Food and Agriculture Organization
of the United Nations

FARMING FOR THE FUTURE

COMMUNICATION EFFORTS TO ADVANCE FAMILY FARMING

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Additional readings and resources can be found in the FAO ComDev thematic page:
www.fao.org/communication-for-development/en

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EXECUTIVE SUMMARY

THE CONTEXT

We live in uncertain times characterized by unprecedented climate change amid widening social, political and economic inequalities. Today more than ever, smallholder family farmers and rural communities require access to information and communication to make their voices heard and change their lives for the better.[1]

Family farming is the predominant form of agriculture in the world.[2] In many developing countries, family farmers are the unacknowledged drivers of rural development and economic growth. International research shows that investing in agricultural development, especially in family farming, is a proven pathway toward sustainable social, economic and environmental development.[3] However, family farmers and their organizations are seldom involved in policy circles at the national, regional or international levels.

As with many other production systems in the 21th Century, family farming is characterized as being increasingly knowledge-intensive and socially engaged. Communication lies at the core of the continuous process of change that involves family farming. Family farmers need information all along the agricultural value chain, from knowing what to grow, how to grow, and when to sell to whom for maximum profit. Farmers require relevant localized information in languages they understand and in formats they can use. Rural populations are not only resource poor, but also information poor.[4] Receiving a long-term weather forecast on a mobile telephone does not in itself lead to knowing when to plant or what to plant to adapt to the weather or to take advantage of weather-related market opportunities, assuming that the farmer even has the financial resources to access such information in the first instance. What is becoming increasingly clear is the need for policy frameworks that could guide the work of development partners so that rural communications services to support family farming are both mainstreamed and streamlined.

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1 van de Fliert, E., Reeves, L. S., Walker, G., Sepulveda, C., Sam, S., & Nigussie, H. (2014). *Mainstreaming Communication for Development in Policies and Programmes: Enabling Social Inclusion to Support Food Security, Resilient Livelihoods and Family Farming.* Rome: Food and Agriculture Organization of the United Nations.

2 The FAO uses the term "family farming" to refer to agricultural, forestry, fisheries, pastoral and aquaculture production that is managed and operated by a family and relies predominantly on family labor, including both women's and men's. FAO (2014) What is family farming? Retrieved from http://www.fao.org/family-farming-2014/home/what-is-family-farming/en/.
Hazell, P., Poulton, C., Wiggins, S., & Dorward, A. (2007). *The Future of Small Farms for Poverty Reduction and Growth*. Washington DC: International Food Policy Research Institute.

3 The World Bank (2007). *World development document 2008: Agriculture for development.* Washington DC: The World Bank.
Dobermann, A., & Nelson, R. (2013). *Opportunities and Solutions for Sustainable Food Production*. New York: The High Level Panel on the Post-2015 Development Agenda.
Appleton, A., Leone, F., Offerdahl, K., Risse, N., & Sharma, A. (2013). Summary of the Second Session of the UN General Assembly Open Working Group on Sustainable Development Goals: 17-19 April 2013. *Earth Negotiations Bulletin, 32*(2), 1-12.

4 Siraj, M. (2012). *A model for ICT based services for agriculture extension in Pakistan.* Rawalpindi, Pakistan: CABI South Asia.

Within such frameworks, key areas for specific attention are related to ensuring the rights of family farmers and rural populations to establish their own community media outlets, to have adequate and affordable access to information and communication technologies (ICTs) such as mobile telephone networks and rural broadband services, to be able to collectively organize, to have access formal and informal education and ICT-literacy training, to be able to equitably receive government information and services relevant to their production and economic activities, and to fully participate in decision-making.

This implies promoting communication for development, or ComDev, as an integral component of rural development policies and programs. Communication for development is a participatory approach to development that ensures the voices and views of all stakeholders, especially those of family farmers, are heard and acknowledged. It highlights the importance of raising awareness, acknowledges the cultural dimensions of development, and values local knowledge, experiential learning, and information sharing along with the active participation of rural people and other stakeholders in decision-making.[5] For more than 40 years, the Food and Agriculture Organization of the United Nations (FAO) has been promoting communication for development as a key component of agricultural and rural development policies and projects. Given the pressing global development challenges, sustainable rural development needs more than ever to ensure the participation of all stakeholders in development dialogues and to safeguard access to knowledge and information for the most vulnerable.

This document has been prepared to inspire reflection about the role of communication in advancing family farming. It includes an analysis of examples of ComDev approaches applied to smallholder farming and rural development and the issues that they encompass: food security, natural resource management, rural livelihoods, agricultural innovation, and capacity development. One emerging concept is that of "rural communication services," which seeks to enhance rural livelihoods by facilitating equitable access to knowledge and information – understood as public goods – along with social inclusion in decision-making and stronger links between rural institutions and local communities.[6] An additional concept pertains to the need to develop national communication for development policies and strategies that focus on the information and communication needs of family farmers and rural communities. Such policies would help to mainstream and institutionalize ComDev approaches at different levels and among all development partners, in particular among governmental agriculture and telecommunication ministries and media regulators but also among farmers' organizations, rural institutions, community media and the private sector.

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[5] FAO (2012). *FAO Expert Consultation Communication for Development: Meeting Today's Agricultural and Rural Challenges*. Rome: Food and Agriculture Organization of the United Nations.

[6] Ibid.

The *Forum on Communication for Development and Community Media for Family Farming* (Rome 23-24 October 2014) represents the launching of a consultation process around mainstreaming ComDev principles, methods and initiatives within relevant policy frameworks to advance small stakeholder agriculture and rural livelihoods.

OBJECTIVES

This document explores how ComDev approaches and community media can be successfully applied to support family farming. It aims:

- To raise awareness of the role of communication for development in sustainable rural development around empowerment of family farmers and rural populations;
- To capture the perspectives and priorities of farmers' organizations, community media and rural institutions pertaining to communication rights for rural people and the associated need for adequate enabling policies and services;
- To stimulate discussion around the design and implementation of policies, regulations, investments and required capacities that would allow ComDev to be mainstreamed as a component of family farming agriculture and rural livelihoods;
- To highlight some of the innovations and successes arising from farmer-led communication for development applications;
- To invigorate and improve agricultural extension work;
- To promote inclusive and demand-driven communication policies and services for family farmers and rural people, and to do so through consideration of the concept of "rural communication services" within the context of national agricultural and rural development policies and programs.

This document also provides a framework for discussion in the context of the *Forum on Communication for Development and Community Media for Family Farming*. It aims to:

- Illustrate and provide evidence of the role of ComDev for empowering family farmers and rural populations, highlighting some innovations and successes arising from farmer-led rural communication applications;
- Assess challenges and opportunities for the design and implementation of policies and regulations pertaining to smallholder agriculture and rural livelihoods within a good-governance framework and with a right-based approach;
- Provide recommendations and advocate for inclusive communication policies for rural people and family farmers.

STUDY METHODOLOGY AND OUTLINE

This document has resulted from desk-based research and the contribution to the topic provided by recent international conferences organized by the FAO as well as by regional consultations on ComDev initiated by the World Association of Community Radio Broadcasters (AMARC), the perspectives of social movements, CSOs, family farmers and indigenous peoples, and the

vast literature and experience gained in this field by the FAO. Specific attention has been given to common themes emerging from the grassroots perspective, including:[7]

- The need for policy-makers at all levels to recognize the importance of participatory development models and methodologies within frameworks that strengthen communication rights of family farmers and that incorporate a gender perspective;
- The need for national policies to support pluralistic media sectors that recognize and encourage community media by, for example, supportive licensing fee structures, reserving radio frequencies for community media, and establishing funding mechanisms to support the expansion of community media into rural areas;
- The need to harness the potential of new ICTs (such as mobile telephones, the internet, and computer-based applications) in combination with local media (such as community radio) to improve the interaction among multiple development actors, including agricultural extension service providers; and
- The need to build capacity in terms of human resources, infrastructure and technology among community broadcasters and within rural farming communities and their organizations and government agencies, especially the agricultural extension service, so that the potential of participatory development processes can be realized.

The document structure is as follows:

- Section 1 introduces the concepts around family farming and the role of communication;
- Section 2 explores the theoretical foundations of ComDev as a rights-based approach to advance family farming and rural livelihoods;
- Section 3 looks at three areas where family farmers have used ComDev approaches to make significant impact: participation and governance, advancing smallholder agriculture and rural livelihoods, and communication to improve rural services. It also discusses some of the regulatory and other barriers that impede these activities;
- Section 4 introduces the concept of "rural communication services" and discusses the importance of creating new partnerships and new policy frameworks to enable communication support to sustainable family farming.

KEY FINDINGS

In line with the results of previous specialized meetings, this paper proposes the following recommendations for discussion:

- To promote and institutionalize inclusive and demand-driven communication policies and services to advance family farming and rural development;
- To make ComDev relevant and compelling to all development partners involved in family farming, such as agricultural and rural institutions, financial and development

[7] AMARC (2013). *Synthesis: AMARC electronic forum discussion on family farming in Africa*. Montreal, QC, Canada: World Association of Community Broadcasters.
AMARC (2013). Declaration of the Second Caribbean Conference of AMARC. Retrieved 4 Dec., 2013, from http://www2.amarc.org/?q=node/1338
AMARC (2013). Closer ties between the South Asian Community Radio sector and SAARC to enhance the role of citizen's rights and community development. Retrieved 4 Dec., 2013, from http://www2.amarc.org/?q=node/1450

organizations, civil society organizations (CSOs), private sector, academe, and, importantly, the organizations and institutions representing family farmers and rural communities;
- To establish multi-institutional alliances to promote communication policies and services within the agricultural sector and translate these into actions at the local level;
- To encourage farmers' organizations and rural institutions to develop their own vision on how best to operationalize the provision of farmer-defined rural communication services at different levels;
- To facilitate national communication for development networks that involve practitioners, academicians, community media and other partners, thus connecting theory, research and practice and systematically improving the standards of programming designed to meet the information and communication needs of farmers as defined by farmers.

Approaches that are vital for framing this work include:
- Acknowledging the role of communication in family farming and promoting inclusive policy dialogues among different stakeholders, including family farmers and their organizations, and within gender perspectives;
- Fostering multi-sectoral coordination, especially among telecommunication and agricultural ministries and media regulators. This will provide opportunities to promote policy change that benefits family farmers and rural communities, better mainstreams ComDev principals, methods and approaches across the whole of government, and to create possibilities for the pooling for resources and expertise around the delivery of rural communication services to family farmers and rural communities;
- Taking advantage of emerging funding opportunities, such as Universal Access Funds, to not only address infrastructure challenges in rural ICT access, but to also more strongly facilitate the "demand" side of ICT usage through the creation of information and knowledge by and for family farmers and rural communities. This also includes paying attention to capacity building issues, such as ICT-literacy training for farmers and rural residents, helping farmers' organizations improve their internal operations (including good governance practices), and the creation of funding steams for community media and rural-based ICT-entrepreneurial initiatives as part of the more general rural communication service;
- Taking advantage of changing policy environments in telecommunication, media and agricultural sectors as points of entry to introduce and embed ComDev principles, such as reforming agricultural extension services, reserving broadcast frequencies for community media, imposing public-service requirements onto commercial broadcasters, telecommunication service providers and private agro-information providers, creating incentives for private sector to create farmer-friendly and pro-poor ICT devices and services, and fostering greater collaboration among family farmers, agricultural extension services and researchers;
- Adopting and implementing more effective and participatory monitoring and evaluation of ComDev projects. Better monitoring and evaluation offers insights into the dynamics of project sustainability (which is attractive to donor agencies) and provides evidence-based rationales for supporting ComDev approaches, which of themselves often move invisibly through successful development projects.

Chapter 1

FAMILY FARMING: FEEDING THE PLANET, CARING FOR THE EARTH

1.1 BACKGROUND

Today, there are an estimated 500 million family farms. In developing countries, they account for 80 percent of all farm holdings and feed billions of people. To recognize and celebrate the importance of family farming in alleviating poverty and improving global food security, the United Nations (UN) proclaimed 2014 to be the International Year of Family Farming (IYFF). The IYFF aims to raise awareness and promote new development policies at national, regional and international levels that will enable family farmers to further reduce poverty and enhance global food security through small-scale, sustainable agricultural production and rural non-farm livelihoods.

The IYFF provides a unique opportunity to collectively move toward more inclusive and sustainable approaches to agriculture and rural development that:

- Recognize the importance of smallholder and family farmers for sustainable development;
- Place small-scale farming at the center of national, regional and global agricultural, environmental and social policies; and
- Elevate the role of smallholder farmers as agents for alleviating rural poverty, protecting natural resources, ensuring food security, and driving more holistic and sustainable development agendas.

The IYFF has four key objectives:

- Support the development of policies that will foster sustainable family farming;
- Increase knowledge and public awareness on the vital role that family farmers play in the agricultural and development sectors;
- Raise awareness of the needs and potential of family farmers, along with the constraints that they face, and ensure that they have access to technical support and other resources; and
- Create synergies and partnerships for sustainability.

The IYFF also intends to:

- Recognize the role and rights of women in family farming;
- Strengthen the legitimacy of farmers' organizations and their capacity to effectively represent and defend the interests of family farmers and indigenous people;
- Promote dialogue and more inclusive decision-making processes around development objectives;
- Foster rural economic opportunities including job creation; and
- Identify and share lessons learned about successful pro-family farming policies, and capitalize on such relevant knowledge on family farming.

1.2 THE IMPORTANCE OF FAMILY FARMING

The FAO uses the term "family farming" to refer to agricultural, forestry, fisheries, pastoral and aquaculture production that is managed and operated by a family and relies predominantly on family labor, including both women's and men's.[8] Smallholder farms are the predominant form of agriculture worldwide, comprising, for example, 95 percent of all agriculture in China and Bangladesh and 80 percent in Africa. Family farmers produce nearly 70 percent of food supplies in Latin America and half in India. Globally, agriculture generates employment for 40 percent of the world's population.[9]

Agriculture is critical to development. Enhancing the efficiency and productivity of the agricultural sector is one of the most effective ways to reduce poverty.[10] Paradoxically, agriculture is both the foundation of human wellbeing and one of the major threats to future sustainable development. Today, more than 85 percent of our planet's freshwater resources are used in agricultural production. Agriculture produces about 25 percent of all greenhouse-gas emissions. When poorly managed, such as through over-application of chemicals or inadequate utilization of irrigation techniques, farming can lead to severe soil and water degradation and loss. Climate change is forecast to impact significantly on the viability of agricultural systems in coming decades due to extended heat waves, increasing severity of weather events, the onset of droughts and flooding, sea-level rise and coastal inundation, and decreasing yields of staple crops, such as wheat and maize. Family farmers urgently need to adapt to climate change but they do not yet have the experience or knowledge to help them cope.

Agriculture is a place-based activity that relies on a combination of bioclimatic conditions and local resources as well as socio-economic and cultural dimensions.[11] Because family farmers are so deeply rooted in their locality, they are highly motivated to protect natural resources such as soil fertility, water resources, and biodiversity. They may also possess valuable traditional knowledge systems that are critical to future agricultural sustainability.

Family farming is a potent force for economic development. In many countries, agriculture is a driver of economic growth and more equitable development.[12] Family farmers are the main investors in their own farms and can be viewed as the largest component of private sector investment in agriculture, although they seldom are seen as such. Family farmers generate wealth in rural areas: they spend nearly 80 percent of their income on locally produced goods and services, thereby stimulating the rural non-farm economy and sustaining jobs.[13] Family

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8 FAO (2013). 2014 IYFF FAO Concept Note. Rome: Food and Agriculture Organization of the United Nations.

9 IAASTD (2009). *Agriculture at a Crossroads: Global Report.* Washington DC: International Assessment of Agricultural Knowledge, Science and Technology for Development.

10 The World Bank (2011).
Dobermann, A., & Nelson, R. (2013).

11 IAASTD (2009).

12 Hazell, P., Poulton, C., Wiggins, S., & Dorward, A. (2007).

13 Ibid.

farming is typically labor-intensive and often provides employment for landless neighbors, further contributing to local economies. Family farmers keep traditional knowledge systems alive and contribute to community cohesiveness. Strengthening family farming improves food security within households and rural communities and helps reduce a country's dependency on external food imports. Increased agricultural productivity has been directly linked to poverty reduction.[14] On average, investment in agriculture is twice as effective at reducing poverty as similar investment in other economic sectors; an increase of one percent in agricultural productivity reduces poverty by four times as much as the same percentage increase in non-agricultural productivity.[15]

Most family farmers live in disadvantaged rural communities and face numerous political, social, environmental and economic challenges. Family farms are decreasing in size due to loss of farmland to human settlements, factories and other non-farm uses, and inter-generational use where children inherit farms of decreasing size and viability. The average farm size in Asia and Africa, where 96 percent of all family farmers live, is 1.6 hectares and steadily declining. Family farmers suffer first and worst from the effects of climate change such as drought, desertification, sea-level rise, and the increasing severity of weather events. Half of the world's people already live in urban areas, thus there are fewer farmers producing food. The average age of African family farmers is now around 55.[16] Increasingly, young people are migrating to urban areas in search of waged employment, primarily because they don't see farming as an attractive "modern" vocation and there are few non-farm jobs for them in rural areas. Policies around family farming need to ensure opportunities for sustainable job creation for youth to ensure the retention of the next generation of family farmers. New ICTs are providing rural young farmers with such opportunities.

Women are also critically important to the sustainability of family farming. In Asia and Africa, women produce 60 percent and 70 percent of the food, respectively, but their labor normally does not appear as part of national growth indicators.[17] Around the world, female farmers suffer considerably from lack of property rights (especially land tenure), access to credit, formal and informal educational opportunities, and from socially constructed barriers that deprive them of their rights to self-expression, mobility and collective organization. The contribution of women to agricultural development is not well understood because agricultural research data are seldom gender disaggregated. Heavy workloads, family obligations, and limited transportation options mean many women cannot leave their farms to attend training workshops, thus women are not well integrated into agricultural extension service provisions and largely remain invisible partners in development.

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[14] Appleton, A., Leone, F., Offerdahl, K., Risse, N., & Sharma, A. (2013).

[15] The World Bank (2007).

[16] Nierenberg, D. (2014). 2014: The Year of Family Farming. http://ensia.com/voices/2014-the-year-of-family-farming/.

[17] IAASTD (2009).

There are multiple technology choices for improving productivity, economic performance, and environmental management of smallholder agriculture but the key point of intervention is always at the farm level and therefore must include family farmers in decision-making around these interventions.[18] Solutions must be flexible and tailored to meet the local needs and production situations of family farmers. If family farmers do not lead these processes of agricultural development, there is no assurance such interventions will be successful or sustainable. The rights of family farmers and other vulnerable communities to participate in decision-making in areas that affect their lives must be placed at the heart of any sustainable development agenda. Yet many rural populations suffered from invisibility and voicelessness due to social exclusion and political marginalization. The rural poor, when asked to share their meaning of poverty, express a sense of hopelessness and powerlessness because they have little political voice.[19]

Due in part to this invisibility, as well as pressures from the globalized international economy, family farming has been neglected in national and international development agendas for the past 30 years. Throughout the world, policies favor larger, commercial farmers who often focus on the production of high-value commodities for export markets.[20] In Latin America, for example, policies have explicitly sought to eliminate family farmers from the agricultural sector.[21] Family farmers have been severely disadvantaged by changes in international agricultural trade. While many developed countries still subsidize their farmers, many developing countries have been pressured by international free-market economic practices to eliminate their protective tariffs, which places their farmers in direct competition with Northern producers on an uneven playing field.[22] Because of imbalanced global trade structures, many countries that were once food-independent have become food importers. The "food crisis" of 2007-2008 is one example. Here a "perfect storm" of global market imbalances, the onset of the Global Economic Crisis, rising oil prices, and drought-induced harvest shortfalls forced the price of staples such as rice and wheat to double in the course of seven and 12 months, respectively. Riots erupted in 15 developing countries. Such events might become more commonplace as global agricultural productivity steadily rises at 1.2 percent per year, far short of the 1.7 percent annual increase required by 2050 to feed a

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18 Dobermann, A., & Nelson, R. (2013).

