Many of the steps in participatory budgeting could be seen as participatory communication processes to deepen democracy (Fung & Wright 2001). The fiscal focus of this work offers the potential to cut across all facets of a community's life -- climate change, agriculture, health, gender, etc may be addressed via a community's budgetary process. The need to effectively process budgetary debates via an integrated 'weighing' of alternative public spending offers and requires a holistic approach in communication that is particularly vital in addressing climate change (Yoon 2013).

- There is a need for *transdisciplinarity*. We need to re-think and re-order the relationships between communication academics, communication professionals (e.g., extension agents, health communication specialists, intermediaries, knowledge brokers, change agents, M&E specialists), technical field specific professionals (technical ICT specialists, agronomists, medical doctors), policy makers (international, national, intra-national), civil society members (e.g., NGOs, social movements, societal agents) and local people (e.g., farmers, fishermen, households, audiences, clients). *Linkages and dialogues* need improvement. There is a demand for building knowledge and communication networks and to attach importance to stakeholder interactions and knowledge system approaches. Climate change adaptation and livelihood adaptations require *multi-stakeholder actions* and processes of *social learning*.
- *New creative techniques and methodologies* need further attention. New questions need to be addressed such as: What is the role of *creativity* in development and social change interventions? What actually is 'out-of-the-box'-thinking and is everybody willing and able to think in that way? And should everybody think in that way? Especially the use of (digital) storytelling, film, (participatory) video, and mobile phones have huge potential. The new ICTs do have potential, but centralizing them incorporates the danger of *technological determinism*. We can learn from history and not make the same mistakes that we made with the introduction of, for instance, broadcast television.
- There is a need to connect communication to *learning, education and knowledge exchange*. Focusing on processes of transformative learning (Mezirow, 1978), social learning (Bandura, 1977), experiential learning (Kolb, 1984), reflexive learning, organizational learning and double-loop learning (Argyris and Schön, 1978) is essential to better understand processes of change by looking at how people learn. For interventions to be successful, it seems necessary to invest in double-loop (second order) learning. Double-loop learning involves learning about methodologies and understanding why things are learnt and why certain knowledge is needed. In this context we acknowledge, with Ingie Hovland, that we need a shift from instrumental change to conceptual change. "The current focus is on instrumental change through immediate and identifiable change in policies, and less on conceptual change in the way we see the world and the concepts we use to understand it. (Hovland, 2003:viii, 15-16)"
- The 2013 Human Development Report identifies four specific areas of focus for sustaining development momentum: *enhancing equity*, including on the gender dimension; enabling greater voice and *participation of citizens*, including youth; *confronting environmental pressures*; and *managing demographic change*. For the first time in 150 years, the combined output of the developing world's three leading economies—Brazil, China and India—is about equal to the combined GDP of the longstanding industrial powers of the North—Canada, France, Germany, Italy, United Kingdom and the United States. This represents a dramatic rebalancing of global economic power. The middle class in the South is growing rapidly in size, income and expectations. The South is now emerging alongside the North as a breeding ground for technical innovation and creative entrepreneurship. Not only the larger countries have made rapid advances, notably Brazil, China, India, Indonesia, Mexico, South Africa, Thailand and Turkey; but substantial progress has also been made in smaller economies, such as Bangladesh, Chile, Ghana, Mauritius, Rwanda and Tunisia. However, "unless people can participate meaningfully in the events and processes that shape their lives, national human development paths will be neither desirable nor sustainable", the report claims (Malik, 2013: 18). In that regard --see also one of the

Millennium Development Goals--, *educating women* through adulthood is the closest thing to a 'silver bullet' formula for accelerating human development.

