

## Introductory Editorial

Marco Zupi

International University of Bac Ha, Hanoi and CeSPI, Rome

*Correspondence:* marco.zupi@cespi.it

---

We are pleased to announce that the International University of Bac Ha, Hanoi and CeSPI, Rome are launching this e-Journal of Economics and Complexity.

Firstly, something about this e-journal and its title.

This e-journal is new, but not completely. In 1997/1998, a review entitled "Economics and Complexity" was launched under the direction of Massimo Salzano (University of Salerno), in collaboration with and the scientific support of Federico Caffè Centre at the Roskilde University, who published the printed version in Denmark with the aim to spread the use of a complex, interdisciplinary, methodological approach to the study of economics. After Salzano's death in 2007, the journal languished.

Therefore, with an ideal legacy that lies in the focus on complexity and multi-disciplinarity, we would like to orient toward "Mundialization, Development and Social Changes" (the e-Journal subtitle) the core issues of this international journal we are launching.

The e-journal is being established together with a small team of colleagues at the Economics Faculty at the International University of Bac Ha, Hanoi and at CeSPI, Rome, especially set up to manage it, with the support of the members of the Editorial Board.

It adopts a multi-disciplinary approach to development studies by proposing different and alternative views, perspectives, ideas and analyses on local, national and international development, and by highlighting the lessons learned from different experiences, with a focus on social change.

Our goal is to learn from one another, that is a process of mutual learning by strengthening links among members of a community of academic scholars from different countries spread mainly in Africa, Asia and Latin America.

In other terms, we hope to set a modest example of academic community among African, Asian and Latin American scholars who are interested in being involved in an international dialogue, exchanging ideas and facilitating the mutual dissemination of research and its results, creating an open forum for discussion and establishing a dedicated publication.

The e-journal could be also a good and useful opportunity to discuss and plan possible common initiatives on international development issues in the future and to use innovative ICT tools.

We intend to establish a high-quality, refereed e-journal that will be distributed electronically: the primary means of distributing this e-journal will be over the

internet with the aim of guaranteeing free access to the articles and reducing time and cost of publication.

The journal will be organized into issues. Our idea is to publish one or two issues a year. Every issue will be devoted to a specific topic, taking into account the importance of presenting different perspectives on the subject. By exploiting the web nature of the journal, authors are enabled to publish appendices containing code/data and additional documentation (including video-interventions) if needed.

The International University of Bac Ha, Hanoi and CeSPI serve as distribution websites and the members of the Editorial Board are important focal points for disseminating the e-journal.

The need to communicate across political and cultural boundaries to reach out to an international audience suggested to use English as the language of the e-journal; English written by both native and non-native English speakers.

This Vol. 2015 (1) issue is devoted to “The future of smallholder agriculture”.

The United Nations declared 2014 as the International Year of Family Farming with the aim to raise the profile of family farming and smallholder farming by focusing world attention on its significant role in eradicating hunger and poverty, providing food security and nutrition, improving livelihoods, managing natural resources, protecting the environment, and achieving sustainable development, in particular in rural areas. The main goal of the 2014 International Year of Family Farming was to reposition family farming at the centre of agricultural, environmental and social policies in the national agendas by identifying gaps and opportunities to promote a shift towards a more equal and balanced development. This focus promoted broad discussion at the national, regional and global levels to increase awareness and understanding of the challenges faced by smallholders and help identify ways to support family farmers.

Based on such premises, the purpose of this thematic issue is to present and discuss different approaches to studying smallholder agriculture, by bringing to the e-journal audience insights from various countries in Africa, Asia and Latin America and from various disciplines that take an interest in smallholder agriculture.

Hence, we seek to create a volume that incorporates alternative and multi-disciplinary theoretical and empirical approaches to understanding challenges, opportunities and risks for the future of smallholder agricultural (but also, in more general terms, fisheries, forestry and pastoral) production.

There is abundant theoretical and empirical literature exploring the economics and sociology of smallholder agriculture and we hear a great deal of rhetoric about the importance of smallholder means of organizing agriculture.

We are always told that more than two billion of the world’s poorest live in households that depend on agriculture for their livelihood. Almost half a billion of farmers in Africa, Asia and Latin America lives on plots of less than two

hectares. They supply a large share of global agricultural output: the paradox is that people among the poorest and most food-insecure in the world play a key role worldwide in food security.