19 Narayan, D., Patel, R., Schafft, K., Rademacher, A., & Koch-Schulte, S. (1999). *Can Anyone Hear Us? Voices From 47 Countries*. Washington DC: World Bank.
Pogge, T., & Rippin, N. (2013). *Universal Agenda on the Multiple Dimensions of Poverty*. New York: The High Level Panel on the Post-2015 Development Agenda.

20 HLPE (2013). *Investing in smallholder agriculture for food security. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security*. Rome: Committee on World Food Security.

21 FAO (2012b). *Medium-Term Strategic Framework for Cooperation in Family Farming in Latin America and the Caribbean 2012-2015*. Rome: Food and Agriculture Organization of the United Nations.

22 Latchem, C., Maru, A., & Alluri, K. (2004). *The L3Farmers Project: Report and Recommendations*. Vancouver, BC, Canada: Commonwealth of Learning.
Pautrizel, L., Alpha, A., Broutin, C., Castellanet, C., Doligez, F., & Violas, D. (2011). *Which public policies for family farming in developing countries?* Saint-Etienne, France: Coordination SUD (Solidarité Urgence Développement) Agriculture and Food Commission.

growing human population.[23] Conventional economic growth indicators fail to tell the whole story. For example, the Philippines' economy grew by nearly eight percent in 2013, yet family farmers contributed only 0.4 percent to this growth despite the fact they employ one third of the national labor force.[24] This means that the benefits of economic growth have not been evenly distributed. Growing inequalities lead to social unrest, which is both a cause and consequence of unsustainable development.[25]

International efforts to formulate a new era of sustainable development around family farming and agricultural production comes at a time when the world's ability to fund such efforts is declining. Official development assistance (ODA) to agriculture, food security and rural development accounted for seven percent of all aid commitments in 2009, a drastic drop from the late-1980s when it accounted for 43 percent.[26] Aid priorities have shifted away from investments in critical infrastructure (such as irrigation reservoirs) and subsidies for agricultural inputs (such as seeds, fertilizers and farm machinery) toward market-oriented production and policy creation. State involvement in agricultural markets has fallen considerably since the 1980s, resulting in funding cuts to agricultural extension services, financing and research. Formal lending and other forms of credit to smallholder agriculture have also declined, from 30 percent of the total global investment in agriculture in the 1980s to roughly eight percent in the early 2000s.[27] Today, most ODA is directed toward social support services such as education and health, which indirectly benefits agriculture by improving the health and capacity of family farmers.

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23 Chimhowu, A. (2013). *Aid for agriculture and rural development in the global south: A changing landscape with new players and challenges*. Helsinki, Finland: The United Nations University World Institute for Development Economics Research.
Hanson, C. (2013). *Food Security, Inclusive Growth, Sustainability, and the Post-2015 Development Agenda*. New York: The High Level Panel on the Post-2015 Development Agenda.
Dobermann, A., & Nelson, R. (2013).

24 Penunia, E. (2013). Invest in smallholder farmers. *The World Economic Forum Blog* Retrieved 13 Dec., 2013, from http://forumblog.org/2013/06/invest-in-smallholder-farmers/

25 Geoghegan, T. (2013). *Post-2015: framing a new approach to sustainable development*. London: The Independent Research Forum on a Post-2015 Sustainable Development Agenda.

26 Chimhowu, A. (2013).

27 Csaki, C., & de Haan, C. (2003). *Reaching the Rural Poor: A renewed strategy for rural development*. Washington DC: The World Bank.

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Chapter 2

COMMUNICATION IN FAMILY FARMING AND RURAL LIVELIHOODS

The section provides an overview of communication as an element of family farming and as a fundamental human right. It introduces "communication for development" as the most suitable approach and the concept of rural communication services as an operational definition.

2.1 COMMUNICATION: A KEY TO FAMILY FARMING

Communication is essential to human, social, and economic development.[28] It is the motor and expression of social activity and civilization.[29] Communication serves various functions: information, socialization, debate and discussion, cultural expression, education, entertainment, and more. These are linked to people's needs, both material and non-material. People want to add aspirations toward human growth to satisfy material needs, but there are non-material aspects as well such as self-reliance, cultural identity, freedom, independence, respect for human dignity, mutual aid, and participation in decisions around issues that affect their social, cultural, economic and political lives.[30]

Throughout history, human beings have sought to improve their ability to receive and assimilate information about their surroundings and at the same time to increase the speed, clarity and variety of their own methods for transmission of information.[31] The constant flow of information is vital for economic life and a decisive factor in development. The ability to transmit, store and use information is a key resource on par with natural resources or economic growth. Governments also need information from all corners of their countries and beyond if they are to better plan for the future. Private sector needs rapid information from many sources to improve productivity and efficiency.

Successful smallholder farming today is a knowledge-intensive activity. Family farmers need information all along the agricultural value chain, from knowing what to grow, how to grow, and when to sell to whom for maximum profit. Farmers require relevant localized information in languages they understand and in formats they can use. Rural populations are not only resource poor, but also information poor.[32] They suffer from numerous "access" barriers to

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28 The Communication Initiative, FAO, & The World Bank (2007).

29 International Commission for the Study of Communication Problems (1980). *Many Voices, One World. Paris: UNESCO.*

30 Ibid.

31 Ibid.

32 Siraj, M. (2012). *A model for ICT based services for agriculture extension in Pakistan.* Rawalpindi, Pakistan: CABI South Asia.

information and communication: illiteracy, speaking a minority language, lack of improved roads and reliable electricity, inadequate or non-existent rural media or telecommunication services, lack of income to purchase and use radio receivers, mobile telephones or computers, and, especially for women, socially constructed roles that inhibit public speech and participation in decision-making. This creates a vicious circle: excluded and marginalized people are more likely to fall into poverty; the poorer they become, the more vulnerable they are to further social exclusion and political marginalization.[33] Access to knowledge and having a say in policy design makes the difference between a productive and efficient family enterprise or an ongoing descent into extreme poverty.

2.2 ENSURING RURAL PEOPLE'S COMMUNICATION

Communication for development approaches are said to be "rights based" in that they are grounded in a collection of interrelated human rights, in particular the UN Right to Development (1986). The first World Congress on Communication for Development (WCCD 2006) stated in its *Rome Consensus* that a rights-based approach to communication for development was necessary to the attainment of the Millennium Development Goals (MDGs).[34] A rights-based approach can provide a useful framework for addressing issues of participatory development and empowerment around family farmers and their claims for rural facilities and services that fulfill their right to development.[35]

The Right to Development links development to human rights, stating that all people are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development in which all human rights and fundamental freedoms can be fully realized.[36] It makes explicit that development must be people-centered, participatory, non-discriminatory, and advance equity and self-determination. It also states that women are entitled to participate in decision-making.

Development can be seen as a process that enhances the freedom of people to pursue what they have reason to value in order to live the lives that they value.[37] Development also implies a series of transformative processes that involve interactions between local, regional and global dimensions; no one strategy will work across one country or even in a neighboring community. This means that issues of equity, social inclusion, and people's rights to self-determination and

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[33] Lee, P. (2010). *The No-Nonsense Guide to Media, the Right to Information and Poverty Reduction*. Toronto, Canada, and London: World Association for Christian Communication.

[34] WCCD (2007). *World Congress on Communication for Development: Lessons, Challenges, and the Way Forward*. Washington DC.

[35] Empowerment can be understood as a gradual process of acquiring individual and collective capacities, such as the ability to make choices and informed decisions. These capacities allow people to enter the socio-political arena and to access and control resources and power. Dimitra Project (2011). *Communicating Gender for Rural Development*. Brussels, Belgium: FAO-Dimitra Project.

[36] UN-OHCHR (2013). *Realizing the Right to Development: Essays in Commemoration of 25 Years of the United Nations Declaration on the Right to Development*. Geneva: United Nations Office of the High Commissioner for Human Rights.

[37] World Commission on Culture and Development (1996).

development are just as important, if not more so, than economic market-oriented development.[38] People achieve empowerment by asserting their rights as citizens and by building claims of obligation onto the state, which is recognized in international human-rights frameworks as the primary "duty-bearer" tasked with respecting, protecting and fulfilling citizen rights.[39] When family farmers engage in the political process of asserting their rights, they make visible the power disparities in society that constrain them from achieving what they want and need to build healthy, prosperous and peaceful lives for their families and communities. Rural people face numerous obstacles in turning their "claim to rights" into actionable outcomes. They tend to be poorly represented in national policy discussions, are less organized than urban communities, have reduced access to information, and live far from decision-making centers.[40] This means that human rights issues pertaining to voice, inclusiveness, accountability in local services, and legal empowerment are even more crucial for them.

The media provide family farmers with a means to exercise their rights, for example, rights to expression and opinion, media democracy, cultural and linguistic rights, and rights to seek, receive and impart information and ideas through any media.[41] A pluralistic and free media system provides a number of benefits to society. Media enable access to information, widely diffuse knowledge, serve as "watch dogs" on governments, private sector and civil society, and provide platforms for citizens to express their voices in a "return path" back to the government. Community media, such as community radio, are often the only media available in rural communities. From a rights-based perspective, family farmers use rural community radio to collectively identify their development needs and build community consensus (social capital) around them. This provides them with the collective strength and unity to eventually present these needs as a "claim for rights" to the state for action. In this way, telecommunication and media policies and regulations that legitimize community media advance human rights.

Rights pertaining to communication, information and participatory development have been legitimized in a number of international treaties, conventions and symposia. These include: the International Covenant on Civil and Political Rights (1966); the Convention on the Rights of the Child (1989), the African Charter for Popular Participation in Development and Transformation (1990); the Conference on Environment and Development, or the Earth Summit (1992); UN General Assembly Resolution 41 on the Right to Development (1993); the Vienna Declaration adopted by the World Conference on Human Rights (1993); The People's Communication Charter (1993); The Declaration of Santiago (1994); the World Summit for

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38 Appleton, A., Leone, F., Offerdahl, K., Risse, N., & Sharma, A. (2013).

39 Moser, C., & Norton, A. (2001). *To Claim our Rights: Livelihood security, human rights and sustainable development*. London: Overseas Development Institute.

40 Prato, B., & Longo, R. (2012). Empowerment of poor rural people through initiatives in agriculture and natural resource management *Poverty Reduction and Pro-Poor Growth: The Role of Empowerment* (pp. 51-78). Rome: Organisation for Economic Co-operation and Development Publishing.

41 Locksley, G. (2009). The Media and Development: What's the Story? Washington DC. The World Bank.
Lee, P. (2007). *The No-Nonsense Guide to Communication Rights*. Toronto, Canada: World Association for Christian Communication.

Social Development (1995); the World Commission on Culture and Development (1996); The Millennium Declaration (2000); World Summit on the Information Society (2003, 2005), the Commission for Africa: Our Common Interest (2005); and the Rome Consensus from the World Congress for Communication for Development (2006). In addition, the Right to Development is recognized in the African Charter on Human and Peoples' Rights and the Arab Charter on Human Rights and re-affirmed in the UN Millennium Declaration, the Monterrey Consensus of the International Conference on Financing for Development (2002), the 2005 World Summit Outcome Document, the UN Declaration on the Rights of Indigenous Peoples (2007), the outcome document of the High-level Plenary Meeting of the General Assembly on the Millennium Development Goals (2010), the 2011 Istanbul Program of Action for the Least Developed Countries for the Decade 2011-2020, the outcome document of the 13th session of the UN Conference on Trade and Development (2012), and "The Future We Want," the outcome document of the UN Conference on Sustainable Development in 2012 ("Rio+20").

The topics of communication rights, participatory development, community empowerment, and the rights to self-determination and community media also provide the nexus for a variety of social and political movements pertaining to indigenous peoples, women, ethnic minority and migrant communities, and labor movements such as miners (who launched the first community radio stations in Bolivia in 1947). Democracy movements, such as in Nepal in 2006 and throughout Africa in the 1990s, have rallied beyond participatory development and the "democratization of media" through the establishment of people-led community media. Communication and human rights are commonly up for discussion among faith-based organizations, such as the World Association of Christian Communication, the World Council of Churches, and the World Catholic Association for Communication (or SIGNIS). Increasingly, international development organizations, such as the World Bank, FAO, UNESCO, UNICEF and the Commonwealth of Learning, help establish or support community radio to foster the growth of participatory development or affiliated rights to education, sustainable livelihoods and cultural expression. Similarly, a host of media advocacy groups have formed around communication rights and community media, including AMARC, the Association for Progressive Communication, the campaign for Communication Rights in the Information Society (CRIS), and regional and national community media associations in Africa, South Asia and rural Aboriginal Australia.

Enshrining rights to communication and participatory development in international and national legal and policy frameworks does not necessarily lead to actualizing them in the lives of family farmers. Disadvantaged populations require certain complementary conditions in order to make effective "claims" for their rights.[42] These include access to information in appropriate languages and formats, the skills and capabilities (including communication and organizational skills) to advance their claim, support from "allies" such as larger non-governmental organizations (NGOs) or international agencies who can assist in leveraging

[42] Conway, T., Moser, C., Norton, A., & Farrington, J. (2002). *Rights and Livelihoods Approaches: Exploring Policy Dimensions*. London: Overseas Development Institute.

the claim at the level of the national government, and recourse to a fair adjudicator to consider an appeal in case the claim is denied.[43] Often, family farmers and other marginalized communities are not fully aware of their rights to even begin making a claim for them.

2.2.1 Communication rights and ICTs

Rights-based arguments are also being made around the accessibility and affordability of rural ICT facilities and services, such as mobile telephone networks and telecenters. Information and communication are widely recognized as fundamental elements of any development activity. When individuals and institutions have access to accurate, relevant and timely information, they can make better-informed decisions. Without affordable and reasonable access to ICT facilities and services, family farmers are disempowered and marginalized in their role as citizens. Communities become empowered when they can control their information environments through the use and creation of knowledge.[44] In the digital age, this presupposes equitable and non-discriminatory access to basic literacy and e-literacy learning opportunities so that rural people can create and disseminate relevant information in languages and formats they can use. Information that flows between groups in horizontal and vertical channels, such as between family farmers and their organizations and the national government, is likely to be democratizing in that participants gain better understandings of the contexts, constraints and choices each partner faces.[45]

The interplay between ICTs and people is still not widely researched nor reflected in the standard ICT usage statistics that are commonly collected by national governments, international NGOs and development agencies.[46] It is widely known that "digital divides" exist between advantaged and disadvantaged populations around ICT access and usage, both between countries and between urban and rural areas within countries. For example, about 31 percent of people living in developing countries have internet access compared to 77 percent in developed countries.[47] In Africa, the online population drops to 16 percent of all Africans, with most of them living in South Africa. Nearly all internet access in developing countries occurs in urban areas and through telecenters and cyber cafés or via mobile telephones. Only 10 percent of all households in developing countries have internet access, and these are largely urban-based elites.

The fallacy of such hard statistics lies in their implied bias toward equipment, connectivity and economic efficiency. It can become a head-counting exercise (such as radio receivers per

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43 Ibid.

44 Chapman, R., Slaymaker, T., & Young, J. (2003). *Livelihoods Approaches to Information and Communication in Support of Rural Poverty Elimination and Food Security*. London and Rome: Overseas Development Institute, FAO, and the UK Department of International Development

45 Chapman, R., Slaymaker, T., & Young, J. (2003).

46 UNESC (2011). *Document of the Partnership on Measuring Information and Communication Technology for Development*. New York: United Nations Economic and Social Council.

47 ITU (2013). *ICT Facts and Figures*. Geneva, Switzerland: International Telecommunication Union.

household) that neglects to address other divides that arise from social, cultural, physical, psychological, economic and political factors. Some individuals and communities are fearful of the impact that the internet will have on their culture and traditions, or are skeptical about the benefits that ICTs can offer.[48] Modern ICTs are not neutral carriers of information and communication. They are embedded in socio-cultural contexts that can aggravate existing social exclusion and further deny some family farmers, especially women, their rights to health, education, employment, security, and political participation.[49] In countries where gender inequality is strong, women's empowerment is seen as socially disruptive.[50] Even women's access to and use of mobile telephones can be seen as contesting socially constructed power dynamics between men and women. An estimated 40 percent of women in some South Asian countries need permission from male family members to use a mobile telephone.[51] Because mobile phones and radio receivers are often communal property, the male head of household can deny women and youth access to them. In some countries, telecenters are considered culturally inappropriate places for women because men tend to congregate there.

It might be more appropriate to view the "digital divide" as a gradient of digital inclusion/exclusion that is conditioned by the social context and other non-material factors.[52] The goal of using ICTs with marginalized groups should not be to overcome a device-defined "digital divide," such as access to computers, but to further a process of social inclusion where family farmers and their communities are able to fully participate in society and determine their own destinies, taking into account a variety of factors related to economic resources, education, culture and civic engagement.[53] Telecommunication policies and regulatory frameworks are the key to encouraging the private and public sectors, international donors and NGOs to work with family farmers to create ICT-based services that address the needs of the community. For example, a vast majority of the world's current and future internet users will be accessing the internet solely or primarily through mobile phones, not computers.[54] This heightens the importance of ensuring that both fixed-line (such as fiber optic) and wireless broadband services expand into rural areas.

Another concept that is gaining traction to explain the disparity between the potential of ICTs to alleviate rural hardship and their actual performance on the ground is that of

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48 Horner, L. (2011). *A human rights approach to the mobile internet.* Melville, South Africa Association for Progressive Communications.

49 Sinha, C., & Hyma, R. (2013).
Melhem, S., & Tandon, N. (2009). *Information and Communication Technologies for Women's Socio-economic Empowerment*. Washington DC: World Bank.

50 Sinha, C., & Hyma, R. (2013).

51 Ibid.

52 Warschauer, M. (2002). Reconceptualizing the Digital Divide. *First Monday, 7*(7), 1-13.
Tibben, W. J. (2007). *Re-conceptualizing the digital divide: a knowledge-based approach*. Paper presented at the 40th Annual Hawaii International Conference on System Sciences.

53 Warschauer, M. (2002).

54 Ibid.

"digital poverty."[55] Many family farmers fall into the lowest classification on this conceptual framework, that of being "extremely digitally poor" or lacking the skills or income to access or use ICTs. One rung up the ladder are the "digitally poor" who are passive receivers of broadcast media and can engage in sending and receiving information via mobile phones. In this view, community radio with its potential to stimulate two-way community dialogue and information-sharing via mobile phones helps family farmers step up the ladder. One survey in Peru found 68 percent of the 17 000 farmers surveyed to be "extremely digitally poor" despite Peru's impressive work to establish 30 000 *cabinas públicas*, or internet-enabled public access points, in rural areas.[56] Thus, access to ICTs means more than just providing access to technology; it must also consider the broader socio-technical environment around literacy and language, transportation and electricity, income, e-literacy skills, and social inclusion issues such as gender, age, class or caste.