References

- AfricaAdapt, Stockholm Environment Institute (n.d.). *Risk communication guide for climate change practitioners in Africa*. Retrieved from <http://www.africa-adapt.net/media/resources/875/resource-guide-on-risk-communication-1.pdf>
- Allan, S., & Thorsen, E. (2009). *Citizen journalism: Global perspectives*. New York: Peter Lang.
- Argyris, C., & Schön, D. (1978). *Organizational learning: A theory of action perspective*. Reading, Mass: Addison Wesley.
- Bandura, A. (1977). *Social learning theory*. General Learning Press.
- Barranquero, A. (2011). *Rediscovering the Latin American roots of participatory communication for social change*. Westminster papers in communication and culture. London: University of Westminster.
- Bell, L. (2010). *Storytelling for social justice: Connecting narrative and the arts in antiracist teaching*. New York, NY: Routledge.
- Benería, L., Berik, G., & Floro, M. (2003). *Gender, development, and globalization. Economics as if all people mattered*. Routledge.
- Bennett, P. (2010). *Risk communication and public health*. Oxford: Oxford University Press.
- BenYishay, Ariel and Betancourt, Roger (2013). *Unbundling Democracy: Tilly Trumps Schumpeter*. Available at SSRN: <http://ssrn.com/abstract=2282729> or <http://dx.doi.org/10.2139/ssrn.2282729>
- Bessette, G. (2004). *Involving the community: A guide to participatory development communication*. Penang: Southbound.
- Bours, D., McGinn, C., & Pringle, P. (2013). *Monitoring & evaluation for climate change adaptation: A synthesis of tools, frameworks and approaches*. Phnom Penh and Oxford: SEA Change CoP and UKCIP.
- Bruijn, M. de, Nyamnjoh, F., & Brinkman, I. (Eds.) (2009). *Mobile phones: the new talking drums of everyday Africa*. Leiden/Bamenda: African Studies Centre/Langaa.
- Cabañero-Verzosa, C. (2003). *Strategic communication for development projects. A toolkit for task team leaders*. Washington D.C.: External Affairs & World Bank Learning Network.
- Chambers, R., Pacey, A., & Thrupp, L. A. (1989). *Farmer first: farmer innovation and agricultural research*. Intermediate Technology Publications.
- Chambers, Robert (2008). *Revolutions in development inquiry*. London: Earthscan.
- Childers, E., & Vajrathon, M. (1968). *Development Support Communication for project support*. Paper. Bangkok: UNDP.
- Coombs, W. T. (2012). *Ongoing crisis communication: Planning, managing, and responding*. Thousand Oaks, Calif: Sage.
- Coombs, W. T., & Holladay, S. J. (2012). *The handbook of crisis communication*. Chichester, U.K: Wiley-Blackwell.
- Cornish, P., Lindley-French, J., & Yorke, C. (2011). *Strategic communications and national strategy*. A Chatham House Report. London: Chatham House, The Royal Institute of International Affairs.
- Cox, J. (2012). *Participatory advocacy. A toolkit for VSO staff, volunteers and partners*. VSO.
- Cox, R. (2013). *Environmental Communication and the Public Sphere*. Thousand Oaks, Calif: Sage.
- Dakroury, A. (2009). *Communication and Human Rights*. Dubuque IA: Kendall Hunt.
- Dakroury, Aliaa, Eid, Mahmoud, & Kamalipour Yahya (eds) (2009). *The Right to Communicate. Historical hopes, global debates, and future premises*. Dubuque IA: Kendall Hunt.
- De Cuéllar, J. P. (ed.) (1995). *Our creative diversity. Report of the World Commission on Culture and Development*. Paris: UNESCO.
- De Nooy, W. (2013). Communication in natural resource management: agreement between and disagreement within stakeholder groups. *Ecology and Society*, 18(2), 44, doi: <http://dx.doi.org/10.5751/ES-05648-180244>