Researchers, international cooperation agencies and other donors are renewing their interest on the possible role of smallholder agriculture for multifold development objectives. A more dynamic argument on efficient farm size is that small farms have an advantage over large farms in terms of labor supervision and local knowledge, while larger farms gain the advantage as economy shifts toward technologically advanced, capital-intensive, and market-oriented agriculture.

Furthermore, smallholder farmers are often considered the main custodians of natural resources and ecosystems that are in need of sustainable management to prevent deforestation and degradation of the capacity to deliver ecosystem services. They also rely on a wider and more flexible array of strategies for climate change adaptation, which enhance the resilience of the global agricultural sector as a whole. Therefore, small farmers' control on agricultural biodiversity is deemed crucial for their coping strategies. Besides, agricultural biodiversity - a topic that has come to the fore as an issue worthy of special attention only during the last decade - is under the custody of smallholder farmers, acting through different practices, interests, skills and needs.

We also hear that quality of food (and food systems) and small farming are closely linked. Many people lack adequate amounts of food rich in the nutrients needed for living a health and a productive life. Malnutrition increases people's vulnerability to infections, causing numerous deaths. Major efforts are required by national governments and the international community considering the important role of agro-biodiversity and small farming as supplier of diversified, fresh and nutrient food.

In that respect, strategies for food and dietary diversification at the community and household levels rely on the pivotal role of smallholder farmers. They include promotion of mixed cropping and integrated farming system, underexploited traditional foods and home gardens, small livestock raising, fishery and forestry products for household consumption, small-scale agro-processing and food industries to improve preservation and storage of fruits and vegetables so as to reduce waste, post-harvest losses and effects of seasonality.

On the other side, we hear that smallholder agriculture production is often characterized by low yields, low productivity (even though the so called "inverse-productivity hypothesis" says that, in general, small farms are more productive than large farms), scarce quality, poor linkages to local and international markets, and little access to finance. Smallholder agriculture is therefore a reality that offers great opportunities in terms of development, but it also involves risks and weaknesses. Nevertheless, it occupies an increasingly important segment of the global agricultural value chain. Rapid urbanization processes occurring in Africa, Asia and Latin America are changing the pattern of food supply chains, with smallholder farmers playing a key role in meeting the future food demands of a growing and increasingly rich and urbanized population.

Referring in particular to the most rapidly growing economies in middle income countries, multinational buyers will increasingly rely on smallholders to secure their supply of agricultural commodities and to satisfy consumer sustainability preferences. At the same time, recent researches have highlighted the growing importance of the so-called traditional marketing sector – open-air markets, dispersed informal sellers and traditional shops – in meeting a growing demand for fresh produces in the newly urbanized areas, as direct competitors of the modern supermarket model.

Policy-oriented analyses often start by considering the need for a differentiated approach for different context and potentialities, and points out that smallholder farmers encompass different typologies of households and individuals facing various constraints to their ability to undertake potentially profitable activities in the agricultural sector.

Now mainstream literature is mainly focused on those smallholder farmers who are considered to have the potential to shift from subsistence farming to commerce-oriented, market integrated and profitable farming systems but who represent a relatively smaller portion of the total smallholders population. Even in this case, policy orientations are or should be mainly centered on:

- (i) the renewing of the financial services support strategies,
- (ii) investment in hard infrastructure and public goods that support smallholder agriculture (transport, such as rural roads, but also irrigation and power supplies, education and health services),
- (iii) technology upgrading,
- (iv) extension services to improve producers' capacity to better meet the standards required for the products to be marketed,
- (v) access to market and – very important –
- (vi) land tenure security, basically in terms of legal and secure land (and other natural resources) rights.

When dealing with rural development-related issue, the specific role of women in agriculture and women's essential contributions to development is gaining growing attention, thus underlining the need (i) to close the gender gap in access to agricultural resources, education, extension, financial services, and labour markets, land tenure security, (ii) to invest in labour-saving and productivity-enhancing technologies and infrastructure to free women's time for more productive activities, and (iii) to facilitate women's participation in flexible, efficient, and fair rural labour markets.

The evidence of the close interconnections between two core issues in the ongoing debate on sustainable rural development - namely women's empowerment and food security - claims for an innovative approach. This approach should go far beyond the idea of gender equality only as a basic human right and a fundamental prerequisite to human development, rather relying on the assumption of women's empowerment as an unavoidable development enabler.