Mobile phones are the only modern ICT that is truly accessible to family farmers. Much has been said about the revolutionary development potential that mobile telephones can offer in areas such as m-health, m-banking, e-governance, and e-agriculture. Consider that in a country like Kenya there are two doctors and 7 200 mobile phone subscriptions for every 10 000 people.[57] The potential to greatly improve basic health care for rural populations by offering m-health services exists but, so far, sustainable financial models have been elusive. Mobile banking services, like the M-Pesa model in Kenya and Tanzania, have helped rural families share remittances and other financial transfers. But the main factor in M-Pesa's success is not the technology so much, but that it was an affordable service that rural people value and could use by working with local agents known to them in their communities.[58] An estimated two-thirds of rural people in developing countries use informal and often usury financial services, not because they are affordable, but because they personally know the middleman and cash transactions are socially appropriate ways to do business.[59] Social contexts importantly shape the uptake of technology.

In the early 2000s, the FAO and its partners identified the key elements to take into account when using ICTs in rural development.[60] These included the importance of integrating participatory communication methodologies to empower rural populations while paying attention to gender issues. In 2003, the FAO launched the *Bridging the Rural Digital Divide*

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55 Diga, K. (2013a). Access and Usage of ICTs by the Poor (Part I). In L. Elder, H. Emdon, R. Fuchs & B. Petrazzini (Eds.), *Connecting ICTs to Development: The IDRC Experience* (pp. 117-135). Ottawa, ON, Canada: International Development Research Centre.

56 Ibid.

57 The World Bank (2014). Mobile cellular subscriptions (per 100 people) Retrieved 6 March, 2014, from http://data.worldbank.org/indicator/IT.CEL.SETS.P2

The World Bank (2014). Physicians (per 1 000 people) Retrieved 6 March, 2014, from http://data.worldbank.org/indicator/SH.MED.PHYS.ZS

58 Eberspächer, J., *et al.*, (2010).

59 Ibid.

60 Chapman, R., Slaymaker, T., & Young, J. (2003). *Livelihoods Approaches to Information and Communication in Support of Rural Poverty Elimination and Food Security.* London and Rome: Overseas Development Institute, FAO, and the UK Department of International Development.

Programme that highlighted the roles that ICTs play in supporting agricultural development and food security.[61] This program provided a platform for the FAO's participation in the World Summit on the Information Society (WSIS), convened by the UN Secretary General in Geneva (2003) and Tunis (2005), making the FAO one of the main actors of the WSIS process and the facilitator of WSIS Action Line C7 e-Agriculture.[62]

Communication is far more than receiving top-down information or having access to computers. Communication enables all the other building blocks of sustainable development.[63] It is a process that enables other processes. Sustainable development begins when family farmers use communication technology to engage in social dialogue around issues that affect their lives.

2.3 COMMUNICATION FOR DEVELOPMENT IN FAMILY FARMING

Communication for development (ComDev) is a participatory approach to development that ensures the voices and views of all stakeholders, regardless of their social status, age, gender or ethnicity, are heard and acknowledged. The United Nations defines Communication for Development as a process that "allows communities to speak out, express their aspirations and concerns, and participate in the decisions that relate to their development."[64] The first World Congress on Communication for Development defined ComDev as "a social process based on dialogue using a broad range of tools and methods. It is also about seeking change at different levels including listening, building trust, sharing knowledge and skills, building policies, debating and learning for sustained and meaningful change."[65]

The discipline of ComDev is still not fully valued by policy-makers, development actors or even the general public, especially in the context of agricultural policies. Far too often it is confused with publicity or information-dissemination activities. This is an important distinction. Information dissemination tends to be "monologic" or one-way delivery of a message from a "sender" to one or more passive "receivers" who have no opportunity to interact with the message or the message sender. In comparison, ComDev is intended to be interactive and "dialogic." It can include information, but its primary function is to engage people in a dialogue, to encourage them to share ideas and perspectives, and through this sharing create local knowledge and plans of action. The difference between information-

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61 A summary of the *Bridging the Rural Digital Divide Programme* can be found on the e-Agriculture website: www.e-agriculture.org/bridging-rural-digital-divide-programme-overview.

62 See section 3.2.5, E-agriculture.

63 Eberspächer, J., *et al.,* (2010).

64 United Nations General Assembly (1997). *Communication for development programmes in the United Nations system* (No. 51/172). New York: The United Nations.

65 WCCD (2007). *World Congress on Communication for Development: Lessons, Challenges, and the Way Forward.* Washington DC.

dissemination campaigns and ComDev lies in the broader view that the people most affected by development change must be active participants in the process, not merely passive receivers of information or development plans designed and imposed by others.[66] ComDev approaches "listen to the people." There is a recognition that family farmers understand and can express their needs better than anyone else and, if given the resources and opportunities, they can identify their development priorities and choose appropriate strategies to achieve them.

Since the 1970s, the FAO has been among the pioneers of using ComDev approaches to advance sustainable agricultural development and rural livelihoods. At the heart of the FAO's approach is a strong belief that communication is far more than receiving top-down information or having access to computers. In ComDev approaches, content creation, knowledge and information are inseparable.[67] This reinforces the need to enhance local capacities, such as ICT-literacy skills, and ensure opportunities exist for rural people to access tailored-made communication services.

ComDev approaches and tools can help overcome many of these barriers through a variety of traditional and new media. While media technologies, like video cameras and radio, add value to ComDev approaches, the true aim is to foster dialogue leading to empowerment. Media tools are best selected based upon the local context. For example, rural women farmers in South Asia, Brazil and Lebanon gather together to draw and share comics as a vehicle for self-expression and information-sharing among themselves and with their communities.[68] Community theater and puppetry can effectively engage family farmers in dialogue and reflection, especially during after-performance discussions.

Of the electronic media, radio is the most accessible in rural areas. Globally, more than 75 percent of all people own or have ready access to a radio receiver. This makes community radio an appropriate and effective development tool. Community radio stations are owned, managed and often financed by the community. Their objectives are socially, not commercially, oriented and their programming is locally produced to reflect the unique needs and interests of each community.[69] Community radio operates at many levels: it distributes news and information in vernacular to rural people who often have no other information sources; community members can participate in the creation of radio programs; and listeners respond to these shows by calling or "texting" on their mobile phones. Community radio creates communal spaces for dialogue and debate, thus empowering communities to move beyond being passive recipients of externally generated information. Community media are especially important to communities

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66 Ibid.

67 FAO (2001). *Information and Communication Technologies Servicing Farm Radio: New Contents, New Partnerships*. Rome.

68 Sharma, S. (2012). World Comics Network. Retrieved 28 Nov., 2013, from http://www.worldcomicsindia.com/

69 Fraser, C., & Restrepo-Estrada, S. (2002). Community Radio for Change and Development. *Society for International Development, 45*(4), 69–73.

living with poverty, exclusion and marginalization. When these media give "voice" to their communities, they empower people to participate in their broader societies at local and national levels. In this way, community media provide access to information, stimulate debate, use local language, and enable grassroots participation in policy-making and democracy.[70]

Community-based communication approaches often work best when various media formats are combined. Video, photography and other visual media are excellent tools to overcome the challenges of illiteracy. Radio broadcasts can reach isolated women family farmers. Community radio has long been used in combination with traditional communication forms, such as theater, group discussion and storytelling; for example, the *Her Farm Radio* project in Sahel Africa combines mobile telephony, community radio, theater, listening groups, and community forums.[71]

Community radio can also work as an interface to bring internet-based information to rural communities that lack easy or affordable access to online services. Ten years ago, the FAO published a book of case studies showing how radio stations were using the internet to make knowledge available to their communities and to network that knowledge.[72] Since then hundreds of examples have arisen. For example, Sri Lanka's Kothmale Community Radio pioneered "radio browsing" wherein radio station volunteers browse the internet on-air together with their listeners and sometimes guest experts to discuss and contextualize the information in local languages.[73] The Kothmale project demonstrates the importance of moving beyond information-dissemination models to place the community, not the information, at the center of the activity.

The explosion in mobile telephony in recent years has revolutionized community radio, turning it into an even more powerful vehicle for community dialogue. The mobile telephone when used on its own provides person-to-person information and communication possibilities, but when combined with a community radio station, it becomes a dynamic "collective" communication tool, a flexible low-tech social network that can be accessed in rural areas and adapted to the specific needs of local communities. In this way, mobile telephones help empower family farmers to become active participants in community dialogue, each contributing his or her own experiences and ideas to a vast community forum. Such expressions gain force when they are better planned, organized and integrated into national development agendas.

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[70] Buckley, S., *et al.,* (2008). *Broadcasting, Voice and Accountability: A public interest approach to policy, law and regulation.* Washington DC: The World Bank.

[71] Farm Radio International (2013). Her Farm Radio Initiative. *Africa - Community Radio* Retrieved 30 Nov., 2013, from http://www.comminit.com/community-radio-africa/content/her-farm-radio-initiative

[72] Girard, Bruce, Ed. (2003) The One to Watch: Radio new ICTs and interactivity. http://comunica.org/1-2-watch/. Retrieved 21 Feb. 2014.

[73] Jayaweera, W. (2001). Kothmale Community Radio/Internet Project: Expanding the Knowledge Base. Retrieved 19 Jan., 2014, from http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES /EXTEGOVERNMENT/0,,contentMDK:20486095~menuPK:1767268~pagePK:210058~piPK:210062~theSitePK:702586,00.html

2.4 INSTITUTIONALIZING RURAL COMMUNICATION SERVICES

Through its history, the process of ComDev has evolved from early mass media models that focused on public relations, social marketing and information dissemination toward a more people-centered and participatory orientation.[74] At its heart, ComDev is a *social* process based upon principles of dialogue, advocacy, participation and purpose.[75] However, there are tendencies for ComDev-based initiatives to be seen in isolation as "ICT for development," "community radio" or "theater for change" projects rather than as elements of a holistic development approach underpinned and supported by ComDev principles and methods.[76]

To be effective, ComDev must be systematically planned, implemented and coordinated. In the agricultural and rural sector, there is an urgent need to institutionalize ComDev approaches and tools across the whole of the "value chain." Different rural stakeholders, including governmental institutions and rural actors, are encouraged to mainstream and operationalize ComDev principles and processes and not to view them as interesting but non-essential add-on elements. National information and communication policies are meaningful strategies through which all development partners use information and communication to support pro-farmer development initiatives at national and local levels and through multi-sectoral and multi-dimensional approaches.[77] In other words, within such whole-of-government policies, ministers of agriculture, telecommunication, media and other sectors can meet on common ground with common objectives and pooled resources to meet the information and communication needs of family farmers and rural communities as defined by family farmers themselves.

Rural communication services (RCS) is an emerging concept that seeks to institutionalize ComDev values, principles and methods within an agricultural-information service system that is farmer demand-driven, needs-based, integrative, interactive, ICT-enabled, and collaborative.[78] RCS integrates the use of community media and participatory processes to strengthen relationships among all stakeholders – research and extension services, local institutions, NGOs, academe, media, the private sector, and family farmers and their organizations – and to streamline processes and activities to achieve more sustainable development outcomes. RCS will be discussed more thoroughly in Section 4.

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74 FAO (2012).

75 van de Fliert, *et al.,* (2014).

76 Ibid.

77 FAO (2012).

78 Pafumi, M. (2009). *Institutionalizing communication services for agricultural innovation and rural development: A case study from Bolivia*. University of Reading, Reading, UK.

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Chapter 3

EXPERIENCES AND PRACTICES IN COMMUNICATION BY FAMILY FARMERS

This section highlights the creativity of family farmers and their organizations in harnessing the potential of communication media and ComDev methods in three key areas: good governance and inclusive decision-making, advancing economic and social wellbeing, and improving rural services.

3.1 GOOD GOVERNANCE AND INCLUSIVE DECISION-MAKING

Development rights are premised on participatory engagement. Communication channels must exist through which the voices of family farmers and other vulnerable communities can be heard so that they can share experience, generate knowledge, and participate in decision-making around issues that affect their lives. ComDev approaches strive to create both "horizontal" communication among community members and "vertical" communication that links rural communities upward to local, sub-national and national policy-makers.

Around the world, family farmers increasingly use ICTs in mainly three areas: 1) to enhance the economic viability of their farms by increasing access to information pertaining to markets, weather and climate; 2) to stimulate the creation and flow of information and knowledge among themselves and with their partners in government (in particular agricultural extension service providers), civil society, and the donor community; and 3) to increase political empowerment and social inclusion of rural communities in decision-making.[79] Global studies indicate that the greatest direct impact ICTs have is on the livelihoods of individual farming families by improving market access, primarily through dissemination of price information.[80] Direct but less strong impact is found in the area of farm productivity, such as the adoption of new agricultural practices. The third area of use, that of enhancing empowerment and social inclusion, is the most difficult to quantify and appears to have the least direct benefit for individual family farmers. However, positive development outcomes are found when farmers work collectively, such as through farmers' organizations, to use ICTs to enhance their political voices. For marginalized rural communities, strength truly does lie in numbers.

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[79] IICD (2006). *ICTs for agricultural livelihoods: Impact and lessons learned from IICD supported activities*. The Hague, The Netherlands: International Institute for Communication and Development.

[80] Ibid.

3.1.1 Farmers' organizations and social capital

Broadly speaking, social capital refers to the benefits of membership within social networks.[81] Family farmers invest heavily in social capital simply to survive given they have few "social security nets" to help them. Poor people rely extensively on social networks, for example, to share food, raise funds, and hear about job opportunities. Family farmers generate social capital by joining farmers' associations, producers' cooperatives and similar groups. Community radio stations also become "spaces for encounters and interactions" around which rural communities rally to create social capital.[82]

Many farmers' organizations provide computers, internet connectivity, online databases of technical information, and ICT-literacy training for free or low-cost to their members. Many family farmers are willing to pay for their children to attend their association's computer training sessions and use the facilities.[83] Some farmers' organizations also run community radio stations, sometimes using micro-radio stations with a broadcast range of three kilometers and costing as little as US$650.[84] Community radio stations and internet-access centers owned by farmers' organizations appear to be more financially stable than similar outlets run by government or civil society.[85] For example, Radio Pag-La-Yiri, which is run by a women's farmers' association in Burkina Faso, generates around 9 000 Euros annually through broadcasting announcements and similar income-generation programming; it broadcasts seven days a week in six languages to roughly 250 000 people.[86]

Stories from the field illustrate how farmers' organizations can effectively amplify the voices of family farmers far beyond what individual farmers could achieve:

- In Bolivia, eight regional indigenous organizations have created an internet-based communication network to advocate for native land rights. These family farmers use photos and GPS (satellite-based global positioning systems) data to justify their demands for transportation infrastructure and to clarify disputed land boundaries.[87]
- In Sri Lanka, family farmers rallied behind a local NGO to protest against a government proposal to assess a flat monthly tax on mobile-telephone usage; consequently, the government amended its proposal to exclude farmers who spent less than US$20 a month on mobile-telephone services.[88]

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81 Narayan, D., Patel, R., Schafft, K., Rademacher, A., & Koch-Schulte, S. (1999).

82 Ibid.

83 IICD (2013). *Youth, ICTs and Agriculture: Exploring how digital tools and skills influence the motivation of young farmers*. The Hague, The Netherlands: International Institute for Communication and Development.

84 Harrod, J., & Jamsen, P. (2011). Farmer Organizations Work Better with ICT. In *ICT in Agriculture Sourcebook: Connecting Smallholders to Knowledge, Networks, and Institutions* (pp. 173-202). Washington DC: The World Bank.

85 Lenoir, M. (2012).

86 Ibid.

87 Valk, J.-H., & Fourati, K. (2013). Catalyzing Access via Telecommunications Policy and Regulatory Research In L. Elder, H. Emdon, R. Fuchs & B. Petrazzini (Eds.), *Connecting ICTs to Development: The IDRC Experience* (pp. 57-73). Ottawa, ON, Canada: International Development Research Centre.

88 Valk, J.-H., & Fourati, K. (2013).

Farmer-led community-based organizations can use ICTs to improve their organizational efficiency and thus better represent their membership when negotiating land claims, resource rights and infrastructure projects.[89] They can also facilitate the use of advanced ICTs, such as GPS, that are not available to individual farmers.

Two women's farmers' cooperatives provide insightful examples. The fist is Coprokazan in Mali; the second, the Songtaaba Yalgré Association in Burkina Faso.[90] Both sought to organize producers of shea butter, a component in beauty products, and turned to the internet and computer-based systems to help their members earn better local crop prices and expand into new international markets. In Mali, the cooperative staff was motivated to venture into computerization because they wanted to use digital photography and video to create learning materials for their illiterate members. As these media formats did not require high levels of literacy to use, the women farmers quickly mastered the technologies and began creating their own visual materials that they used in peer-to-peer training sessions. As the cooperative membership grew (from 400 members in 2006 to 1 100 members in 2010), the cooperative reinvested its earnings into a solar-power system, becoming one of the few offices in the small town to have electricity. This attracted community members, including schoolchildren, from villages in a 30-kilometer radius to use the cooperative's services (such as a photocopier) and to study by electric light. As with the Burkina Faso collective, the Mali collective created a website as a marketing tool with the intention of expanding into lucrative European organic-produce markets. To meet the export certification standards, both collectives trained their members in the use of GPS devices so the farmers could map their fields to provide product "traceability" and evidence of purity standards. Within two years, Coprokazan cooperative members had doubled their incomes. As part of the qualification processes to attain European export standards, members of both collectives were required to learn first aid and safety measures, organize and run committees on environmental management, and take part in training around organizational "good governance" practices. The Burkina Faso collective now markets nearly 90 percent of its members' product via its web site to overseas buyers. Both cooperatives have "professionalized" their operations as a result of the introduction of the computers and office-management software. Without such strong local organizations, the development potential offered to family farmers by computer-based ICTs is difficult to achieve and sustain.

Another "best practice" example comes from Mali.[91] The farmers' association CRCR (Cadre Regional de Concertation des Ruraux) is a lobby and advocacy organization run by family farmers in the province of Sikasso. It comprises 240 farmers' and pastoralists' organizations in this vast area of approximately 450 square kilometers and one million people, about 75 percent of whom live from family farming. The CRCR provides a holistic integration of communication media for and by farmers based upon the belief that the only way to achieve sustainable

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89 IICD (2006).

90 Harrod, J., & Jamsen, P. (2011).

91 Laureys, F. (2014). Cadre Regional de Concertation des Ruraux. In B. Girard (Ed.) (pp. 1). Personal communication.

development is to strengthen the position and the voice of family farmers and pastoralists, as the two are intertwined in a complex ecosystem. Providing farmers access and means to better communication with each other and the outside world is essential for empowerment. To overcome the tremendous problems of communicating with its dispersed constituency, CRCR (with support from IICD) set up a communication system based upon a decentralized network of local farmers' information centers (or CLDOPs, Cadre Locaux de Developpement des Organisations Paysannes) in seven district towns and the province's capital. These information centers were equipped with basic ICTs: two computers, a laptop, a printer, digital cameras, a projector, a phone line, and where possible an internet connection. CRCR also signed a global agreement with all local and community radios in the province, ensuring that they would regularly broadcast information from CRCR and its information centers or facilitate interactive radio shows on farmers' issues. The farmers operating the information centers were trained in basic ICT skills, including equipment maintenance, and as ICT peer trainers. At least 500 farmer leaders and thousands of individual farmers, both men and women, have received training. The CRCR uses a blended approach of "old" (meetings, assemblies, journals) and "new" technologies (radio, internet, mobile phone). It has also adopted more sophisticated ICT tools, like SMS-based data-collection platforms and web-enabled databases, which allow farmers to undertake more complex activities, like the mapping of farm production. Farmers apply their communication skills in a number of ways, such as using email and the internet for rapid exchange of documents, using social media for networking and knowledge exchange, using community radio and SMS to deliver extension advice and market information, peer-to-peer extension via self-made videos, bulk buying of farm inputs and grouped sales, web visibility of farmer organizations and their products, and improved access to and relationships with technical partners, donors, and other national and international farmer organizations. CRCR has become a driving and federating force of the farmer movement in the Sikasso province. It has developed solid relationships with local, regional and national authorities and agricultural bodies. The CRCR "model" has been hailed by national and regional farmers' organizations as a model worthy of replication elsewhere in West Africa.