- Development Cooperation Forum (2012). *Mutual accountability and sustainable development*. Background paper for session 5. Australia High-level Symposium on “Shaping a Sustainable Future - Partners in Development Cooperation”. United Nations Economic and Social Council.
- Dudwick, Nora, Kathleen Kuehnast, Veronica Nyhan Jones, and Michael Woolcock (2006). *Analyzing social capital in context: A guide to using qualitative methods and data*. Washington, DC: World Bank.
- Elliott, J. (1994). *An introduction to sustainable development*. London: Routledge.
- Fagerberg, J., & Verspagen, B. (2009). Innovation studies. The emerging structure of a new scientific field. *Research Policy*, 38(2), 218-233.
- Fals Borda (1991). *Knowledge and Social Movements*. Santa Cruz, CA: Merrill Publications.
- FAO (2003). *Communication and natural resource management. experience/theory*. The Communication Initiative in collaboration with the Communication for Development Group, FAO.
- FAO (2006). *Information and communication for natural resource management in agriculture. A training sourcebook*. College of Development Communication, University of the Philippines Los Baños and FAO.
- FAO (2011). *Food Security Communications Toolkit*. Rome: FAO.
- FAO and World Bank (2000). *Agricultural knowledge and information systems for rural development (AKIS/RD). Strategic vision and guiding principles*. Rome, Washington: FAO, World Bank.
- FAO Office of Knowledge Exchange, Research and Extension (OEK), Research and Extension Branch (OEKR) (2012). *FAO expert consultation. communication for development meeting today's agriculture and rural development challenges*. Final report. Rome, Italy: 14–16 September 2011.
- Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, intention, and behavior: An Introduction to theory and research*. Reading, MA: Addison-Wesley.
- Flint, W. (2007). *Sustainability Manifesto*. Exploring Sustainability: *Getting Inside the Concept*. http://www.eeeee.net/sd_manifesto.htm Accessed on December 17, 2011.
- Flor, A. (2004). *Environmental communication*. Diliman, Quezon City: University of the Philippines-Open University.
- Fog, K., Budtz, C., Munch, P., & Blanchette, S. (2010). *Storytelling: Branding in practice*. 2nd edition. Berlin: Springer.
- Fung, A. & E.O. Wright (eds.) (2001). Deepening democracy. Institutional Innovations in Empowered Participatory Governance. <http://www.ssc.wisc.edu/~wright/DeepDem.pdf> (retrieved on February 5, 2014).
- Gabriel, Y. (2000). *Storytelling in organizations. Facts, fictions, and fantasies*. Oxford: Oxford University Press.
- Godemann, J., & Michelsen, G. (2011). *Sustainability communication: Interdisciplinary perspectives and theoretical foundation*. Springer.
- Goggin, G., & Clark, J. (2009). Mobile phones and community development: a contact zone between media and citizenship. *Development in Practice*, 19(4), 585-597.
- Goldin, I., & Reinert, K. A. (2012). *Globalization for development: Meeting new challenges*. Oxford University Press.
- Graeff, J. A., Elder, J. P., Booth, E. M., & HealthCom. (1993). *Communication for health and behavior change: a developing country perspective*. Jossey-Bass Publishers.
- Gregory, S., et al. (Eds.) (2005). *Video for change. A guide for advocacy and activism*. London: Pluto Press.
- Gudykunst, W. B., & Mody, B. (2001). *Handbook of international and intercultural communication*. Thousand Oaks: Sage.
- Guijt, I. (2008). Critical Readings on Assessing and Learning for Social Change: A review. *IDS Development Bibliographies 21*, Sussex: IDS.

- Gumucio-Dagron, A., & Tufte, T. (Eds.) (2006). *Communication for social change anthology: Historical and contemporary readings*. South Orange, NJ: Communication for Social Change Consortium.
- Harris, R., & Rajora, R. (2006). *Empowering the poor. Information and communications technology for governance and poverty reduction. A study of rural development projects in India*. The Asia-Pacific Development Information Programme (APDIP).
- Hartley, J., & McWilliam, K. (Eds.) (2009). *Story circle: Digital storytelling around the world*. Wiley-Blackwell.
- Heath, R. L., & O'Hair, H. D. (Eds.) (2010). *Handbook of risk and crisis communication*. New York: Routledge.
- Held, David, and Anthony McGrew (2007). *Globalization/anti-globalization: Beyond the great divide*. 2d ed. Cambridge, UK: Polity.
- Hoveland, I. (2003). *Communication of research for poverty reduction: A literature review*. Working Paper 227, Overseas Development Institute (ODI), UK Department for International Development (DFID).
- Huesca, R. (2002). Chapter 8. Tracing the history of participatory communication approaches to development: a critical appraisal. In J. Servaes (Ed.), *Approaches to development communication*, Paris: UNESCO.
- Inagaki, N. (2007). *Communicating the impact of communication for development: recent trends in empirical research*. World Bank.
- Independent Evaluation Group (2011). *Capturing technology for development*. Washington D.C.: The World Bank.
- Jacobson, T. L., & Servaes, J. (1999). *Theoretical approaches to participatory communication*. Cresskill, NJ: Hampton Press.
- Keeble, R., Tulloch, J., & Zollman, F. (2010). *Peace journalism, war and conflict resolution*. New York: Peter Lang.
- Kelly, M. R. (2012). Climate change communication research here and now: A reflection on where we came from and where we are going. *Applied Environmental Education & Communication*, 11(3-4), 117-118. doi: 10.1080/1533015X.2012.777289
- Kennedy, T. 2008. *Where the rivers meet the sky: A collaborative approach to participatory development*. George Town, Penang, Malaysia: Southbound.
- Khampa (2009). *Participatory Development Communication and People's Happiness in a Bhutanese Community*, M.A. Thesis at the Graduate School of Bangkok University, Bangkok, Thailand.
- Klerkx, L., & Aarts, N. (2013). The interaction of multiple champions in orchestrating innovation networks: Conflicts and complementarities. *Technovation*, 33(6-7), 193-210. doi: <http://dx.doi.org/10.1016/j.technovation.2013.03.002>
- Klerkx, L., Hal, A., & Leeuwis, C. (2009). *Strengthening agricultural innovation capacity: Are innovation brokers the answer?* Maastricht: United Nations University, MERIT.
- Kolb, D. A. (1984). *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, N. J.: Prentice Hall.
- Kotter, J. P. (2001). What leaders really do. *Harvard Business Review*, December.
- Kouvaras, G., & Sarli, M. (2008). *Advocacy toolkit on development education and awareness raising. Developing Europeans' Engagement for the Eradication of Global Poverty (DEEEP)*.
- Lambert, J. (2013). *Digital Storytelling: Capturing Lives, Creating Community*. London: Routledge.
- Leeuwis, L. (2012). *Profile description Communication and Innovation Studies Group*. Wageningen: Wageningen University.
- Leeuwis, C., & Hall, A. (2010). *Facing the challenges of climate change and food security: the role of research, extension and communication institutions*. Assignment commissioned by the Research and Extension Branch at FAO, Rome, Final Report October 2010.
- Leeuwis, C., & Aarts, N. (2011). Rethinking communication in innovation processes: creating space for change in complex systems. *The Journal of Agricultural Education and Extension*, 17(1), 21-36. doi: 10.1080/1389224X.2011.536344