The whole smallholder agriculture sector is said to be involved in a deep transformation linked to globalization of markets, urbanization and changing consumers patterns, climate change, increasing environmental degradation, food security and safety challenges. In this respect, policy-oriented research has many questions to address.

Within less than a generation, the majority of people in Africa, Asia and Latin America will live in urban areas. Urban development will involve the growth of megacities with vast peri-urban areas but also the spreading of small towns with decentralized institutions, markets and economy centers, bringing nearer and nearer rural and urban populations. The profile of poverty is being transformed from what was once considered a primarily rural phenomenon to one including millions living at the margins of the formal urban economy. The agro-food sector will be deeply touched by such transformations, and public engagement will be central to orient the processes so as to seize the opportunities for the development of agro-SME in both peri-urban and rural areas.

In brief, literature has examined smallholder agriculture and, in particular, family farmers question from a number of angles.

Having said that, it may sound trivial, but if our definition of a word is to be any good, it should say something general and something specific; its meaning must be unique. The term "smallholder" agriculture is not an exception.

A serious problem with many terms and definitions, including smallholder agriculture, is that they assume that the reality can be represented in terms of net and distinct categories, each of them being clearly identified and internally homogeneous. But when we try to translate the ideal-type of smallholder agriculture category into more operative terms, we discover that a category defined in terms of farming size (acres or hectares, number of workers employed, amount of annual income) is useful for representing some aspects, problems and dimensions, but cannot be conceived as an homogeneous entity.

The behavior, expectations, objectives, problems, power, relations with the rest of society and economic agents differ across farmers. Smallholder farmers' economic, social, political and cultural behavior, ways of thinking and of exercising their political engagement, identity and inclination is heterogeneous across the world. Inevitably, smallholders' definition and description is far from precise. If all data are imperfect and measurement problems are universal, in the case of smallholder farms they can be misleading if not properly anchored to the specific local situations.

Moreover, each farm - micro, small, medium and big - can be a useful productive unit of micro-economic analysis, but it may be insufficient in terms of development studies. In this respect, there is some confusion which should be avoided: why is the distinction between micro and small adopted in the case of urban enterprises, considering that Small and medium enterprises (SMEs) are grouped together and truly distinct from micro enterprises, whereas the same does not hold true in agriculture? What about other types of categories also quite relevant in terms of marking the distinction between formal, informal and, more generally, non-observed economy or between farms operated by female-headed

households and those managed by males? What about the distinction between men and women entrepreneurship? And more than that, is the dualistic nature of a Manichaeian way of interpreting the reality of social stratification and unequal distribution of power within territories, as well as within each smallholder farm unit, the proper way to approach the issue? What about more fuzzy approaches and other ways to try to find a general antidote to the use of such monolithic categories and to the adoption of averages for analyzing distribution, which can hide key dynamics, factors and dimensions of reality?

It is important to understand what is going on, without searching for a one-size-fits-all blueprint. If one focuses on the social, institutional and cultural construct and interpretation of the power differences, subaltern roles and discrimination and on the transformative process of development and potential powerful agents of change, do smallholder farmers actually represent homogeneous agents in terms of views, competences and responsibility over decision-making and resources?

Another issue - seemingly rather technical but in reality related to some highly political issues - is productivity. Since the 1950s, there have been many economic models built on the assumption that the agricultural sector features disguised unemployment, the predominance of family farming among smallholders (with the aim of family participation in the production process) and the overwhelming problem of the informal economy and unemployment. This approach has dominated the analysis of the labour productivity problem: is (low) labour productivity really a crucial problem to be seized in these terms? Should not we say that there are serious problems of quality as well as of stability of the amount of production over the years, and also a more general problem of definition, meaning and measurement of total factor productivity growth in the case of smallholder farmers? In other terms, should the total number of male and female workers employed in agriculture be considered a problem per se or, quite the reverse, in the given context of mass unemployment?

We know that what we observe is not nature itself but nature exposed to our method of questioning, as Werner Heisenberg said. We see things not as they are, but as we are. Therefore, all these are very pertinent questions.

The four papers of our thematic section on smallholder agriculture exactly help us to take stock and ask ourselves fundamental questions. They bring to the reader and the debate some inspiring insights to better understand the critical issues.

The first two introductory papers take stock of the general state of art, respectively written by Fernanda Guerrieri and by Marcela Villarreal.