3.1.2 Expanding participation and self-determined development

ComDev approaches emphasize community involvement and empowerment within more inclusive development strategies. The World Summit on Social Development in Copenhagen (1995) noted the importance of empowering vulnerable populations, such as women and indigenous communities, to set their own development agendas. Similarly, the UN Declaration of Rights of Indigenous Peoples (2007) re-emphasized the importance of cultural identity and self-determination for indigenous peoples, who often suffer social, economic and political inequality due to historical circumstances now compounded by contemporary affairs, such as neo-liberal economic policies. The declaration's Article 16 specifically mentions the importance of indigenous-owned media to intensify indigenous self-determination and cultural resiliency.

Rural social movements around the rights of indigenous peoples, especially those in Latin America, have successfully appropriated community radio and other media to strengthen

community cohesion, keep languages and traditional knowledge alive, build alliances with other indigenous rights groups, pushback against negative mass media representations of indigenous peoples, and interject their voices into decision-making arenas. One transnational movement, *La Via Campesina*, uses a variation of communication for development that it calls *diálogo de saberes,* or dialogue among different *knowledges* and ways of knowing.[92] The preservation of indigenous languages supports sustainable agricultural development and environmental conservation because these languages transmit oral knowledge gathered through the centuries as people interacted intimately with their natural environment.[93] When minority languages die, as they are at an estimated rate of one per year, this traditional knowledge irrecoverably disappears. Because many indigenous movements advocate for greater political empowerment and recognition, they are sometimes perceived to be in opposition to the national government. Suppression of indigenous community media, either overtly though force or covertly through policies and regulations, unfortunately still occurs in some countries.[94]

Around the world, women do most of the agricultural work and are in charge of food security at the household level, thus one proven way to improve agricultural productivity is to enhance women farmers' productivity.[95] But many women are constrained in access to and ownership and control of key productive resources, which now include mobile telephones and radio receivers. Most information sources do not reach women family farmers due to educational, cultural, economic and logistical constraints. An estimated 64 percent of rural African women have no access to any form of media and their information sources are limited to their husbands and their churches.[96] African women receive less than 5 percent of formal agricultural extension services yet they produce between 60 to 80 percent of the continent's food.[97] Because many women farmers have lower literacy rates, lack of transportation options, and are encumbered by heavy farm and household responsibilities, they simply cannot leave their farms to take advantage of agricultural workshops or ICT training opportunities. An evaluation of 35 agricultural development projects in sub-Saharan Africa noted that women family farmers comprised only 30 percent of the participants despite the fact they constitute 66 percent of the agricultural labor force and produce between 70 to 90 percent of the food.[98]

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92 Rosset, P., & Martinez-Torres, M. E. (2013). *Rural Social Movements Diálogo de Saberes: Territories, Food Sovereignty, and Agroecology*. Paper presented at the Food Sovereignty: A Critical Dialogue International Conference.

93 Nettle, D., & Romaine, S. (2002). *Vanishing Voices: The Extinction of the World's Languages*. New York: Oxford University Press.

94 Aveggio, M. T. (2012). Communication rights for Indigenous people are here to stay. Retrieved 13 Dec., 2013, from http://www.pcusa.org/news/2012/12/26/communication-rights-indigenous-people-are-here-st/

95 Csaki, C., & de Haan, C. (2003).

96 Adeyanju, S. (2010). *ARDA Baseline Research Report for "Majalisar Mata Manoma!": A meeting place for Gwagwada Women Farmers on FM Radio*. Melville, South Africa Association for Progressive Communications Gender, Agriculture and Rural Development in the Information Society.

97 Sibanda, L. M. (2009). *Strengthening the Capacity of Women Farmers to Influence Agricultural Policy Development in Southern Africa: Women Accessing Realigned Markets (WARM) Project*. Pretoria, South Africa: Food Agriculture and Natural Resources Policy Analysis Network.

98 IICD (2006).
Sibanda, L. M. (2011). Women Farmers: Voiceless Pillars of African Agriculture Retrieved 1 March, 2014, from http://www.nepad.org/foodsecurity/news/2103/women-farmers-voiceless-pillars-african-agriculture

In this respect, rural community radio is still the most effective and affordable ICT technology for women family farmers and the one best positioned to introduce their voices into decision-making in their communities and with their governments. Listener groups that are gender segregated have provided culturally appropriate and safe spaces for women to collectively organize. Women farmers who participate in listener groups say they do so because they want to share information and discuss matters pertaining to agriculture and livelihoods, but frequently the conversations expand to include women's role in society and such sensitive issues as reproductive health, barriers to girls' and women's education, domestic violence, and lack of land and property rights.[99] These discussions are often recorded and incorporated into radio programs that are broadcast to the wider community. Recent research suggests such radio programming are creating positive social change in some communities. Men are becoming sensitized to women's hardship and are becoming more open to receiving information and knowledge from women; community pressures have been brought to bear on physically abusive or spend-thrift husbands; and more women are demanding and receiving literacy education for themselves and their daughters.[100]

Such research findings highlight the need to be aware of social norms and other barriers that have a negative impact on women farmers and their access to ICTs. Experiences using "mobile ICT clinics" that bring laptops, email, internet, videos, and training workshops to women family farmers on their farms have been trialed successfully.[101] In Cambodia, one project provided email and internet services through a fleet of motorcycles, each carrying a satellite-uplink box and laptop computers or smartphones.[102] In Rwanda, a mobile telecenter in a bus circulates through rural areas.[103] In Ghana, one farmers' cooperative requires each male member to be accompanied by a woman every time he visits the facilities or attends a workshop.[104]

3.1.3 Community media and good governance

Rural community radio arose from the need for people to express their perspectives and define their communities' development issues from within their own social and cultural contexts. In one perspective, rural community radio is "twice a media": it spreads news and information but also enables rural communities to organize themselves so they can influence the political, economic and cultural forces that impact upon their lives and livelihoods.[105]

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99 Dimitra Project (2011). *Community listeners' Clubs: Stepping stones for action in rural areas.* Brussels, Belgium: FAO-Dimitra Project.
Agouna, G. (2004). Chad: Community radio for rural women. Retrieved 30 Nov., 2013, from http://ictupdate.cta.int/en/layout/set/print/Feature-Articles/Chad-Community-radio-for-rural-women

100 Dimitra Project (2011).

101 IICD (2013).

102 Krisher, B. (2004). *Cracking the Digital Divide—How we connected more than 60 remote rural schools in Cambodia to the Internet.* Geneva: International Telecommunication Union.

103 The World Bank (2009). *IDA AT Work: Information and Communications Technology: Connecting People and Markets.* Washington, DC.

104 Lenoir, M. (2012).

105 Dorelli, J. (2010). *Media of Autonomy: Community Radios of Dakar.* Paper presented at the Encounters: Situating "Relation" in Communication and Culture, Toronto, ON, Canada.

Stories from the field highlight the ingenuity of family farmers working with community radio to increase political participation at all levels of society.

In northern Tanzania, *Ilaramatak Radio* serves the semi-nomadic and politically marginalized Maasai people. The station is part of a package of community media that includes a video-production facility, a resource center, a high-frequency radio service, and satellite reception of national and international television services.[106] It broadcasts in vernacular up to 100 kilometers. Since its inception in 2002, *Ilaramatak Radio* has helped to empower the Maasai to preserve their minority language and cultural identity, protect their native lands, demand accountability from elected and traditional leaders, and strongly bring the issue of women's personal and economic security to the forefront of community conversations. Local politicians are routinely invited onto radio programs to field telephone calls from an active listening audience. The village council of elders hosts a weekly interactive radio show. In one case, boisterous community discussions on the airwaves led to the removal of an under-performing representative from a local governing council. The community was able to organize itself to successfully protest against a national program designed to lease traditional lands to foreign commercial interests, a victory that would have been impossible without a community radio station to both spread the news of the pending land transactions and to serve as a vehicle for the community to effectively voice its disapproval. The radio station, through its community-based programming, has amplified the voices of women and evoked passionate on-air debates around violence against women, female genital mutilation and its place in culture, and the need for girls and women to have access to educational opportunities. Listeners even use their radio station to locate straying cattle, which are the foundation of their rural livelihoods.

In Ghana, the community radio initiative *Climate Airwaves*, provided a vertical-communication platform for family farmers to talk with national policy-makers, international climate researchers, and urban-based journalists to share accurate information, dispel misinformation, and integrate the local community's experiences and traditional knowledge into policy and research decisions around climate change adaptation.[107] Climate change will directly impact on all aspects of sustainable development for decades to come, yet engaging family farmers in dialogue around the issue is vexing given that most climate-change information tends to be overly scientific and many local languages lack the vocabulary to translate technical terms. *Climate Airwaves* was notable in that it translated scientific terminology into local languages so family farmers could actually understand and then discuss and advise on the impact of climate change in their communities.

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[106] Jallov, B., & Lwanga-Ntale, C. (2007). *Impact assessment of East African Community Media Project 2000: 2000-2006 Report from Orkonerei Radio Service (ORS) in Tanzania and selected communities*. Stockholm, Sweden: Swedish International Development Cooperation Agency.

[107] Climate Airwaves (2011). *Community Radio, climate change and development in Ghana*. Accra, Ghana: Climate Airwaves.

Participatory or community video is another effective form of community media that interjects both the voices and visions of family farmers into decision-making arenas within government and the private sector. Family farmers can use participatory video to preserve and disseminate traditional knowledge and as effective communication channels upward to policy-makers. These often poignant interviews from the grassroots help to "humanize" the issues facing rural communities that are all too frequently presented to policy-makers in technical jargon and statistical spreadsheets.[108] When communities use ComDev approaches through media, they can clearly show the discord between the existing policy environment and how it affects their lives and they can bring these perspectives upward to the responsible power-holders for redress and accountability.

Noteworthy examples of farmer-led participatory video include:

- In the Niger Delta, farming and fishing communities created video clips highlighting the environmental damage created by certain oil-producing companies. The video clips were shown to national policy-makers and uploaded onto various web sites, including YouTube, to further bring the farmers' plight to regional and international audiences.[109]
- In Trinidad and Tobago, a group of young fishermen used inexpensive "smartphones" to create a video highlighting abusive pricing practices of local fuel suppliers. They used it to inform and petition government and private sector representatives to address the situation, again through posting on the World Wide Web.[110]

For urban people, the use of media to promote transparency and demand accountability of public officials and private enterprise alike is common practice; this is one reason why independent and pluralist media are seen as a pillar of modern democratic societies. Rural residents receive most of their information through traditional social networks: relatives, neighbors, village leaders and religious groups. News and information travels mostly by word-of-mouth and can be inaccurate and even meeting with local officials can require many hours of travel. Without their own media and without access to the media in the capital cities, rural communities are doubly disadvantaged – they do not enjoy the benefits of transparency and accountability at the local level, and their voices are unheard in government or corporate meeting rooms located hundreds or thousands of kilometers away.

One characteristic commonly found among rural community radio stations are the listener groups that organize around them. Such groups are tremendously important in imparting understanding around good governance and political accountability. In some areas of the world, listening groups are growing at phenomenal rates. Listening groups associated with the FAO's Dimitra Project in Niger and the Democratic Republic of the Congo contain 16 000

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[108] Wood, A., & Barnes, J. (2007). *Making poverty the story*. London: Panos London.

[109] Johansson, L. (2006). Camcorders, cassava and crude. Retrieved 30 Nov., 2013, from http://ictupdate.cta.int/layout/set/print/Feature-Articles/Camcorders-cassava-and-crude

[110] Comunica Impact 2.0 (2012). Documenting challenges of the Blanchisseuse fishing industry. Retrieved 28 Nov., 2013, from http://impact2point0.comunica.org/2012/08/documenting-challenges-of-the-blanchisseuse-fishing-industry/

active members who have gathered around nine community radio stations; the number of villagers who are not active in the listening groups but have benefited from listening to their radio shows is estimated to be three times that number. In southern Madagascar, the Andrew Lees Trust's *Projet Radio* has seeded more than 2 300 listener groups of 20 members each. *Projet Radio* involves a coalition of 34 CSOs and 17 community radio stations, thus it is widely sensitizing and training the next generation of family farmers, development practitioners and agricultural extension agents in ComDev practices.[111]

Listener clubs provide a number of essential functions: they facilitate safe spaces for group listening and discussion; they instill democratic values around consensus building, conflict resolution and inclusive participation; they promote leadership and organizational-management skills; they provide channels of expression through program creation; they promote women's and youth empowerment; and they offer attractive opportunities for youth to learn ICT and media skills that enhance their off-farm employment potential. Most importantly, they mobilize communities around concrete plans of action, especially those pertaining to economic and social wellbeing.

3.2 ADVANCING FAMILY FARMERS ECONOMIC AND SOCIAL WELLBEING

Since the turn of the century, family farmers around the world have enthusiastically embraced the "mobile miracle," using low-price mobile telephones and expanding wireless networks to improve their market incomes, lower their production costs, open new markets, and for youth, to reinvigorate interest in what is often seen as an undesirable vocation as a farmer. This section shares some of their many success stories.

3.2.1 The mobile miracle

New ICTs most effectively contribute to development when they become the "people's media," or when people adopt and adapt them in meaningful ways to meet self-defined development goals.[112] Among the newer digital ICTs, mobile telephones are the only ones that are truly accessible to rural farmers. Their use requires virtually no literacy skills. They enhance the ways farmers communicate in daily life: orally, in the vernacular, person-to-person, and through established social networks. Mobile-telephone penetration rates, or the number of active mobile phone numbers within a specific population, now cover 89 percent of the developing world and continue to grow at impressive rates.[113] In 2008, India was adding six million new mobile phone users every month. There are now nearly as many mobile-telephone subscriptions as there are people living in the world. In developing countries, the number of wireless broadband internet

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[111] Metcalf, L., Harford, N., & Myers, M. (2007). *The Contribution of Radio Broadcasting to the Achievement of the Millennium Development Goals in Southern Madagascar.* London: Department for International Development.

[112] Michiels, S. I., & Crowder, L. V. (2001).

[113] ITU (2013).

subscriptions, or internet services that can be accessed through high-end mobile phones, more than doubled from 2011-2013. The future is obviously mobile. But mobile telephones are tools designed for person-to-person communication. What is more interesting is how family farmers are collectively using them to advance their economic and social wellbeing.

3.2.2 Market and production information systems

Family farmers need information all along the agricultural value chain, from knowing what to grow, how to grow, and when to sell to whom for maximum profit. When one farmer is armed with current and accurate market information gathered via a mobile phone, he or she may be able to negotiate better prices. When 100 farmers have access to prices *and* are connected to each other, they are able to avert economic exploitation, influence markets, open new markets, and work together to develop and implement solutions to their problems. Recent studies in six African countries found that family farmers who made the investment to use mobile telephones made steady incremental steps away from poverty at a rate of 2.5 percent between 2007-2010.[114]

Such productivity enhancement is particularly beneficial to rural women farmers who often cannot physically leave the farm but can now easily use mobiles to source market information and organize crop transportation to market. Significantly, they can do so in their own languages, even if they are illiterate.

- In Malawi, female family farmers quintupled their groundnut-harvest earnings after subscribing to an SMS (short message service) commodity-price information service.[115] Instead of bearing the unreasonably low prices offered by a local buyer at the farm gate, the women decided to work together and were able to locate a buyer in a neighboring market town 20 miles away who offered better prices and agreed to provide transportation services for bulk loads.
- In Mali, women family farmers use mobile phones to alert a local NGO about the quantities of shea butter, honey, nuts and other products they have for sale.[116] The NGO compiles the list and sends it to a local community radio station for broadcast. Prospective buyers can then call or send a text message to the women producers to negotiate a sale, thus eliminating the middleman and providing much needed household revenue in pre-harvest times.

Family farmers sometimes partner with rural community radio stations to disseminate market information. One common model consists of roving farmers or “market spies” who phone in information to the radio station for broadcast. Sometimes farmer-led market-information activities are so accurate and timely that they win the praise from the government agriculture extension agents who traditionally have done this work. In Tanzania, government agricultural

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[114] Diga, K. (2013a).

[115] ACDI/VOCA (n.d.). ICT Helps Woman Farmer Quintuple Income in Malawi. Retrieved 4 March, 2014, from http://www.acdivoca.org/site/ID/ICT-Helps-Woman-Farmer-Quintuple-Income-in-Malawi

[116] Hill, T. (2011). Cultivate new markets. The Technical Centre for Agricultural and Rural Cooperation ICT Update(59), 10.

extension agents capture farmer-generated market information and post it on village notice boards for farmers who do not have access to mobiles or radio receivers.[117]

Stories from the field include:

- In Bolivia, several good examples of farmer-led market-information services exist. Near Santa Cruz, government extension workers use their mobile telephones at early at 5 a.m. to relay the day's price information to a community radio station run by a consortium of 18 farmers' cooperatives; the information is broadcast to 15 000 farmers.[118] The market prices along with crop-specific information are entered into an online database that family farmers can access at no charge through mobile phones or at community internet-access facilities. More than half of the family farmers have seen their farm incomes rise by about 10 percent since they began listening to the radio service. A similar radio service in the Andes highlands broadcasts to more than 500 000 Quechua-speaking family farmers, while a third service in the Vallegrande region broadcasts to about 300 000 family farmers.[119]
- In Nepal, family farmers and radio station volunteers use mobile phones to relay market information to Krishi FM, an agriculture-only radio station.[120] Farmers have used these daily market documents to strategically negotiate better prices within bigger markets in neighboring districts.
- In Senegal, three family fishermen's unions partnered with the local subsidiary of an international telecommunication company and later the government to introduce a free text-based real-time weather and market-information service.[121] The service allows fishermen to access current market prices and organize with buyers, who meet them at the wharf to immediately buy the day's catch. Previously, 30 percent of their catch would have spoiled while waiting for buyers to be found. The system has also saved lives: fishermen log in their departure and return times, thus fellow fishermen are alerted when boats are overdue. Fishermen also record the details of their daily catches into a database that helps them to better manage fish stocks and monitor over-fishing. Due to language diversity among the participating fishermen, graphical icons of the various fish species were created. The community has also benefited: one telecommunication partner built a new mobile-phone base station that extended wireless phone services along the coast and out to sea. One bottleneck that was successfully overcome was the government meteorological office's resistance to

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117 Harrod, J., & Jamsen, P. (2011).

118 IICD (2008). *Improving farmer livelihoods by access to information: Supporting the agriculture sector in Bolivia with information and communication technologies*. The Hague, The Netherlands: International Institute for Communication and Development.
Bruinsma, W. (2012). Farmers in Bolivia Use Internet, Radio and Mobile Phone to Sell their Produce for a Better Price Retrieved 9 Jan., 2014, from http://www.iicd.org/articles/farmers-in-bolivia-use-internet-and-radio-to-sell-their-produce-for-a-better-price

119 Lenoir, M. (2012).
IICD (2006).

120 Ghimire, P. (2009). Krishi FM does wonders for Dhading folks. *República* Retrieved 30 Dec., 2013, from http://archives.myrepublica.com/portal/index.php?action=news_details&news_id=12817

121 Manobi Sénégal (2003). MANOBI's 'Innovative Internet and wireless e-services for the strengthening of Senegalese fisherman artisans' is a new project started in early 2003. Retrieved 4 Jan, 2014, from http://www.manobi.sn/sites/za/index.php?M=9&Cle=6&SM=18

publicly issuing weather data. Government agencies are often the largest repositories of such useful information, which highlights the need for national right-to-information legislation.