- Lele, S. (1991). "Sustainable Development: A critical review". *World Development*. 19:6, 607-621.
- Lennie, J., & Tacchi, J. (2013). *Evaluating communication for development. A framework for social change*. London: Routledge Earthscan.
- Lennie, J., Tacchi, J., Koirala, B., Wilmore, M., & Skuse, A. (2011). Equal Access Participatory Monitoring and Evaluation toolkit. Retrieved from http://betterevaluation.org/toolkits/equal_access_participatory_monitoring
- Lewis, L. K. (2011). *Organizational change: Creating change through strategic communication*. Chichester, West Sussex, U.K: Wiley-Blackwell.
- Lie, R., & Mandler, A. (2009). *Video in development: Filming for rural change*. Wageningen: Centre for Agricultural and Rural Cooperation (CTA), GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit), Food and Agriculture Organization of the United Nations (FAO), and, Wageningen UR.
- Lundby, K. (ed.) (2008). *Digital storytelling, Mediatized Stories: Self-representations in New Media*. New York: Peter Lang.
- Lundgren, R. E., & McMakin, A. H. (2013). *Risk communication: A handbook for communicating environmental, safety, and health risks*.
- Lynch, J. (2008). *Debates in peace journalism*. Sydney: Sydney University Press.
- Lynch, J., Shaw, I. S., & Hackett, R. A. (2011). *Expanding peace journalism: Comparative and critical approaches*. Sydney: Sydney University Press.
- Lyytimäki, J., Nygrén, N. A., Ala-Ketola, U., Pellinen, S., Ruohomäki, V., & Inkinen, A. (2013). Climate change communication by a research institute: Experiences, successes, and challenges from a North European perspective. *Applied Environmental Education & Communication*, 12(2), 118-129. doi: 10.1080/1533015X.2013.821869
- MacBride, S. (Ed.) (1980). *Many voices, one world: Towards a new, more just, and more efficient world information and communication order*. Paris: United Nations Educational, Scientific and Cultural Organization.
- Mahoney, J. (2012). *Strategic communication: Principles and practice*. South Melbourne, Vic: Oxford University Press.
- Malik, K. (ed.) (2013). *The Rise of the South: Human Progress in a Diverse World. Human Development Report*. New York: UNDP.
- Malikhao, P. (2012). *Sex in the Village. Culture, Religion and HIV/AIDS in Thailand*. Southbound & Silkworm Publishers: Penang-Chiang Mai.
- Manyozo, L. (2012). *Media, communication and development. Three approaches*. New Delhi: Sage.
- Manzar, O., & Malhotra, A. (2013). *Use of mobile phones for social and behaviour change*. New Delhi: Digital Empowerment Foundation and UNICEF.
- Max-Neef, Manfred (1991). *Human scale development. Conception, application and further reflections*. New York: The Apex Press.
- McAnany, E. G. (2012). *Saving the world: A brief history of communication for development and social change*. Champaign: Univ. of Illinois Press.
- McKee, N., E. Manoncourt, S.Y. Chin and R. Carnegie. (eds). 2000. *Involving People Evolving Behavior*. Penang: Southbound Publishers.
- McCall, E. (2011). *Communication for development: Strengthening the effectiveness of the United Nations*. New York: United Nations Development Programme.
- Mefalopulos, P., & Kamlongera, C. (2004). *Participatory communication strategy design: A handbook*. Rome: Food and Agriculture Organization of the United Nations.
- Mefalopulos, P. (2008). *Development communication sourcebook: Broadening the boundaries of communication*. Washington, D.C.: World Bank.
- Melkote, S. R., & Steeves, H. L. (2001). *Communication for development in the third world: Theory and practice for empowerment*. 2d ed. London: Sage.
- Mezirow, J. (1978). Perspective transformation. *Adult Education*, 28, 100–110.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco: Jossey-Bass.

- Mierlo, B. C. van, Regeer, B., Amstel, M. van, Arkesteijn, M. C. M., Beekman, V., Bunders, J. F. G., Cock Buning, T. de, Elzen, B., Hoes, A. C., & Leeuwis, C. (2010). *Reflexive monitoring in action. A guide for monitoring system innovation projects*. Wageningen/Amsterdam: Communication and Innovation Studies, Wageningen University and Research Centre/Athena Institute, VU.
- Mody, B. (2003). *International and development communication: A 21st-century perspective*. Thousand Oaks, Calif: Sage.
- Mozammel, M. (Ed.) (2011). *Poverty reduction with strategic communication: Moving from awareness raising to sustained citizen participation*. The World Bank. Communication for Governance and Accountability Program (CommGAP).
- Mozammel, M., & Schechter, G. (2005). *Strategic communication for community driven development (CDD): A practical guide for project managers and communication practitioners*. Washington D.C.: The World Bank.
- Muro, M., & Jeffrey, P. (2008). A critical review of the theory and application of social learning in participatory natural resource management processes. *Journal of Environmental Planning and Management*, 51(3), 325-344. doi: 10.1080/09640560801977190
- Nash, J. (ed.) (2005). *Social movements: An anthropological reader*. Masden, MA: Blackwell.
- Nchise, A., Boateng, R., Shu, I., & Mbarika, V. (2012). Mobile phones in health care in Uganda: The Applab study, *The Electronic Journal on Information Systems in Developing Countries*, 52(2), 1-15.
- Nerfin, Marc (ed.) (1977). *Another development. Approaches and strategies*, Uppsala: Dag Hammarskjöld Foundation.
- Nicotera, A. (2009). Conflict communication theories. In S. Littlejohn, & K. Foss (Eds.), *Encyclopedia of communication theory*. (pp. 165-171). Thousand Oaks, CA: SAGE Publications
- OECD (2009). *Conference proceedings: ICTs, the environment and climate change. Proceedings of the high-level OECD Conference in Helsingør, Denmark, 27-28 May 2009*.
- Oetzel, J. G., & Ting-Toomey, S. (2013). *The SAGE handbook of conflict communication: Integrating theory, research, and practice*. Second edition. Sage.
- Patterson, S. J., & Radtke, J. M. (2009). *Strategic communications for nonprofit organization: Seven steps to creating a successful plan*. Epub Edition. John Wiley & Sons Inc.
- Patton, Michael Quinn (2002). *Qualitative research and evaluation methods*. 3d ed. Thousand Oaks, CA: Sage.
- Paul, C. (2011). *Strategic communication: Origins, concepts, and current debates*. Santa Barbara, CA: Praeger.
- Payutto, P. (1998). *Sustainable development*. Bangkok: Buddhadham Foundation.
- PDE Office of Postsecondary and Higher Education Transfer and Articulation Oversight Committee (2011). *Pennsylvania Statewide Program-to-Program Articulation Agreement in Communication*. Retrieved from http://www.pdf-repo.com/pdf_1a/145g2o2am951b71a0f.html
- Pearson, L. (2012). *Early warning of disasters: Facts and figures*. Retrieved from <http://www.scidev.net/global/communication/feature/early-warning-of-disasters-facts-and-figures-1.html>
- Petty, R. E., & Cacioppo, J. T. (1986). *From communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer-Verlag.
- Polk, Emily (2013). *Transition Network: Exploring Intersections Between Culture, the Climate Crisis, and a Digital Network in a Community - Driven Global Social Movement*. Dissertation University of Massachusetts – Amherst.
- Quarry, W., & Ramírez, R. (2009). *Communication for another development: Listening before telling*, Zed Books.
- Ramírez, R., & Quarry, W. (2004). *Communication for development. A medium for innovation in natural resource management*. IDRC and FAO.