Family farmers are also working with community radio to generate agricultural-production information specifically tailored to local needs. These "participatory radio campaigns" usually involve an agricultural expert who answers questions from family farmers during live radio broadcasts. Such production-enhancement radio campaigns are highly successful because farmers are often more prepared to trust the advice from another smallholder farmer than they are to trust anonymous "official" sources. This reinforces the power of community radio, where farmers hear their own voices and engage in community conversations grounded in trust and reciprocity.

Stories from the field include:

- In Tanzania, livestock producers used their mobile phones during a recent drought to interact with veterinarians hosting radio shows on a local community radio station, thus stimulating community conversations on how to better manage dwindling water resources while preventing cattle deaths.[122]
- In Mali, *Radio Fanaka*'s campaign on how to use compost to improve soil was so popular that people in neighboring villages outside the broadcast range erected homemade aerials to capture the broadcasts; the campaign resulted in a four-fold increase in family farmers using these composting techniques.[123]
- In Uganda, farmers requested the local rural community radio station, *Voice of Teso*, to organize a radio campaign to help them cope with an outbreak of cassava disease. The station and farmers worked with government agricultural extension agents to host weekly interactive radio programs for a six-month period, resulting in a 510 percent increase in acreage planted with disease-resistant cassava and directly benefiting the livelihoods of 3 000 family farmers.[124]

One growing phenomenon worldwide is the presence of private agricultural information providers, many of whom deliver their information through subscription-based mobile-phone services. Telecommunication service providers, such as mobile telephone companies, realize that 80 percent of future sector growth will come from rural areas in developing countries, thus they are aggressively pursuing this untapped market by offering value-added services, such as information services created in partnership with the agro-industry.[125] Many of these services

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[122] Jallov, B., & Lwanga-Ntale, C. (2007).

[123] Myers, M. (2011). *Voices from Villages: Community Radio in the Developing World*. Washington DC: The Center for International Media Assistance.

[124] Farm Radio International (2010). Radio campaign on disease-resistant cassava variety in Uganda. Retrieved 19 Jan., 2014, from http://weekly.farmradio.org/2010/06/14/radio-campaign-on-disease-resistant-cassava-variety-in-uganda/

[125] Valk, J.-H., & Fourati, K. (2013).
GSMA (2006). Univers*al Access: How Mobile can Bring Communications to All*. London: Groupe Speciale Mobile Association.

are beneficial to non-poor farmers, but frequently are too expensive for family farmers. One study indicated that half of the family farmers who subscribe to such services drop them within months due to high subscription fees.[126] Even the non-profit Farmer's Friend initiative in Uganda, a partnership between Grameen Foundation and Google, was found to be too expensive for most family farmers. The service offered a free customized internet-search engine that could be accessed by low-end mobile telephones, but many farmers dropped the service within five months due to the high costs of using their mobile phones. Interestingly, family farmers who temporarily subscribe to such private-sector services share the information with, on average, seven other farmers, thus supporting their social networks and leading to better collective outcomes.[127]

Another problem occurs when governments outsource their agricultural extension services to the private sector without having in place policies and regulations that mandate certain levels of social protection. Some private agro-information services fail to adequately include the information needs of women farmers.[128] Sometimes large agro-conglomerate companies use their phone-based information services to capture and redirect farmers to purchase goods and services from their affiliated companies, which can undermine local small agricultural-input retailers.[129]

When family farmers or their organizations drive phone-based agro-information services, often in partnership with government agricultural extension services or civil society, the information provided can be timely, accurate and immediately relevant to local market conditions. Some farmer organizations use free-and-open software, such as FrontlineSMS and similar "mobile information platforms," to send bulk text messages to their membership. In Chile, the farmers' cooperative, Coopeumo, uses text-based messages designed to work on low-end mobile phones to reach its 400 members.[130] Cooperative members do not pay directly for the service as it is incorporated into their membership fees. Other examples are surprisingly simple and effective, such as farmers using text messaging to coordinate with each other the transportation of crops to market, reducing expenses by 50 percent or more.

The Grameen Foundation's Community Knowledge Worker projects in Uganda and Colombia exemplify the importance of farmer-to-farmer social networks within ICT-based applications.[131]

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126 Barrett, M., & Slavova, M. (2011). Making ICT Infrastructure, Appliances, and Services More Accessible and Affordable in Rural Areas *ICT in Agriculture Sourcebook: Connecting Smallholders to Knowledge, Networks, and Institutions* (pp. 15-48). Washington DC: The World Bank.

127 Barrett, M., & Slavova, M. (2011).

128 Sethu, P. (2013). Evolution of mKRISHI®: A technology platform for Indian farmers. London: The Business Innovation Facility.

129 Ibid.

130 Harrod, J., & Jamsen, P. (2011).

131 Manfre, C. (2011). Extending the Benefits: Gender Equitable-ICT Enabled Agricultural Development *ICT in Agriculture Sourcebook: Connecting Smallholders to Knowledge, Networks, and Institutions* (pp. 71-82). Washington DC: The World Bank.
Connor, E. (2013). Community Knowledge Worker Program in Uganda. Paper presented at the Presented at the closing Workshop of the BecA-ILRI-CSIRO-AusAID Project on Understanding ASF Epidemiology as a basis for Control. from http://www.slideshare.net/ILRI/ckw-erinconnor

The initiative has developed a database and smartphone applications that are used by trained "community knowledge workers," or local farmers, both men and women, who are chosen by their communities to serve as information liaisons. The workers travel from farmer to farmer with their smartphones through which they can access, disseminate and discuss the information requested by that farmer. The database contains more than 40 000 real-time tips on 46 crops and 10 livestock animals as well as weather forecasts, market prices, transportation directories, buyer contact information, and mobile-money agency locations. In 2013, 1 200 community-knowledge workers in Uganda regularly visited about 186 000 family farmers and fielded about 8 000 informational queries every week. The service is popular with women farmers; 63 percent of surveyed women said they were more comfortable working with women knowledge workers.

3.2.3 Enhancing rural livelihoods

Many people in rural non-farm occupations, such as trades people and neighborhood retailers, also find that mobile telephones reduce the time and cost of interacting with their customers, which leads to more productivity and better incomes.[132]

In South Africa, "spaza" shops, or informal convenience shops run out of people's homes, are the backbone of retail services in small rural communities.[133] Nearly all suffer from the "small trader's dilemma:" they need to buy supplies in small quantities due to limited credit and they need supplies quickly to replenish stock levels. Previously, shop owners had to close their shops, organize transportation, and take long journeys to urban centers to buy supplies from large formal retailers. This resulted in high transaction costs, which were passed on to customers in higher prices. The individual shop owners had no price-bargaining power with the large urban retailers. The urban retailers also suffered high transaction costs because so many spaza shop owners placed small but frequent procurement requests. One international technology firm was intrigued by this "efficiency gap" between the formal and informal private sector. It created a "virtual buying collective" that consisted of a local middleman or woman, called an information entrepreneur or *infopreneur*, and a simple text-based mobile phone application. Spaza shop owners could use their mobile phones to send a supply order to the *infopreneur* without leaving their shops. The *infopreneur* routinely collected orders from shop owners in a certain locality, then placed bulk orders with various urban retailers after negotiating lower prices. This meant that spaza shop owners received more regular supplies at better prices and lower transaction costs, resulting in lower shelf prices for their customers. On average, spaza shop owners who joined the virtual collective earned an extra US$50 per month. The urban retailers reduced their transaction costs and gained a market footprint in rural communities. The *infopreneur* earned a sustainable livelihood through a small commission levied on each spaza shop order and for each new spaza shop that enrolled in the collective. Surprisingly, a significant number of *infopreneurs* created ICT-based spin-

[132] International Institute for Communication and Development (2012). How IICD helps entrepreneurs in Africa and Latin America via ICT. Retrieved 9 Jan., 2014, from http://www.youtube.com/watch?v=spcigEFAL-I

[133] Eberspächer, J., *et al.,* (2010).

off businesses, most popularly, the creation of wedding videos. Some urban retailers also delivered the ordered goods to each spaza shop using GPS-enabled trucks to compensate for the lack of rural street addresses. Such collective applications of e-business services create sustainable bridges that enable the informal private sector to stabilize and expand.

The rapid expansion in the use of mobile telephones has also created employment opportunities around repair of phones. The high cost of ICT technology in most developing countries means people buy new equipment at slower rates, thus creating demand for repair and maintenance of older equipment.[134] In Cameroon, a women's NGO offers training for disadvantaged rural women in the maintenance and repair of mobile phones and in the basics of small-business management.[135] The women are offered micro-loans to help establish a small retail outlet, often just a street side stand. Of the 20 micro-businesses established during the pilot project, each generated about US$100 per month in income.

The allure of ICTs as symbols of modernity can also attract youth to careers in farming. A story from western Kenya follows the evolution of young male family farmers in three communities.[136] They joined their local farmers' associations to learn ICT skills with the intention of using these skills to gain non-farm jobs in urban areas. They began to meet regularly at their association's facilities where they learned to access, share, verify, and critically assess online information. As their farm incomes slowly grew, some began to make calculated investment risks, such as turning to greenhouse production, which elevated their farms to a new level of sophistication. The youths learned to use basic business-management software. They also began to use Twitter and Facebook via their high-end mobile phones to develop personal and business social networks. But the most unexpected change came from within the farming community: suddenly these young men who had been seen as "idling away" their time in the village were perceived as emerging entrepreneurs. Agricultural extension agents sought them out. Elders encouraged them into leadership roles. Now instead of seeking non-farm jobs in urban areas, the youths began to appreciate farming as a respectable vocation. They enjoyed their growing social esteem and responsibility derived from their ICT competencies. Some began to buy or rent additional farmland, thus creating jobs for other youths. However, these successes were enjoyed only by young men; their strong presence in their associations' computer labs discouraged women farmers from using the facilities. This highlights the importance of recognizing and alleviating social and cultural barriers to ICT access.

3.2.4 Rethinking agricultural extension services

Nowadays family farmers can increasingly harness the potential of ICTs to enhance their farm productivity and improve their rural livelihoods. Government agricultural extension services can be valued partners in this process.

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134 Eberspächer, J., *et al.,* (2010).

135 Melhem, S., & Tandon, N. (2009).

136 IICD (2013).

Around the world, family farmers recognize the important role public agricultural extension agents play in disseminating accurate information about new technologies, better farming practices, and better farm-management techniques that can increase productivity, market access and household incomes. In numerous surveys, family farmers rank government agricultural extension agents as their most trusted source of agricultural information.[137] The importance of government agricultural extension services was highlighted in one study in Zimbabwe where it was found that more than half (56 percent) of family farmers had never had any training in farming, while 44 percent had received some informal training from government agricultural field agents.[138]

It is widely conceded that the effectiveness of conventional public agricultural extension services has been declining since the 1980s due to deficiencies in national and international funding, declining staffing levels, decreased opportunities for staff training, and the lack of adequate regulatory frameworks. Public agricultural extensions services have failed to keep pace with the rapidly changing information and communication needs of family farmers just at a time when family farmers need this support the most. Too few extension agents are trying to serve too many farmers in numerous dispersed and diverse localities. For example, in Kenya, one public agricultural extension agent exists for every 753 rural farmers; in India, there is one for every 2 000 farmers.[139] This contributes to extension information that is insufficiently localized, overly scientific, and often is still delivered in a top-down instructional mode.[140] Family farmers are often still viewed as passive recipients of "expert knowledge," not valued co-creators of knowledge within multi-partner agricultural innovation systems.

Many countries have wholly or significantly privatized their agricultural extension services with varying degrees of success. Without clear policies, regulations and obligations, private extension service providers tend to bypass family farmers to focus on non-poor farmers, thus placing profits ahead of the public good. Family farmers need more than information: they need trusted partners to help them create knowledge from the information. Receiving a long-term weather forecast on a mobile telephone does not in itself lead to knowing when to plant or what to plant to adapt to the weather or to take advantage of weather-related market opportunities.

Public agricultural extension agents hold a pivotal role in building and facilitating responsive farmer-led partnerships around development activities that are accountable both horizontally to the rural communities they work with and vertically to elected officials and policy-makers they document to. But to adequately serve in their role, public agricultural extension

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137 Nyareza, S., & Dick, A. L. (2012). Use of community radio to communicate agricultural information to Zimbabwe's peasant farmers. *Aslib Proceedings, 65*(5), 494-508.

138 Ibid.

139 Sanga, C., Kalungwizi, V. J., & Msuya, C. P. (2013). Building an agricultural extension services system supported by ICTs in Tanzania: Progress made, Challenges remain. *International Journal of Education and Development using Information and Communication Technology, 9*(1), 80-99.
Eberspächer, J., *et al.,* (2010).

140 IICD (2006).

agents need training and resources to transform themselves into a new kind of agricultural advisor/information broker, with technical expertise, improved ICT skills, and knowledge of communication for development approaches. Such agricultural communicators can effectively build teams among diverse partners, facilitate dialogue, manage conflict, coach and inspire, and come with "a readiness to communicate" that is grounded in respect for family farmers as co-creators of knowledge.[141] They can also ensure that private agricultural-information providers meet national development goals around social inclusion.

Family farmers can serve as effective "farmer trainers," or peer-to-peer trainers that augment government agricultural extension agents. In Cambodia, "village animal health workers" are elected by their communities to receive training in basic animal health care.[142] This allows them to provide vaccinations, basic treatments and animal-husbandry services on a user-pays basis and to offer free technical advice. By 2013, 80 percent of rural villages had one para-veterinarian, thus improving the livelihoods of thousands of family farmers (many of whom were landless) and stimulating the local animal-feed market. A study in Kenya noted that farmer-to-farmer extension services were highly effective and gender inclusive.[143] The volunteer farmer trainers also earned income by selling seedlings, silage and other useful services on the side.

Increasingly, attention is turning toward ICTs to help agricultural extension agents do more with less. Successful ICT-based agro-information initiatives are characterized by tailor-made community content, appropriate technologies (such as community radio), active local participation, and a flexibility to accommodate existing resource and infrastructure limitations, such as the lack of electricity, transportation infrastructure, and low educational levels.[144]

Stories from the field include one from Bangladesh where public agricultural extension agents and a local NGO worked with food-insecure landless women farmers to create a series of videos documenting farmer-created innovations around the production, selection, processing and storage of rice seeds.[145] Millions of family farmers rely on seeds from their previous crop to generate their next crop, but these seeds are often contaminated or are of varieties unsuitable for solar drying during the post-harvest monsoon season. The women farmers were interviewed about their traditional knowledge and practices and were asked to demonstrate their homemade innovations, such as seed-drying tables. The extension agents tested and verified this information. After the interviews were edited into a four-part video series, the

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141 GFRAS (2012). Building Knowledge Systems in Agriculture: Five Key Areas for Mobilising the Potential of Extension and Advisory Services. Lindau, Switzerland: Global Forum for Rural Advisory Services.

142 Chapman, R., Slaymaker, T., & Young, J. (2003).

143 Franzel, S. (2013). *Farmer to farmer extension (FTFE): Lessons from extension providers and farmer trainers.* Paper presented at the CGIAR Research Program on Policies, Institutions and Markets (PIM) Workshop: Research on Agricultural Extension Systems: What Have We Learned, and Where Do We Go From Here. From http://www.pim.cgiar.org/files/2013/07/Session-2_Farmer-to-farmer-extension_Steve-Franzel.pdf

144 Diga, K. (2013b).

145 Page, S. L. J., Harun-Ar-Rashid, Zakaria, A. K. M., & Dodsworth, E. (2008). The Good Seed Initiative: Improving Food Security for the Poorest Households in Bangladesh Through the Use of 'Women-to-Women' Videos. *Agricultural Information Worldwide, 1*(3), 102-104.

project team approached various local businesses that had electricity to see if they would allow the use of their facilities for video screenings to the general public. All agreed to show the videos free of charge. In the first two years of the project, more than 173 000 family farmers viewed the videos. Follow-up surveys with women family farmers in food-insecure households found 70 percent had seen the videos at least twice; 10 percent had seen them three or more times. The landless women farmers who had applied the techniques they learned from the videos were able to increase their crop yields enough to feed their families an extra 32 days (or 103 kg per household), all at no extra input cost or labor. The story demonstrates how successful partnerships maximize the strengths of their members to achieve common goals. The women farmers appeared to enjoy sharing their traditional knowledge; the government agricultural agents were able to scientifically validate that knowledge; and local businesses eagerly offered venues and electricity so the videos could be shown. Studies conducted in India, Ghana and Ethiopia found that family farmers learned and retained knowledge 10 times more efficiently when they watched farmer-made videos and could question local facilitators after the show than they did from traditional agricultural extension practices.[146]

3.2.5 E-agriculture

Good working relationships between agricultural research and agricultural extension are essential if research is to successfully contribute to agricultural and rural development.[147] Similarly, farmers need access to relevant information and knowledge within appropriate technologies if they are to improve their farms productivity and efficiency. But often information and communication "bottlenecks" arise among researchers, extension agents and family farmers. Sometimes research is not driven by farmer demand nor are research findings translated into practical extension materials and made available to family farmers.[148] E-agriculture applications use a range of ICTs to improve the flow of information and communication between and among researchers, extension agents and farmers so that farmers receive the information they want and need to improve agriculture, animal husbandry, fisheries, forestry and food security.

In 2007, the FAO launched the e-Agriculture global Community of Practice in collaboration with other 13 founding partners.[149] The Community acts as a catalyst for networking and knowledge-sharing on the role of ICTs in sustainable agriculture and rural development. It provides an international framework to facilitate the processes of capturing, managing and disseminating the lessons learned, as well as the results and implications of multilateral processes related to the use of ICTs in agriculture and rural development. The overall aim of

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[146] Digital Green (2013). Digital Green. Retrieved 4 March, 2014, from http://www.digitalgreen.org

[147] Treinen, S. (2010). VERCON: The Virtual Extension and Research Communication Network. *Agricultural Information Worldwide, 3*(1), 39-43.

[148] van de Fliert, E., *et al.*, (2014).

[149] World Summit of the Information Society (WSIS) Action Line "C7. ICT applications: benefits in all aspects of life, e-agriculture". See www.itu.int/wsis.
See www.e-Agriculture.org.

the Community is to enable members to exchange knowledge related to e-agriculture, and to ensure that the knowledge created is effectively shared and used worldwide.[150]

RadCon (Rural and Agricultural Development Communication Network) in Egypt is seen as a "best practice" example of e-agriculture.[151] RadCon evolved from an earlier version of an FAO e-agriculture initiative known as VERCON (Virtual Extension and Research Communication Network) to become a community-driven network for the benefit of rural community members. Rural community members assumed most of the responsibility for ownership, participation and content creation. It used participatory communication approaches to mobilize rural communities, identify their needs and facilitate their access to and participation in the network and did so within open and highly responsive communication channels. It also created appropriate linkages between research and extension institutions, giving extension staff a wide array of support through repositories of agricultural information and extension material.