- Rashid, A. T., & Elder, L. (2009). Mobile phones and development: an analysis of IDRC-supported projects, *The Electronic Journal on Information Systems in Developing Countries*, 36(2), 1-16.
- Raven, Bertram H. (2008). The Bases of Power and the Power/Interaction. Model of Interpersonal Influence. *Analyses of Social Issues and Public Policy*, Vol. 8, No. 1, 2008, pp. 1--22
- Rogers, E. M. (1962). *Diffusion of innovations*. New York: Free Press.
- Röling, N. G. (1989). *The agricultural research-technology transfer interface: A knowledge system perspective*. The Hague: International Service for National Agricultural Research (ISNAR).
- Röling, N. G. (1994). Communication support for sustainable natural resource management. Special issue: Knowledge is power? The use and abuse of information in development. *IDS Bulletin*, 25(2), 125-133.
- Rosenstock, I. (1974). Historical origins of the health belief model. *Health Education Monographs*, 2(4).
- Ross, S. D., & Tehranian, M. (2009). *Peace journalism in times of war*. New Brunswick: Transaction Publishers.
- Salia, M., Nsowah-Nuamah, N. N. N., & Steel, W. F. (2012). Effects of mobile phone use on artisanal fishing market efficiency and livelihoods in Ghana, *The Electronic Journal on Information Systems in Developing Countries*, 47(6), 1-26.
- Samarajiva, R., & Zuhyle, S. (n.d.). *The resilience of ICT infrastructure and its role during disasters*. Bangkok: ICT and Development Section, Information and Communications Technology and Disaster Risk Reduction Division, United Nations Economic and Social Commission for Asia and the Pacific.
- Santucci, F. M. (2005). *Strategic communication for rural development*. Washington D.C.: Communication for Sustainable Development in Operations Unit, Development Communication Division, External Affairs Vice-Presidency, The World Bank.
- Sellnow, T. L. (2009). *Effective risk communication: A message-centered approach*. New York: Springer.
- Sellnow, T. L., Seeger, M. W., & Ulmer, R. R. (2011). *Effective crisis communication: Moving from crisis to opportunity*. Thousand Oaks: Sage.
- Sen, Amartya (2006). *Identity and violence. The illusion of destiny*. New York: Norton.
- Sen, Amartya (1999). *Development as Freedom*. New York: Random House.
- Servaes, J. (2013b). *Sustainable development and green communication*. Palgrave.
- Servaes, J. (2013a). *Sustainability, participation & culture in communication: Theory and praxis*. Bristol, UK: Intellect.
- Servaes, J., & Lie, R. (2013). Sustainable social change and communication. *Communication Research Trends, December issue of 2013*, 32(4).
- Servaes, J., Polk, E., Shi, S., Reilly, D., & Yakupitijage, T. (2012b). Towards a framework of sustainability indicators for 'communication for development and social change' projects. *International Communication Gazette*, 74(2), 99-123. doi: 10.1177/1748048511432598
- Servaes, J., Polk, E., Shi, S., Reilly, D., & Yakupitijage, T. (2012a). Sustainability testing for development projects, *Development in Practice*, 22(1), 18-30, doi: 10.1080/09614524.2012.634177
- Servaes, J., & Malikhao, P. (2012). Advocacy communication for peace building, *Development in Practice*, 22(2), 229-243.
- Servaes, J., Jacobson, T. L., & White, S. A. (2002). *Participatory communication for social change*. New Delhi: Sage.
- Servaes, J. (Ed.) (2008). *Communication for development and social change*. Thousand Oaks, CA: Sage.
- Servaes, J. & Malikhao, Patchanee (2007a), "Communication and sustainable development", [FAO, Communication and sustainable development: Selected papers](#), FAO, Rome, pp. 1-38

- Servaes, J. & Malikhao, Patchanee (2007b) "Communication and Sustainable Development", Servaes J. & Liu, S. (eds.), *Moving Targets. Mapping the paths between communication, technology and social change in communities*, Southbound, Penang, pp. 11-42.
- Servaes, J. (1999). *Communication for development: One world, multiple cultures*. Cresskill, NJ: Hampton.
- Shanahan, M., Shubert, W., Scherer, C., & Corcoran, T. (2013). *Climate change in Africa: a guidebook for journalists. UNESCO series on journalism education*. Paris: UNESCO.
- Shannon, C. (1948). A mathematical theory of communication, *Bell System Technical Journal*, 27 (July and October), 379–423, 623–656.
- Sivaraksa, Sulak (2010). *The wisdom of sustainability. Buddhist economics for the 21st century*. Chiang Mai: Silkworm Books.
- Slim, H., & Thompson, P. (1993). *Listening for a change: Oral testimony and development*. London: Panos Publications Ltd.
- Srampickal, S. J. (2006). Development and participatory communication. *Communication Research Trends*, 25(2).
- Staples A. (2006). *The birth of development: How the World Bank, Food and Agriculture Organization, and World Health Organization changed the world, 1945-1965*. Kent, OH: The Kent State University Press.
- Suffolk County Council (2008). *What is advocacy?* Retrieved from <http://www.suffolk.gov.uk/CareAndHealth/CustomerRights/Advocacy/Advocacy.htm>
- Supadhiloke, Boonlert (2013). A Synergy of Gross National Happiness and Sufficiency Economy: Implications for Development Communication in Sustainable Soial Change. In Servaes, J. (ed). *Sustainable development and green communication*. Palgrave, 78-94.
- Taylor, E. W. (2008). Transformative learning theory. *New Directions for Adult and Continuing Education*, 119, 5-15.
- Taylor, Lance (1996). "Sustainable Development: An introduction". *World Development*, 24:2, 215-225.
- Terzis, G. & M. Vassiliadou (2008) Working with media in areas affected by ethno-political conflict, In Servaes, J. (Ed.) (2008). *Communication for development and social change*. Thousand Oaks, CA: Sage.
- Thomas, K. (1976). Conflict and conflict management. In M. Dunnette (Ed.), *The handbook of industrial and organizational psychology*. Chicago: Rand McNally.
- Thussu, D. K. (2014). *International communication: Continuity and change*. S.I.: Bloomsbury Academic.
- Ting-Toomey, S. (1985). Toward a theory of conflict and culture. In W. Gudykunst, L. Stewart, S. Ting-Toomey (Eds.), *Communication, culture and organizational processes* (pp. 71–86). Sage, Beverly Hills, CA (1985).
- Ting-Toomey, S. (1988). Intercultural conflict styles: A face-negotiation theory. In Y. Kim, & W. Gudykunst (Eds.), *Theories in intercultural communication* (pp. 213–235). Newbury Park, CA: Sage.
- Toma, C. de (2011). *Advocacy toolkit. Guidance on how to advocate for a more enabling environment for civil society in your context*. Open Forum for CSO Development Effectiveness.
- Tufte, T., & Mefalopulos, P. (2009). *Participatory communication. A practical guide*. World Bank Working Paper No. 170. Washington D.C.: The World Bank.
- Tufte, T., Wildermuth, N., & Hansen-Skovmoes, A. S. (Eds.) (2013). *Speaking up and talking back? Media empowerment and civic engagement among East and Southern African youth*. NORDICOM Yearbook 2013. The International Clearinghouse on Children, Youth and Media.
- UN (2008). *Achieving Sustainable Development and Promoting Development Cooperation*. New York: United Nations
- UNDP (2004). *Human development report 2004: Cultural liberty in today's diverse world*. New York: United Nations Development Programme and Oxford University Press.