RadCon enabled family farmers and rural communities to access and create essential knowledge and information for agricultural innovation and improved livelihoods, both through an interactive internet-based information network and through local media, such as radio and television. By 2008, RadCon covered 50 resource-poor communities, 96 village extension centers, 52 research stations and institutes, and five faculties of agriculture. Other partners included farmers' organizations and women's CSOs. More than 115 village facilitators (at least one man and one woman per village) were trained to work with farmers to link rural communities and enable them to participate in generating, developing and sharing knowledge through the system. They were supported both online and offline through an extensive network of experts and mentors in research, extension, health and nutrition, environmental waste, women's affairs, community development, and rural enterprise. RadCon also offered women's corner and provided information about job opportunities, thus enhancing rural livelihoods.

3.3 COMMUNICATION AND COMMUNITY MEDIA TO IMPROVE RURAL SERVICES

As the RadCon example showed, family farmers and their organizations can maximize the use of ICTs in innovative ways to achieve sustainable people-led development goals for their communities.

Stories from the field include:

- In Peru, a water irrigation board in Huaral Valley established a wireless network and a series of village telecenters to help its 6 000 family farmers better manage their water

[150] For an extensive collection of achievements in the field of e-agriculture, see FAO (2014). e-Agriculture Review Report. e-Agriculture's vision for WSIS beyond 2015 is presented on pages 43-44 of "WSIS+10 Vision for WSIS Beyond 2015."

[151] Van de Fliert, E., *et al.*, (2014).
Kassem, M. H. (2006). Experiences in Communication for the Development: Rural and Agricultural Development Communication Network (RADCON).

resources.[152] The project partners with government agriculture and health ministries, while private sector actors, when approached, were not interested in joining the project. Family farmers can access for free a variety of agricultural and health information, either at the telecenters, on their mobile phones, or via community radio, which is offered both as a broadcast and online service. The project extended ICT services into 10 previously "unwired" communities through the introduction of wireless "hot spots," 62 computers, and associated skills training. This improved the governance and management of the irrigation commission and its 17 affiliates, encouraged the growth of micro-businesses around the telecenters, and empowered farmers to create their own information. One significant hurdle was to convince government officials to allow the telecenters to offer voice-over-internet services (VOIP) to the general public. Such services are controversial as they impact on revenues earned by powerful incumbent telephone service providers. More than one-third of the family farmers who visited the telecenters established by the irrigation board did so to use VOIP services.

- In rural southeast Poland, decades of experience gained from managing successful farmers' organizations helped people in 28 villages in the Strug Valley organize a community-owned rural telecommunication collective that offers telephone, broadband internet, cable television and similar services at better quality and lower rates than commercial service providers.[153] Working together, the villagers strung their own telephone lines, wired households, erected telephone poles, and built an office for the collective. The collective enabled the villagers to rapidly stimulate and diversify their local economy and improve social services by offering telephone and internet connectivity to government offices, police stations, schools, churches, a hospital, and about 450 small businesses. Local officials use the existence of these high-quality, low-cost communication services to attract new investors. These included a 500-employee water-bottling plant, an airport, an agricultural financial services cooperative, and an agricultural innovation, production and distribution center designed to grow an organic-produce sector. The private sector growth and investment stimulated by the introduction of reliable and affordable ICT services have helped to boost land values nearly 500 percent, enhancing the value of the farmers' existing assets.

3.4 ADDRESSING ACCESS BARRIERS

This section explores some of the challenges family farmers face in "appropriating" or adopting ICTs in two areas: usage cost structures and regulatory barriers. It also discusses the need to reconceptualize Universal Access Funds (UAFs), which until now have focused largely on funding technical infrastructure solutions, not ComDev initiatives.

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[152] Bossio, J. F. (2010). The Huaral Valley Agrarian Information System, Peru. *Pro-poor ICT access toolkit* Retrieved 31 Dec., 2013, from http://www.apc.org/en/system/files/APCProPoorKit_CommunityModule_CaseStudy_HuaralValley_EN.pdf

[153] Rok, B., & Kuraszko, I. (2008). *District Telephone Cooperative (DTC) Tyczyn: Partnership for Local Economic Development*. New York: United Nations Development Programme.

3.4.1 Mobile phone cost barriers

The use of ICTs, such as mobile telephones, presents a two-edged sword as they can both increase and decrease the economic vulnerability of family farmers. Family farmers no longer view mobile telephones as a luxury, but as a necessity. However, some countries impose import duties and other taxes that boost the price of a low-end mobile telephone by as much as 30 percent. Due to the high cost of handsets and access charges to mobile networks, the cost of searching for information can amount to 11 percent of a farmer's total production costs.[154] The poorest farmers tend to use pre-paid access options, which charge premium rates for airtime compared to subscription-based services.

Studies have found that family farmers are willing to pay, sometimes dearly, to use mobile telephones. In Brazil and Peru, mobile phone users pay as much as 30-45 percent of their monthly wage for a low-use "basket" of airtime minutes and text messages.[155] In South Asia and the Philippines, family farmers spend more than 25 percent of their monthly household incomes on mobile telephony usage, while African family farmers spend between 11 and 27 percent.[156] All of these rates far exceed the International Telecommunication Union's widely accepted accessibility-cost benchmark of five percent of monthly income. These studies indicate that family farmers are diverting their limited household incomes away from basic needs, such as food and school expenses for their children. This is clearly an area for regulatory reform. For example, if minor changes are made to how pre-paid mobile phone services are established, such as charging by the second (instead of the minute or half-minute) for outgoing calls or allowing for prepaid top-up amounts of less than US$1, family farmers can save significant amounts. In Colombia, family farmers were able to lower their mobile costs by 24 percent with such minor service adjustments.[157] For a family farmer who earns less than US$3 a day, the ability to top-up mobile phone credit in increments of less than US$1 can be the deciding factor on whether the phone is used at all.

The high costs of accessing the internet, either with a stand-alone computer or a high-end mobile phone, have discouraged many micro- and small rural businesses from using them even though they acknowledge that ICTs could help them improve their productivity, sales and profits.[158] A survey in Honduras noted that 75 percent of rural small and medium-sized businesses had not incorporated ICTs into their operations due to high costs and the lack of computer skills.[159]

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154 Diga, K. (2013b). Local Economic Opportunities and ICTs: How ICTs Affect Livelihoods (Part II). In L. Elder, H. Emdon, R. Fuchs & B. Petrazzini (Eds.), *Connecting ICTs to Development: The IDRC Experience* (pp. 137-160). Ottawa, ON, Canada: International Development Research Centre.

155 Ibid.

156 Diga, K. (2013a).

157 Ibid.

158 Diga, K. (2013b).

159 Ibid.

Mobile phones also consume energy. Recharging the batteries in villages without reliable electricity sources can be a challenge. In one Nigerian case study, the cost of a phone recharge was found to be equivalent to a kilogram of plantain.[160] The cost of recharging mobile telephones is listed in numerous farmer surveys as the second most common reason they do not use mobiles to receive agricultural information; the first reason is the cost of the phone service itself. Adjustments to national telecommunication regulatory policy around "interconnection" rates (or rates charged by mobile network operators to connect calls between various networks) can help family farmers overcome financial access barriers.

3.4.2 Broadcasting regulations

In many countries, rural community radio struggles even for the right to exist. About 40 percent of all countries still fail to recognize community media as a distinct media sub-sector different in form and function from commercial and government-affiliated broadcasters. This means community broadcasters are often grouped with commercial radio stations and suffer unaffordable licensing and spectrum fees. For example, Nigeria recognized community radio in 2003 but it proposed fees ranging from US$85 000-US$171 000 for a five-year license, clearly out of the reach of rural radio stations that typically operate on shoestring budgets.[161] Not surprisingly, Nigeria has yet to issue a community-radio license. In some countries, such as Vietnam, community radio is still illegal or suppressed. Two countries that had previously banned community radio, Laos and Malaysia, approved their first community broadcasters in 2007 and 2011, respectively. By comparison, Latin America's first community radio stations appeared in the late-1940s, although many years would pass before the sector achieved formal recognition.

Recent advances in digitization and compression technologies are blurring the distinction between the telecommunication and broadcasting sectors by allowing for the "convergence" or melding of various media formats into one common platform. One international trend has been to subsume broadcasting regulations within digital telecommunication regulations but this creates an environment that favors profitable mobile telephony and internet-based communication at the expense of "old-fashioned" radio broadcasting.

Around the world, community broadcasters lack legal frameworks that would allow them to emerge and financially survive. Even when they are given mention in regulations, community broadcasters often carry discriminatory conditions, such as limitations in transmission power, barriers to receiving revenue from advertising, stiff tariffs on imported broadcasting equipment, and punitively high broadcast license fees. In Chile, community broadcasters are restricted to one-watt transmission, which barely reaches beyond the broadcaster's facility and obviously

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[160] Barrett, M., & Slavova, M. (2011).

[161] Akingbulu, A. (2010). Advocacy Strategies and Approaches for Community Radio Development in Nigeria. *Pro-poor ICT Access Toolkit* Retrieved 31 Dec., 2013, from http://www.apc.org/en/system/files /APCProPoorKit_Advocacy_CaseStudy_CommunityRadioDevelopmentNigeria_EN.pdf

has little community penetration.[162] In some countries, such as Brazil, broadcasting licenses are auctioned to the highest bidder, meaning commercial broadcasters can buy up the radio-frequency spectrum, lock it away in licenses that can last as long 20 years, and crowd out community broadcasters.[163] Only a handful of developing countries, such as South Africa, Jordan and Uruguay, offer zero or reduced fees for licensing and/or spectrum allocation for community radio.[164] It is also worth noting that the cost of establishing a community radio station is less than that of building one tower in a mobile-telephony network, thus there is money for value in privileging community radio although all media have their rightful places and roles to play.[165]

Exemplary models of broadcasting regulations do exist, especially in Latin America where community radio has its longest history. Argentina and Uruguay reserve one-third of their broadcast spectrum for community broadcasters. Thoughtful broadcasting regulations can impose "must carry" obligations on commercial broadcasters to ensure they create and deliver public-service programming to meet the needs of family farmers. In Burkina Faso, the national agricultural research institute broadcasts livestock and commodity prices daily on national television.[166] While television remains out of the reach of most family farmers, this high-profile show focuses the public's attention on agriculture and ensures accurate information is widely disseminated to be picked up and further spread through word-of-mouth networks.

3.4.3 Telecommunications regulations

Telecommunication policies and regulatory frameworks are the key to encouraging the private sector, international donors and NGOs to work with family farmers and rural communities to create pro-poor ICT-based services that address the needs of the community. A pro-poor ICT strategy assumes that: 1) ICT tools and services are affordable and available to family farmers at reasonable prices; 2) that ICTs will be used to meaningfully address development challenges and secure broader development goals, and; 3) that relevant content exists that addresses the needs of family farmers.[167] Policies and regulations help determine the telecommunication market and its pricing conditions, which in turn influence the extent to which family farmers and vulnerable populations can access ICTs, such as mobile phones.[168] The common goals of regulatory policy are to reduce inequalities around affordable access to ICTs for rural populations while invigorating market competition.[169]

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[162] Hintz, A. (2011). From Media Niche to Policy Spotlight: Mapping Community-Media Policy Change in Latin America. Canadian Journal of Com*munication, 36*, 147-159.

[163] IICD (2006).

[164] AMARC (2012). Spectrum, Licence and Other Fees for Community Radios across the Globe Retrieved 3 March, 2014, from http://www.amarc.org/documents/AsiaPacific/spectrumandlicencefees_version4.pdf

[165] Ó Siochrú, S. (2010). Policy and Regulatory Issues Module: Overview Paper. *Pro-poor ICT Access Toolkit* Retrieved 31 Dec., 2013, from http://www.apc.org/en/node/10224

[166] Ibid.

[167] Association for Progressive Communications (2010). Connecting the bottom billion: Introduction to the toolkit on strategies and policies to promote and implement community access. *Pro-poor ICT Access Toolkit* Retrieved 31 Dec., 2013, from http://www.apc.org/en/node/10180

[168] Valk, J.-H., & Fourati, K. (2013)..

[169] Barrett, M., & Slavova, M. (2011).

Creating affordable access to ICTs in rural areas is challenging. Many countries are geographically large with dispersed populations of low-income earners. Often "backbone" infrastructure, such as fiber optic or copper cable networks and reliable electricity, are scarce and expensive to provide. Throughout Africa, the installation of backbone cable infrastructure and network towers into rural areas can be as much as 40 percent higher than similar urban activities.[170] In Nigeria, fuel to run generators due to the lack of an electricity network amounts to 60-90 percent of operator costs.[171] Overall, the limited revenue that could be reasonably recouped from the low-income people served by such facilities tends to discourage private operators from investing in rural projects. Such conditions create an "access gap" where family farmers cannot afford the ICT services at the prices they are being offered. Realizing direct economic benefit from new ICTs also takes time; on average, two or more years can pass before family farmers see increased farm incomes in the range of 20-30 percent.[172]

Many countries have policies and regulations that negatively impact on the ability of family farmers to access and use ICTs. A 2007 study of 33 African countries found that some countries imposed various value-added, customs and service taxes onto mobile phones and services that increased their cost between 60 to 70 percent.[173] Such taxes punish family farmers who view mobile phones not as luxuries, but as basic necessities.[174] Taxes and fees levied onto telecommunication service providers also drive up the end-costs to family farmers. For example, in India, telecommunication service providers pay, on average, 27 percent of their revenues into taxes and fees.

In the 1990s and 2000s, significant international focus was placed on establishing internet-enabled telecenters in rural areas throughout the developing world, but seldom were family farmers asked how, or even if, they would or could use these services. Many of these projects failed. Projects that promote the use of ICTs are seldom successful when dropped into unprepared rural communities that are characterized by low levels of literacy and income and deficiencies in electricity, roads and other basic infrastructure. Successes are possible but only if internet-based projects are thoughtfully designed and implemented in equal and respectful partnership with family farmers and their organizations. Pro-poor policies and regulatory environments can drive such engagements.

3.4.4 Moving from Universal "Access" to Universal "Communication"

When countries began to liberalize their telecommunication sectors in the 1990s, many included "universal access" provisions in their new regulations to mandate that telecommunication service

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170 Calandro, E., & Moyo, M. (2010). Is the Universal Access Fund in Africa Creating an Enabling Environment for ICT Infrastructure Investment in Rural and Perceived Uneconomic Areas? Paper presented at the 5th Communication Policy Research Conference (CPRsouth5). from http://dx.doi.org/10.2139/ssrn.1724465

171 Barrett, M., & Slavova, M. (2011).

172 IICD (2006).

173 Muente-Kunigami, A., & Navas-Sabater, J. (2010). Options to Increase Access to Telecommunications Services in Rural and Low-Income Areas. Washington DC

174 Stern, P. A., & Townsend, D. (2006). *New Models for Universal Access in Latin America (Summary of Main Report)*. Bogotá, Colombia: Forum of Latin American Telecommunications Regulators.

providers serve poorer rural communities, not just profitable urban areas. Universal Access provisions generally stipulate that every community should have affordable access to ICTs, which in many countries now includes internet access in addition to fixed-line telephony, such as public pay phones. In this way, Universal Access is a process of eliminating barriers so that all people have equal opportunity to use ICTs to meaningfully and effectively participate in all aspects of society.[175]

Many developing countries have established Universal Access Funds (UAFs) to provide total or partial funding, or subsidies, to the private sector to encourage the "rollout" of ICT services to rural communities. Most UAFs are funded by levies on the gross revenues of telecommunication service providers (usually 1-5 percent), although revenue derived from fees, such as radio spectrum fees and operator licenses, are sometimes included. About 62 percent of all developing countries have some form of UAF although they vary widely in form and function. Globally, the UAFs have been used primarily to support the roll-out of physical infrastructure, such as fixed-line public payphones and community internet-access points, in rural areas. El Salvador is noteworthy in that its UAF has to date only funded electrification projects. One common feature of UAF dispersal schemes is a "reversed subsidy" allocation: telecommunication service providers compete through public tenders for project funding and the bid requesting the lowest subsidy is awarded the contract. For example, Chile used about US$2 million in reverse UAF subsidies to leverage US$40 million in private sector investment into rural telephony projects that now reach about one-third of the population.[176] Brazil has achieved mobile telephony coverage for 99 percent of its population without the use of any public subsidy, however it also has among the highest tariff rates in the world, which discourage mobile phone usage.[177]

This is the major criticism of UAFs: if the regulatory framework is set appropriately to eliminate political interference and to foster maximum competition within the telecommunication sector, private companies will aggressively compete to reach the farthest communities. Countries that have fully liberalized their telecommunication sectors have internet and mobile telephone access rates nearly eight times lower that countries that have only partially liberalized markets.[178]

Around the world, UAFs have grown to enormous size, much of which has not been dispersed. In fiscal year 2010-2011, unallocated UAF monies globally were estimated at US$11 billion.[179] Peru's UAF grows by an estimated US$450 000 a month. India's UAF is just under US$4 billion. Globally, about a quarter of all UAFs are inactive; another 19 percent disperse funds to fewer than five projects annually.

Given the size of UAFs internationally and their general inertia, many people are calling for a radical rethinking around the whole concept of universal "access." What is needed, they argue,

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175 Tibben, W. J. (2007).

176 Caspary, G., & O'Connor, D. (2003). *Providing Low-cost Information Technology Access to Rural Communities in Developing Countries: What Works? What Pays?* Paris: OECD Development Centre.

177 LADCOMM Corporation (2013). *Survey of Universal Service Funds: Key Findings.* London: GSMA.

178 Caspary, G., & O'Connor, D. (2003).

179 LADCOMM Corporation (2013).

are universal "communication" funds.[180] Traditionally, universal access policies and funds have been technology-centered, for example, the creation of a rural internet-access center. How people used the technology and for what purposes was often an after-thought. Projects were largely defined by governments or the telecommunication sector and imposed top-down onto unprepared rural communities. Only a few countries, such as Chile, allow community-initiated projects to be eligible for UAF funding. Tanzania and Mali allow UAFs to be used to support broadcasting services.[181]

Instead of only focusing on the technical "push" or supply side of the rural-ICT equation, opportunities now arise to address the "pull" or demand side; in other words, to empower family farmers and rural communities to create and disseminate relevant localized content, thus stimulating demand for telecommunication services. Developing local content is a "paramount prerequisite" if rural communities are to maximize the development potential of ICTs.[182] People will pay for services and information that they think adds value to their lives and livelihoods. But for that to happen, family farmers and their organizations must first be empowered and organized to create and disseminate their own content.

Global studies indicate a strong correlation between the use of ICTs and empowerment.[183] When family farmers thrill to hear their voices and those of their neighbors broadcast on community radio or when they enjoy the quiet satisfaction of finding information on the internet, their sense of self-worth and confidence is enhanced. As mentioned in the story of the young Kenyan farmers in Section 3.2, family farmers who gain ICT skills and increase their knowledge around agricultural- and business-related issues often enjoy heighten social status. Thus, training for family farmers in ICT skills to create, not only to access, information is of great importance. For family farmers, such training opportunities are often the most valued aspect of ICT initiatives.[184] Even low-end mobile telephones can be effective media-authoring tools. Illiterate farmers quickly master digital photography, video and audio media if training is offered in the local language. For computer-based applications, minimal literacy skills usually suffice, further highlighting the need for adult basic-literacy programs in rural communities.[185]

One important and appropriate area for future investment is in the creation of language "localization" software to allow for the use of indigenous languages, in particular in text-to-speech services that translate web pages into vernacular. One project doing this is the Vinternet (Voice

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[180] Bagiire, V. (2007). Enabling Open Access Through Universal Access. CHAKULA(16), 1-6.
Ó Siochrú, S. (2010).
Stern, P. A., & Townsend, D. (2006).