- UNESCO (2007). *Harnessing communication to achieve the Millennium Development Goals*. Paris: United Nations Educational, Scientific, and Cultural Organization.
- UNESCO (2009). *UNESCO World Report. Investing in Cultural Diversity and Intercultural Dialogue*. UNESCO.
- UNESCO (n.d.). *Journalism education and training*. Retrieved from <http://www.unesco.org/new/en/communication-and-information/media-development/journalism-education-and-training/browse/7/>
- UNICEF (2008). *Writing a communication strategy for development programmes. A guideline for programme managers and communication officers*. Dhaka: UNICEF Bangladesh.
- UNICEF (2010). *Advocacy toolkit. A guide to influencing decisions that improve children's lives*. New York: UNICEF.
- UNICEF (2013). *Communication for development support to public health preparedness and disaster risk reduction in East Asia and the Pacific: A review*. Young Child Survival and Development Section, UNICEF East Asia and Pacific Regional Office.
- UNISDR (2009). *Terminology on disaster risk reduction*. Geneva: United Nations International Strategy for Disaster Reduction.
- Van den Ban, A. W., & Hawkins, H. S. (1988). *Agricultural extension*. Longman Scientific & Technical.
- Van Hemelrijck, A. (2013). Powerful Beyond Measure? Measuring Complex Systemic Change in Collaborative Settings, In Servaes, J. (ed.). *Sustainability, participation & culture in communication: Theory and praxis*. Bristol, UK: Intellect.
- Von Feilitzen, C., Carlsson, U., & Bucht, C. (Eds.) (2011). *New questions, new insights, new approaches. Contributions to the Research Forum at the World Summit on Media for Children and Youth 2010*. NORDICOM Yearbook 2011. The International Clearinghouse on Children, Youth and Media.
- Wächter, J., Babeyko, A., Fleischer, J., Häner, R., Hammitzsch, M., Kloth, A., & Lendholt, M. (2012). Development of tsunami early warning systems and future challenges, *Natural Hazards and Earth System Sciences*. doi: 10.5194/nhess-12-1923-2012.
- Waisbord, S. (2001). *Family tree of theories, methodologies and strategies in development communication*. Prepared for The Rockefeller Foundation. Retrieved from <http://www.communicationforsocialchange.org/pdf/familytree.pdf>
- Weaver, W., & Shannon, C. (1963). *The mathematical theory of communication*. Univ. of Illinois Press.
- Weigel, G., & Waldburger, D. (Eds.) (2004). *ICT4D – Connecting people for a better world. Lessons, innovations and perspectives of information and communication technologies in development*. Bern, Switzerland: the Swiss Agency of Development and Cooperation (SDC) and the Global Knowledge Partnership (GKP).
- White, S. A. (1994). *Participatory communication: Working for change and development*. New Delhi: Sage.
- WHO (1996). *Food security*. Retrieved from <http://www.who.int/trade/glossary/story028/en/>
- Wilkens, K., Tufte, T., & Obregon, R. (Eds.) (2014). *The handbook of development communication and social change*. Wiley-Blackwell.
- Wilkinson, Richard & Kate Pickett (2011) *The Spirit Level: Why Greater Equality Makes Societies Stronger*. New York: Bloomsbury USA
- Witteveen, L. (2009). *The voice of the visual. Visual learning strategies for problem analysis, social dialogue and mediated participation*. Delft: Eburon.
- Witteveen, L., & Lie, R. (2012). Learning about “wicked” problems in the Global South. Creating a film-based learning environment with “Visual Problem Appraisal”, *MedieKultur. Journal of media and communication research*, 52, 81-99.
- World Bank Development Communication Division, the USAID Development Communication and Sustainable Tourism Unit, and the United Nations World Tourism Organization (UNWTO) (2006). *Communication and Sustainable Tourism. Proceedings of the global e-conference and*

summer speaker series on the role of development communication in sustainable tourism, May 29 - June 9, 2006.

World Commission on Environment and Development (WCED) (1987). *Our Common Future*.

Published as Annex to General Assembly document A/42/427, Development and International Co-operation: Environment. New York NY: UN.

Yoon, C.S. (2013). Future Imperatives of Practice: The Challenges of Climate Change. In Servaes, J. *Sustainable development and green communication*. Palgrave, 58-77.

Zaremba, A. J. (2010). *Crisis communication: Theory and practice*. Armonk, N.Y: M.E. Sharpe.

Zingaro, L. (2009). *Speaking out: Storytelling for social change*. Walnut Creek, CA: Left Coast Press.

Zolli, A. & Healy, M. (2012). *Resilience: Why Things Bounce Back*. New York: Free Press.