[181] Mentz, L., & Msimang, M. (2011). *SADC Toolkit on Universal Access Funding and Universal Service Fund Implementation*. Geneva, Switzerland: International Telecommunication Union.

[182] Bagiire, V. (2007).

[183] Melhem, S., & Tandon, N. (2009).
Tibben, W. J. (2007).
Dimitra Project (2011).

[184] IICD (2006).

[185] IICD (2013).

Internet) project in Indonesia.[186] In Tamil Naidu, India, the government worked with private sector to design a computer keyboard and create language-conversion software specific to the Tamil language. The use of Tamil on the internet is said to be far greater than the use of other Indian languages.[187] Similar software applications have been trialed in Cambodia.[188] Another growth area is the creation of local-language mobile telephone applications custom-designed to suit the needs of family farmers and created by rural small business. The determining factor, however, in whether family farmers adopt such technologies is a belief that their voices actually matter and that they have the power to affect positive change in their communities by using them.[189]

Community radio is a proven pathway to empowerment. When family farmers engage in debate and dialogue, either through listener groups, the creation of radio shows, or talk-back radio shows, they become more confident and self-reliant in seeking solutions to the problems they face in their communities, which in turn helps them develop critical thinking and leadership skills.[190] In this way, UAFs could be be appropriately used to seed or sustaining community radio stations.[191]

Additionally, UAFs can adopt a more entrepreneurial or venture-investment orientation by providing micro-financing to encourage the growth of small ICT-related businesses in rural communities, such as software creation (mobile phone apps) or mobile phone repair.[192] In India's Kerala State, the government subsidizes internet connections to small businesses to enable them to establish community kiosks.[193] Kenya, Nigeria and Uganda have used their UAFs as to provide small amounts of capital to rural-based social entrepreneurs and cooperatives.[194] Certain applications of ICTs, such as telecenters, will not work without first "getting the basic right" around provision of rural electrification, transportation infrastructure, and access to education. These are necessary precursors. In essence, governments are being called upon to provide the basics to rural farming communities and then use UAFs to kick-start local telecommunication and media services for and by rural communities.[195] One promising way to do this is through national information and communication policies.

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186 Basuki, S. A., & Handoyo, G. C. (2004). *Vinternet (Voice Internet): Access Internet and Email without Personal Computer as Alternative Solution for Rural Telecommunication in Indonesia*. Geneva, Switzerland: International Telecommunication Union.

187 McKenzie, D. J. (2007). *Youth, ICTs and Development*. Washington DC: The World Bank.

188 Eberspächer, J., *et al.,* (2010).

189 IICD (2013).

190 Sibanda, J. (2002). Development through Radio. Retrieved 30 Nov., 2013, from http://ictupdate.cta.int/en/Feature-Articles/Development-through-Radio/%2874%29/1035145852

191 Stern, P. A., & Townsend, D. (2006).

192 Ibid.

193 Ó Siochrú, S. (2010).

194 Ibid.

195 Thapa, G. (2009). *Smallholder Farming in Transforming Economies of Asia and the Pacific: Challenges and Opportunities*. Rome: International Fund for Agricultural Development.

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Chapter 4

TOWARD INCLUSIVE RURAL COMMUNICATION SERVICES

According to the UN Declaration on the Right to Development, national governments have the primary responsibility for the creation of conditions favorable to the realization of the right to development. This is largely accomplished through the creation of policies, which broadly define development goals and objectives, and regulations, which are the mechanism applied to achieve the goals. Ideally, policy development is a dialogic process involving all sectors of society, including the private sector, civil society, and rural and other marginalized communities. In reality, family farmers and their organizations are rarely active participants in policy formation. Because they are not meaningfully involved, there is no guarantee these national policies and regulations will be effective in attaining their development objectives.[196] This is especially true in the agricultural and rural development sector, which seldom has communication and information policies of its own, and in telecommunication and media sectors, where policies can favor the commercial interests of telecommunication service providers and fail to even consider the specific communication and information needs of family farmers and rural communities.

4.1 MAINSTREAMING COMDEV IN AGRICULTURE

Many believe that the development challenges of the 21st Century are beyond the scope of any one sector of society to adequately address, therefore learning to work together in effective and equitable "multi-actor" partnerships is essential. Partnerships can be seen as proactive initiatives to organize different stakeholders in collaborative efforts to better catalyze development outcomes.[197] Partnerships allow each group or member to bring their own competencies, experiences and self-interests into the common team, while any weakness they may have will be mollified by the other partners. In many ways, effective partnerships operate like value chains where different stakeholders contribute different strengths and perspectives toward the achievement a common goal, in this instance, more sustainable development outcomes that meet the needs of family farmers and rural communities as they themselves define them.

To be effective, ComDev must be systematically planned, implemented and coordinated. But creating synergies around ComDev within multi-actors partnerships can be challenging, often due to organizational cultures, structures and procedures inherent to each partner

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[196] Pautrizel, L., *et al.,* (2011).

[197] Ang, A. (2012). *Value Chain Financing for Agriculture and Rural Microenterprises*. Pasig City, the Philippines: The Microfinance Council of the Philippines and PinoyME Foundation.
Eberspächer, J., *et al.,* (2010).

organization that resist change. Each partner organization needs clear strategies to use information and communication in support of development initiatives. These should be cross-sectoral and multidimensional to take into account the multiple-faced challenges of agricultural development.

National ComDev policies may provide the necessary institutional framework around which family farmers and their development partners can rally. Such national policies would better coordinate and integrate communication interventions among and across development partners, such as government ministers (in particular, agricultural extension, telecommunication and media), NGOs, private sector interests, donor agencies, and family farmers and their organizations. A communication policy can also be an instrument for supporting the systematic planning, development, funding and use of information and communication systems and for ensuring that they function efficiently in enhancing national development. Other important roles would be the recognition of the different qualified ComDev "operators" (such as people working within community media and farmers' organizations) and the identification of planning procedures and funding mechanisms for the effective delivery of services based upon farmers' needs.

Recommendations from the FAO Expert Consultation on Communication for Development (2011) provide a useful starting point.[198] ComDev should be mainstreamed in national policies acknowledging that it is essential to sustainable development and social change in all aspects of development. National ComDev policies ideally relate to public access, inclusive participation, transparent and accountable governance, and independent media with social responsibility. A national policy has to be based in social inclusion, the recognition of identities and differences, and re-valuing of participation.

A national policy on communication for sustainable development may have the following objectives:[199]

- Supporting national development initiatives and programs to improve the quality of life of the people, by facilitating systematic and effective use and coordination of communication and information strategies and activities.
- Enhancing access to information and communication infrastructures and new technologies, especially in rural communities.
- Rationalizing multi-sectoral investments in information and communication hardware and software trough their consolidation and appropriate integration in national development plans and planning structures.
- Promoting national dialogue on development issues by all citizens.

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[198] FAO (2012).
Dagron, A. G. (2011). Communication for Development: Meeting today's agriculture and rural development challenges. FAO.

[199] Ibid.

4.2 RURAL COMMUNICATION SERVICES

In recent years, it has become apparent that a need exists for policy frameworks in the rural sector favorable to ComDev. To this end, Rural Communication Services (RCS) has been proposed by the FAO as an operational definition under which to cluster different types of ComDev processes and activities that address the needs of the family farmers and rural population, regardless of the media they use (from ICTs to traditional media). Rural communication services are defined as sustained, two-way communication processes delivered regularly to the rural population.[200] They are intended to enhance rural livelihoods by facilitating equitable access to knowledge and information, social inclusion in decision-making, and stronger links between rural institutions and local communities.

As mentioned earlier, rural communication services is an evolving concept that seeks, in part, to "institutionalize" ComDev policies with the aim of creating demand-driven communication services that satisfy knowledge and information needs of the rural population while ensuring the active participation of all stakeholders.[201] This implies mainstreaming ComDev strategies in the context of agricultural planning at the national and local levels; the use of participatory communication methods in project planning, implementation, monitoring and evaluation; the implementation of different communication systems and the integration of several media ranging from local/traditional media to ICTs; a series of institutional and technical measures to upgrade information and communication capacities at the national and the community level; and participatory project coordination and monitoring-and-evaluation mechanisms.[202]

Institutionalizing ComDev as a core service also means that the process becomes ingrained in the partner organizations and there is a commitment to performing that function regularly and according to farmers' needs. This may require a change at the policy level, a sustained commitment to funding and staff training, attention given to the overall sustainability of the project, and the promotion of ComDev as a *modus operandi* for community organizations and institutions working in the field.[203] Institutionalizing participatory and people-centered approaches like ComDev usually requires long-term changes, recognizing the dynamics between different sets of interests, values, agendas and coalitions of power within development partnership.[204] The aim is for rural communication services to become an organic part of the work of the organizations and institutions dealing with agriculture and rural development.

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200 Ibid.

201 Ibid.

202 Ibid.

203 Sustainability is comprised of various elements, including technical, institutional or organizational, political, financial, and social, the latter of which refers to the "appropriation" or ownership of the project by local residents to that it continues beyond the formal project timeline and funding. FAO (2012).

204 Pafumi, M. (2009).

One story from the field is Krishi Radio in Bangladesh.[205] Bangladesh's New Agricultural Extension Policy (1996) stipulated that effective coordination should be established among government and non-government agencies and the private sector to increase the efficiency of agricultural extension.[206] This means that all extension activities and research priorities are to be based on the problems, needs, and potentials as identified by family farmers so that solutions fit local circumstances and households, thus enabling farmers to identify and analyze production problems. The Government of Bangladesh also recognizes the key role of community media in facilitating development. In 2008 it approved the Bangladesh Community Radio Installation, Broadcast and Operation Policy. So far, about 116 organizations have applied for permits from the government to set up community radio stations in the country.

Krishi Radio is an agriculture-only community radio station established in 2011 as a joint project between the government agricultural extension service and the FAO. About 40 000 listeners tune in daily to listening to its programming pertaining to agriculture, fisheries, food security, climate change, health, youth and women's issues.[207] The station is fully managed and supported by the local farming community, which includes local CSOs, cultural groups, local businesses, and the local government council. About 10 public agricultural extension agents work full-time at the radio station along with 60 community volunteers. The community's deep sense of pride in and ownership of Krishi Radio was demonstrated when Cyclone Mahasen struck Bangladesh in May 2013. Radio Krishi played a central role in spreading information about cyclone shelters, crop harvesting, and other disaster-preparedness measures. The local government council donated fuel for the station's generators to enable the station to broadcast continuously for 92 hours at the height of the emergency. Technical staff from local departments of agriculture, health, fishery and livestock immediately produced radio shows to help stricken farm families recover more quickly. Krishi Radio's ultimate goals are two-fold: to strengthen the institutional capacity of Department of Agricultural Extension and Agriculture Information System to plan and implement ComDev strategies and plans; and to institutionalize effective rural communication services to address knowledge and information needs of rural population on priority issues, such as food security and climate change adaptation. The use of community radio and other appropriate media and processes is integrated in the work of relevant agricultural development programs and is supported by other research and extension services, local institutions, NGOs, and the farmers, all within a farmer-driven approach.

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[205] van de Fliert, *et al.*, (2014).
Tirol, M. S. C. (2014). *Communication Factors Influencing the Institutionalization of Rural Communication Services for Agricultural Development: The case of Bangladesh*. University of the Philippines Los Baños, Los Baños.
Dagron, A. G. (2011).

[206] van de Fliert, *et al.*, (2014).

[207] ComDev Asia (2012). Community Radio and Rural Communication Services in Bangladesh. Retrieved 30 Dec., 2013, from https://www.cccomdev.org/index.php?option=com_content&view=article&id=27:rural-communication-services-and-community-rural-radio-bangladesh&catid=26:agriculture&Itemid=49

4.3 CONCLUSIONS

The *Forum on Communication for Development and Community Media for Family Farming* represented an excellent opportunity to start a consultation around mainstreaming ComDev principles, methods and approaches within agricultural policies to advance family farming and rural livelihoods.

A good starting point has been building upon previous consultations, such as the World Congress on Communication for Development (2006) and the FAO Expert Consultation on Communication for Development (2011). The former makes explicit that ComDev is a rights-based approach and that this should be the foundation for emerging policy frameworks. The latter makes a compelling argument to institutionalize and mainstream ComDev across the whole of a multi-sectoral and multi-partner development sector through national communication and information policies and the positioning of rural communication services (RCS) as a public good. The global dialogue around the post-2015 development agenda makes this work particularly timely.

In this view, key recommendations emerged from the above mentioned international debate to be considered are:

- Make ComDev relevant and compelling to key audiences, such as civil society, private sector, academe and agricultural research institutions, CSOs and NGOs at all levels, regional and international development partners including UN agencies, and importantly to institutions representing family farmers and rural communities.
- Establish multi-institutional alliances to promote ComDev principles and practices within agricultural innovation systems and translate these into actions at the country level.
- International rural development organizations and national partner institutions should develop their own vision, policy, and strategic framework in collaboration with family farmers and their organizations. These should include ComDev values, approaches, and methods across technical sectors at all levels.
- Facilitate national ComDev networks that involve practitioners, academicians and stakeholders, thus connecting theory, research and practice, and systematically improve standards of programming, ensuring they meet the information and communication needs of family farmers as defined by them.

Approaches that are vital for framing this work include:

- Promoting deeply inclusive policy dialogues among different stakeholders, including family farmers and their organizations and within gender perspectives.
- Multi-sectoral coordination, especially among telecommunication, media and agricultural ministries, so that common understandings around ComDev values, approaches and methods are embedded into relevant programs and projects.
- Taking advantage of emerging funding opportunities, such as Universal Access Funds, to not only address infrastructure challenges in rural areas, but also to strongly facilitate the "demand" side of ICT usage by providing funding streams to promote access to information

and the co-creation of knowledge by and for family farmers and rural communities. This also includes attention to capacity building issues, such as communication and ICT skills, helping farmers' organizations improve their internal operations, and the creation of funding pools for community media and inclusive rural communication services.

- Taking advantage of changing policy environments in telecommunication, media and agricultural sectors as points of entry to introduce and embed ComDev principles at different levels, such as: reforming agricultural extension services; reserving broadcast frequencies for community media; promoting public-service requirements onto commercial broadcasters, telecommunication service providers and private agro-information providers; creating incentives for private sector to create farmer-friendly and pro-poor ICT devices and services; and fostering greater collaboration between family farmers and agricultural extension services and researchers.
- A heighten attention toward more effective and participatory monitoring and evaluation of ComDev projects. Better monitoring and evaluation offers insights into the dynamics of project sustainability (which is also attractive to donor agencies) and provides evidence-based rationales for applying ComDev approaches, which often move invisibly through successful development projects.

Finally, the *Forum on Communication for Development and Community Media for Family Farming* offered valuable opportunities to establish a multi-stakeholder dialogue on ComDev policies and initiatives and to foster partnerships among community media, ComDev practitioners and academicians, specialized agricultural institutions, government representatives and farmer organizations. Discussions about the need for enabling communication policies and how to operationalize the RCS framework seem to be the challenges ahead for the next years.

BIBLIOGRAPHY

ACDI/VOCA. n.d. *ICT Helps Woman Farmer Quintuple Income in Malawi* (also available at http://www.acdivoca.org/site/ID/ICT-Helps-Woman-Farmer-Quintuple-Income-in-Malawi).

Adeyanju, S. 2010. *ARDA Baseline Research Report for "Majalisar Mata Manoma!": A meeting place for Gwagwada Women Farmers on FM Radio*. African Radio Drama Association (ARDA) and Gender and Agriculture in the Information Society (GenARDIS).

Agouna, G. 2004. *Chad: Community radio for rural women* (available at http://ictupdate.cta.int/en/layout/set/print/Feature-Articles/Chad-Community-radio-for-rural-women)

Akingbulu, A. 2010. Advocacy Strategies and Approaches for Community Radio Development in Nigeria. In: Association of Progressive Communications (APC) *Pro-poor ICT Access Toolkit*. (also available at http://www.apc.org/en/system/files/APCProPoorKit_Advocacy_CaseStudy_CommunityRadioDevelopment Nigeria_EN.pdf).

AMARC. 2012. *Spectrum, License and Other Fees for Community Radios across the Globe*. (also available at http://www.amarc.org/documents/AsiaPacific/spectrumandlicencefees_version4.pdf).

AMARC. 2013. *Closer ties between the South Asian Community Radio sector and SAARC to enhance the role of citizen's rights and community development* (also available at http://www2.amarc.org/?q=node/1450).

AMARC. 2013. *Declaration of the Second Caribbean Conference of AMARC*. (also available at http://www2.amarc.org/?q=node/1338).

AMARC. 2013. *Synthesis: AMARC electronic forum discussion on family farming in Africa*. Montreal, Canada: World Association of Community Radio Broadcasters.

Ang, A. 2012. *Value Chain Financing for Agriculture and Rural Microenterprises*. Pasig City, the Philippines: The Microfinance Council of the Philippines and PinoyME Foundation.

Appleton, A., F. Leone, K. Offerdahl, N. Risse & A. Sharma, 2013. *Summary of the Second Session of the UN General Assembly Open Working Group on Sustainable Development Goals: 17-19 April 2013*. Earth Negotiations Bulletin, 32(2), 1-12.

Association for Progressive Communications. 2010. *Connecting the bottom billion: Introduction to the toolkit on strategies and policies to promote and implement community access. Pro-poor ICT Access Toolkit* (available at http://www.apc.org/en/node/10180).

Aveggio, M. T. 2012. *Communication rights for Indigenous people are here to stay* (also available at http://www.pcusa.org/news/2012/12/26/communication-rights-indigenous-people-are-here-st/).

Bagiire, V. 2007. *Enabling Open Access Through Universal Access*. CHAKULA(16), 1-6.

Barrett, M., & Slavova, M. 2011. Making ICT Infrastructure, Appliances, and Services More Accessible and Affordable in Rural Areas. In: *ICT in Agriculture Sourcebook: Connecting Smallholders to Knowledge, Networks, and Institutions* (pp. 15-48). Washington DC: The World Bank (also available at http://www.ictinagriculture.org/content/ict-agriculture-sourcebook).

Basuki, S. A., & Handoyo, G. C. 2004. *Vinternet (Voice Internet): Access Internet and Email without Personal Computer as Alternative Solution for Rural Telecommunication in Indonesia*. Geneva, Switzerland: International Telecommunication Union.

Bossio, J. F. 2010. *The Huaral Valley Agrarian Information System, Peru. Pro-poor ICT Access Toolkit* (also available at http://www.apc.org/en/system/files/APCProPoorKit_CommunityModule_CaseStudy_HuaralValley_EN.pdf).

Bruinsma, W. 2012. *Farmers in Bolivia Use Internet, Radio and Mobile Phone to Sell their Produce for a Better Price* (available at http://www.iicd.org/articles/farmers-in-bolivia-use-internet-and-radio-to-sell-their-produce-for-a-better-price).

Buckley, S., K. Duer, T. Mendel, S. O'Siochru, M. E. Price & M. Raboy. 2008. *Broadcasting, Voice and Accountability: A public interest approach to policy, law and regulation*. Washington DC: The World Bank.

Calandro, E. & M. Moyo. 2010. *Is the Universal Access Fund in Africa Creating an Enabling Environment for ICT Infrastructure Investment in Rural and Perceived Uneconomic Areas?*. Paper presented at the 5th Communication Policy Research Conference (CPRsouth5) (also available at http://dx.doi.org/10.2139/ssrn.1724465).

Caspary, G. & D. O'Connor. 2003. *Providing Low-cost Information Technology Access to Rural Communities in Developing Countries: What Works? What Pays?* Paris: OECD Development Centre.

Chapman, R., T. Slaymaker & J. Young. 2003. *Livelihoods Approaches to Information and Communication in Support of Rural Poverty Elimination and Food Security*. London and Rome: Overseas Development Institute, FAO, and the UK Department of International Development.

Chimhowu, A. 2013. *Aid for agriculture and rural development in the global south: A changing landscape with new players and challenges*. Helsinki, Finland: The United Nations University World Institute for Development Economics Research.

Climate Airwaves. 2011. *Community Radio, climate change and development in Ghana*. Accra, Ghana: Climate Airwaves.

ComDev Asia. 2012. *Community Radio and Rural Communication Services in Bangladesh*. (available at
https://www.cccomdev.org/index.php?option=com_content&view=article&id=27:rural-communication-services-and-community-rural-radio-bangladesh&catid=26:agriculture&Itemid=49)

Comunica Impact 2.0. 2012. *Documenting challenges of the Blanchisseuse fishing industry.* (also available at http://impact2point0.comunica.org/2012/08/documenting-challenges-of-the-blanchisseuse-fishing-industry/)

Connor, E. 2013. *Community Knowledge Worker Program in Uganda*. Paper presented at the Presented at the closing Workshop of the BecA-ILRI-CSIRO-AusAID Project on Understanding ASF Epidemiology as a basis for Control. (also available at http://www.slideshare.net/ILRI/ckw-erinconnor)

Conway, T., C. Moser, A. Norton & J. Farrington. 2002. *Rights and Livelihoods Approaches: Exploring Policy Dimensions*. London: Overseas Development Institute.

Csaki, C. & C. de Haan. 2003. *Reaching the rural poor: a renewed strategy for rural development*. Washington DC: The World Bank.

Dagron, A. G. 2011. C*ommunication for Development: Meeting today's agriculture and rural development challenges*. Rome, Italy: FAO.

Diga, K. 2013a. Access and Usage of ICTs by the Poor (Part I). In: Elder L., H. Emdon, R. Fuchs & B. Petrazzini (Eds.) *Connecting ICTs to Development: The IDRC Experience* (pp. 117-135). Ottawa, Canada: International Development Research Centre.

Diga, K. 2013b. Local Economic Opportunities and ICTs: How ICTs Affect Livelihoods (Part II). In: Elder L., H. Emdon, R. Fuchs & B. Petrazzini (Eds.) *Connecting ICTs to Development: The IDRC Experience* (pp. 137-160). Ottawa, Canada: International Development Research Centre.

Digital Green. 2013. *Digital Green (available at* http://www.digitalgreen.org)

Dobermann, A. & R. Nelson. 2013. *Opportunities and Solutions for Sustainable Food Production*. New York: The High Level Panel on the Post-2015 Development Agenda

Dorelli, J. 2010. *Media of Autonomy: Community Radios of Dakar.* Paper presented at the Encounters: Situating "Relation" in Communication and Culture, Toronto, ON, Canada.

Picot, A. & J. Lorenz (Eds.) 2010. *ICT for the Next Five Billion People: Information and Communication for Sustainable Development. Berlin and Heidelberg, Germany: Springer-Verlag.*

FAO. 2001. *Information and Communication Technologies Servicing Farm Radio: New Contents, New Partnerships. Rome, Italy: FAO.*

FAO. 2012. *FAO Expert Consultation Communication for Development: Meeting Today's Agricultural and Rural Challenges*. Rome, Italy: FAO.

FAO. 2012b. *Medium-Term Strategic Framework for Cooperation in Family Farming in Latin America and the Caribbean 2012-2015*. Rome, Italy: FAO.

FAO. 2013. *2014 IYFF FAO Concept Note*. Rome, Italy: FAO.

FAO-Dimitra Project. 2011. *Communicating Gender for Rural Development*. Brussels, Belgium: FAO-Dimitra Project.

FAO-Dimitra Project. 2011. *Community listeners' Clubs: Stepping stones for action in rural areas*. Brussels, Belgium: FAO-Dimitra Project.

Farm Radio International. 2010. *Radio campaign on disease-resistant cassava variety in Uganda* (also available at http://weekly.farmradio.org/2010/06/14/radio-campaign-on-disease-resistant-cassava-variety-in-uganda/)

Farm Radio International. 2013. *Her Farm Radio Initiative. Africa - Community Radio* (also available at http://www.comminit.com/community-radio-africa/content/her-farm-radio-initiative)

Franzel, S. 2013. *Farmer to farmer extension (FTFE): Lessons from extension providers and farmer trainers*. Paper presented at the CGIAR Research Program on Policies, Institutions and Markets (PIM) Workshop: Research on Agricultural Extension Systems: What Have We Learned, and Where Do We Go From Here (also available at http://www.pim.cgiar.org/files/2013/07/Session-2_Farmer-to-farmer-extension_Steve-Franzel.pdf)

Fraser, C. & S. Restrepo-Estrada. 2002. *Community Radio for Change and Development*. Society for International Development, 45(4), 69–73.

Geoghegan, T. 2013. *Post-2015: framing a new approach to sustainable development*. London: The Independent Research Forum on a Post-2015 Sustainable Development Agenda.

GFRAS. 2012. *Building Knowledge Systems in Agriculture: Five Key Areas for Mobilising the Potential of Extension and Advisory Services*. Lindau, Switzerland: Global Forum for Rural Advisory Services.

Ghimire, P. 2009. *Krishi FM does wonders for Dhading folks*. República (also available at http://archives.myrepublica.com/portal/index.php?action=news_details&news_id=12817)

Girard, B. (Ed.) 2003. *The One to Watch: Radio new ICTs and interactivity.* (also available at http://comunica.org/1-2-watch/)

GSMA. 2006. *Universal Access: How Mobile can Bring Communications to All*. London: Groupe Speciale Mobile Association.

Hanson, C. 2013. *Food Security, Inclusive Growth, Sustainability, and the Post-2015 Development Agenda*. New York: The High Level Panel on the Post-2015 Development Agenda.

Harrod, J. & P. Jamsen. 2011. *Farmer Organizations Work Better with ICT. ICT in Agriculture Sourcebook: Connecting Smallholders to Knowledge, Networks, and Institutions* (pp. 173-202). Washington DC: The World Bank.

Hazell, P., C. Poulton, S. Wiggins & A. Dorward. 2007. *The Future of Small Farms for Poverty Reduction and Growth*. Washington DC: International Food Policy Research Institute.

Hill, T. 2011. *Cultivate new markets*. The Technical Centre for Agricultural and Rural Cooperation ICT Update (59), 10.

Hintz, A. 2011. *From Media Niche to Policy Spotlight: Mapping Community-Media Policy Change in Latin America*. Canadian Journal of Communication, 36, 147-159.

HLPE. 2013. *Investing in smallholder agriculture for food security.* A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security. Rome: Committee on World Food Security.

Horner, L. 2011. *A human rights approach to the mobile internet*. Melville, South Africa Association for Progressive Communications.

IAASTD. 2009. *Agriculture at a Crossroads: Global Report*. Washington DC: International Assessment of Agricultural Knowledge, Science and Technology for Development.

IICD. 2006. *ICTs for agricultural livelihoods: Impact and lessons learned from IICD supported activities*. The Hague, The Netherlands: International Institute for Communication and Development.

IICD. 2008. I*mproving farmer livelihoods by access to information: Supporting the agriculture sector in Bolivia with information and communication technologies*. The Hague, The Netherlands: International Institute for Communication and Development.

IICD. 2012. *How IICD helps entrepreneurs in Africa and Latin America via ICT (also available at* http://www.youtube.com/watch?v=spcigEFAL-I).

IICD. 2013. *Youth, ICTs and Agriculture: Exploring how digital tools and skills influence the motivation of young farmers*. The Hague, The Netherlands: International Institute for Communication and Development.

International Commission for the Study of Communication Problems. 1980. M*any Voices, One World*. Paris: UNESCO.

ITU. 2013. *ICT Facts and Figures*. Geneva, Switzerland: International Telecommunication Union.

Jallov, B. & C. Lwanga-Ntale. 2007. *Impact assessment of East African Community Media Project 2000: 2000-2006 Report from Orkonerei Radio Service (ORS) in Tanzania and selected communities*. Stockholm, Sweden: Swedish International Development Cooperation Agency.

Jayaweera, W. 2001. *Kothmale Community Radio/Internet Project: Expanding the Knowledge Base* (also available at http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/EXTEGOVERNMENT/0,,contentMDK:20486095~menuPK:1767268~pagePK:210058~piPK:210062~theSitePK:702586,00.html).

Johansson, L. 2006. *Camcorders, cassava and crude* (also available at http://ictupdate.cta.int/layout/set/print/Feature-Articles/Camcorders-cassava-and-crude).

Kassem, M. H. 2006. *Experiences in Communication for the Development: Rural and Agricultural Development Communication Network* (RADCON).

Krisher, B. 2004. *Cracking the Digital Divide—How we connected more than 60 remote rural schools in Cambodia to the Internet*. Geneva: International Telecommunication Union.

LADCOMM Corporation (2013). *Survey of Universal Service Funds: Key Findings*. London: GSMA.

Latchem, C., Maru, A., & Alluri, K. 2004. *The L3Farmers Project: Report and Recommendations*. Vancouver, Canada: Commonwealth of Learning.

Laureys, F. 2014. *Cadre Regional de Concertation des Ruraux*. In B. Girard (Ed.) (pp. 1). Personal communication.

Lee, P. 2007. *The No-Nonsense Guide to Communication Rights*. Toronto, Canada: World Association for Christian Communication.

Lee, P. 2010. *The No-Nonsense Guide to Media, the Right to Information and Poverty Reduction*. Toronto, Canada, and London: World Association for Christian Communication.

Lenoir, M. 2012. *ICT for rural economic development: five years of learning. The Hague, The Netherlands: International Institute for Communication and Development.*

Locksley, G. 2009. *The Media and Development: What's the Story?* Washington DC: The World Bank.

Manfre, C. 2011. *Extending the Benefits: Gender Equitable-ICT Enabled Agricultural Development ICT in Agriculture Sourcebook: Connecting Smallholders to Knowledge, Networks, and Institutions* (pp. 71-82). Washington DC: The World Bank.

Manobi Sénégal 2003. *MANOBI's 'Innovative Internet and wireless e-services for the strengthening of Senegalese fisherman artisans' is a new project started in early 2003* (also available at http://www.manobi.sn/sites/za/index.php?M=9&tCle=6&tSM=18).

McKenzie, D. J. 2007. *Youth, ICTs and Development.* Washington DC: The World Bank.

Melhem, S. & N. Tandon. 2009. *Information and Communication Technologies for Women's Socio-economic Empowerment.* Washington DC: The World Bank.

Mentz, L. & M. Msimang. 2011. *SADC Toolkit on Universal Access Funding and Universal Service Fund Implementation.* Geneva, Switzerland: International Telecommunication Union.

Metcalf, L., N. Harford & M. Myers. 2007. T*he Contribution of Radio Broadcasting to the Achievement of the Millennium Development Goals in Southern Madagascar.* London: UK Department for International Development.

Michiels, S. I. & L. V. Crowder. 2001. *Discovering the «Magic Box»: Local appropriation of information and communication technologies (ICTs). Rome, Italy: FAO (also available at* http://www.fao.org/sd/2001/kn0602a_en.htm).

Moser, C. & A. Norton. 2001. *To Claim our Rights: Livelihood security, human rights and sustainable development.* London: Overseas Development Institute.

Muente-Kunigami, A. & J. Navas-Sabater. 2010. *Options to Increase Access to Telecommunications Services in Rural and Low-Income Areas.* Washington DC

Myers, M. 2011. *Voices from Villages: Community Radio in the Developing World.* Washington DC: The Center for International Media Assistance.

Narayan, D., R. Patel, K. Schafft, A. Rademacher & S. Koch-Schulte. 1999. *Can Anyone Hear Us? Voices From 47 Countries.* Washington DC: The World Bank.

Nettle, D., & Romaine, S. 2002. *Vanishing Voices: The Extinction of the World's Languages.* New York: Oxford University Press.

Nierenberg, D. 2014. *2014: The Year of Family Farming.* (also available at http://ensia.com/voices/2014-the-year-of-family-farming/).

Nyareza, S., & Dick, A. L. 2012. *Use of community radio to communicate agricultural information to Zimbabwe's peasant farmers.* Aslib Proceedings, 65(5), 494-508.

Ó Siochrú, S. 2010. *Policy and Regulatory Issues Module: Overview Paper.* Pro-poor ICT Access Toolkit (also available at http://www.apc.org/en/node/10224).

Pafumi, M. 2009. I*nstitutionalizing communication services for agricultural innovation and rural development: A case study from Bolivia.* University of Reading, Reading, UK.

Page, S. L. J., Harun-Ar-Rashid, Zakaria, A. K. M., & Dodsworth, E. 2008. *The Good Seed Initiative: Improving Food Security for the Poorest Households in Bangladesh Through the Use of 'Women-to-Women' Videos.* Agricultural Information Worldwide, 1(3), 102-104.

Pautrizel, L., Alpha, A., Broutin, C., Castellanet, C., Doligez, F., & Violas, D. 2011. *Which public policies for family farming in developing countries?* Saint-Etienne, France: Coordination SUD (Solidarité Urgence Développement) Agriculture and Food Commission.

Penunia, E. 2013. *Invest in smallholder farmers.* The World Economic Forum Blog (available at http://forumblog.org/2013/06/invest-in-smallholder-farmers/)

Pogge, T., & Rippin, N. 2013. *Universal Agenda on the Multiple Dimensions of Poverty.* New York: The High Level Panel on the Post-2015 Development Agenda.

Prato, B., & Longo, R. 2012. *Empowerment of poor rural people through initiatives in agriculture and natural resource management Poverty Reduction and Pro-Poor Growth: The Role of Empowerment* (pp. 51-78). Rome, Italy: Organisation for Economic Co-operation and Development Publishing.

Rok, B., & Kuraszko, I. 2008. *District Telephone Cooperative (DTC) Tyczyn: Partnership for Local Economic Development.* New York: United Nations Development Programme.

Rosset, P., & Martinez-Torres, M. E. 2013. *Rural Social Movements Diálogo de Saberes: Territories, Food Sovereignty, and Agroecology.* Paper presented at the Food Sovereignty: A Critical Dialogue International Conference.

Sanga, C., Kalungwizi, V. J., & Msuya, C. P. 2013. *Building an agricultural extension services system supported by ICTs in Tanzania: Progress made, Challenges remain.* International Journal of Education and Development using Information and Communication Technology, 9(1), 80-99.

Sethu, P. 2013. *Evolution of mKRISHI®: A technology platform for Indian farmers*. London: The Business Innovation Facility.

Sharma, S. 2012. *World Comics Network* (available at http://www.worldcomicsindia.com/)

Sibanda, J. 2002. *Development through Radio* (available at http://ictupdate.cta.int/en/Feature-Articles/Development-through-Radio/%2874%29/1035145852)

Sibanda, L. M. 2009. *Strengthening the Capacity of Women Farmers to Influence Agricultural Policy Development in Southern Africa: Women Accessing Realigned Markets (WARM) Project*. Pretoria, South Africa: Food Agriculture and Natural Resources Policy Analysis Network.

Sibanda, L. M. 2011. *Women Farmers: Voiceless Pillars of African Agriculture*. (also available at http://www.nepad.org/foodsecurity/news/2103/women-farmers-voiceless-pillars-african-agriculture)

Sinha, C., & Hyma, R. 2013. *ICTs and Social Inclusion. In L. Elder, H. Emdon, R. Fuchs & B. Petrazzini (Eds.), Connecting ICTs to Development: The IDRC Experience (pp. 91-116). Ottawa, Canada: International Development Research Centre.*

Siraj, M. 2012. *A model for ICT based services for agriculture extension in Pakistan*. Rawalpindi, Pakistan: CABI South Asia.

Stern, P. A., & Townsend, D. 2006. *New Models for Universal Access in Latin America (Summary of Main Report)*. Bogotá, Colombia: Forum of Latin American Telecommunications Regulators.

Thapa, G. 2009. *Smallholder Farming in Transforming Economies of Asia and the Pacific: Challenges and Opportunities*. Rome, Italy: International Fund for Agricultural Development.

The Communication Initiative, FAO, & The World Bank (2007). *World Congress on Communication for Development: Lessons, Challenges, and the Way Forward*. Washington DC: World Bank.

The World Bank. 2007. *World development document 2008: Agriculture for development*. Washington DC: The World Bank.

The World Bank. 2009. *IDA AT Work: Information and Communications Technology: Connecting People and Markets*. Washington DC: The World Bank.

The World Bank. 2011. *ICT in Agriculture: Connecting Smallholders to Knowledge, Networks, and Institutions. Washington DC: The World Bank.*

The World Bank. 2014. *Mobile cellular subscriptions (per 100 people)* (also available at http://data.worldbank.org/indicator/IT.CEL.SETS.P2)

The World Bank. 2014. *Physicians (per 1,000 people)* (also available at http://data.worldbank.org/indicator/SH.MED.PHYS.ZS)

Tibben, W. J. 2007. *Re-conceptualizing the digital divide: a knowledge-based approach*. Paper presented at the 40th Annual Hawaii International Conference on System Sciences.

Tirol, M. S. C. 2014. *Communication Factors Influencing the Institutionalization of Rural Communication Services for Agricultural Development: The case of Bangladesh*. Laguna, Philippines: University of the Philippines Los Baños.

Treinen, S. 2010. *VERCON: The Virtual Extension and Research Communication Network*. Agricultural Information Worldwide, 3(1), 39-43.

United Nations Economic and Social Council. 2011. *Report of the Partnership on Measuring Information and Communication Technology for Development. New York: United Nations Economic and Social Council.*

United Nations General Assembly. 1997. *Communication for development programmes in the United Nations system*. (No. 51/172). New York: The United Nations.

UN-OHCHR. 2013. *Realizing the Right to Development: Essays in Commemoration of 25 Years of the United Nations Declaration on the Right to Development*. Geneva: United Nations Office of the High Commissioner for Human Rights.

Valk, J.-H., & Fourati, K. 2013. *Catalyzing Access via Telecommunications Policy and Regulatory Research*. In L. Elder, H. Emdon, R. Fuchs & B. Petrazzini (Eds.), Connecting ICTs to Development: The IDRC Experience (pp. 57-73). Ottawa, Canada: International Development Research Centre.

Van de Fliert, E., L. S. Reeves, G. Walker, C. Sepulveda, S. Sam & H. Nigussie. 2014. *Mainstreaming Communication for Development in Policies and Programmes: Enabling Social Inclusion to Support Food Security, Resilient Livelihoods and Family Farming*. Rome, Italy: Food and Agriculture Organization of the United Nations.

Warschauer, M. 2002. *Reconceptualizing the Digital Divide*. First Monday, 7(7), 1-13.

Wood, A. & J. Barnes. 2007. *Making poverty the story*. London: Panos London.

World Commission on Culture and Development. 1996. *Our Creative Diversity: The Report of the World Commission on Culture and Development, summary version. Paris: UNESCO.*

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Today family farming is the predominant form of agriculture in the world. Communication lies at the core of the process of change that involves family farming. Smallholder family farmers and rural communities require access to information and communication to make their voices heard and change their lives for the better. This implies including communication for development (ComDev) as part of agricultural and rural development policies in order to promote dialogue and participation, harnessing the potential of new ICTs (such as mobile phones, the internet and computer-based applications) in combination with local media (such as community radio).

This document has been prepared to inspire reflection on the role of communication in advancing family farming. It provides examples of ComDev approaches applied to farming and rural development with special attention to the experiences generated by farmers' organizations.

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