The paper by Fernanda Guerrieri, FAO's Directeur de Cabinet, looks at the determinants of the current international focus on hunger and agriculture and underlines the importance of innovative approaches to Research and

Development and extension services plans to empower smallholder farmers. The history of the Italian agriculture development and policies in the last century and of the Common Agriculture Policy of the European Union show the importance of policies targeted to promote innovation across active farmers, particularly the most vulnerable ones. Guerrieri's paper gives a short description of world hunger and its complex interactions with poverty, food insecurity and undernutrition and makes it clear that agriculture can be a major contributor to hunger eradication only if agricultural policies are designed with hunger reduction as the primary goal. Within this framework, smallholder farmers can play an important role in both hunger and poverty reduction strategies. The problems is that smallholder agriculture has long been neglected by policies, whereas it is crucial that people are fairly rewarded for their productive work and for the environmental services that they provide and should be encouraged to provide. The state is identified as a key player, if properly oriented to support the developmental objectives, but the author underlines that silos measures are by their very nature insufficient. Women's empowerment is crucial as well as the strengthening of farmers' associations and the migration-development nexus, but a holistic approach is primarily required to go beyond the net separation between agricultural production policies and social protection policies.

The paper by Marcela Villarreal, FAO's Director of Office for Partnerships, Advocacy and Capacity Development, presents the main characteristics of small farms, making it clear that an important task for policy and research is to highlight the common features of smallholder farmers. Villarreal's paper briefly describes the problem of inequality in the distribution of farm land, the stylized facts of empirical literature evidence on the productivity issues, the importance of different sources of income combining on- and off-farm in different ways. Then Villarreal focuses on the paradox derived from the fact that smallholder agriculture is essential for food security but, at the same time, poverty and hunger continue to be concentrated among smallholder farmers. The literature review allows the author to say that poverty reduction resulting from smallholder farmers' development is highly dependent on the kind, intensity and opportunity of policy decisions. Villarreal pays particular attention to women's empowerment and to the needs of family farms, focusing on the small ones. The results of the Six Regional Dialogues on Family Farming held by FAO in 2014 allow the author to summarize the main challenges into four areas: (i) access to the resources and markets, (ii) recognition of secure rights, (iii) participation in the decision-making processes, and (iv) adaptation to changing conditions. She concludes that an inclusive model of development is needed, and the role and strong commitment of the state is of central importance in setting proper policies agendas, as well as the role of Civil Society Organizations, cooperatives and producer organizations, and the private sector.

Two articles shed light on the issue of extension services and smallholder agriculture in specific contexts, respectively in the India and Brazil case studies.

The paper by Suresh Babu and his co-author Pramod Joshi, both Senior Research Fellows at IFPRI, Washington D.C., looks at the role and evolution of agricultural extension and advisory services, crucial for promoting agricultural productivity. During the 1980s and 1990s all over the developing world, the liberalization and opening up of economies to the world market through the implementation of structural adjustment programs and stabilization plans were aimed at streamlining the provision of public services. Consequently, many countries experienced a redefinition of the role of extension services. More recently, attention has been placed on the development of participatory national extension strategies to ensure the quality of services provided to farmers, based on a more demand-driven approach and trying to exploit the potential opportunities offered by ICT. The authors provide an analysis focused on the extension reforms undertaken in the last 20 years in India. Starting from a situation of increasing degradation of extension services, the main reforms implemented in India have included: (i) the decentralization of decision making within the extension system at the district level, (ii) coordination of technology dissemination among the line departments, (iii) efforts to encourage business entrepreneurs to engage in the provision of extension services focused on agribusiness management. Babu and Joshi complain that a comprehensive assessment of the reforms' quality is impossible in the absence of a monitoring and evaluation system that captures relevance, effectiveness, efficiency, sustainability, equity and impact of the interventions. Reviewing the current studies on the extension systems, the authors recommend the promotion of more ownership at local level, more involvement of the private sector and NGOs and the rejection of all forms of silos approach to reach smallholder and other marginalized farming communities.

The paper by Marina Souza Dias Guyot from Escola Superior de Agricultura "Luiz de Queiroz", Universidade de São Paulo, complements that of Babu and Joshi. It is focused on the same issue of agricultural extension services, but it refers to the Brazilian case study and examines the same object from different disciplinary and epistemological perspectives, the author being a sociologist and anthropologist with a focus on agroecology and participatory approaches. Rather than starting from the importance of innovation, technology and modernization, the author emphasizes the central role of the farmers' traditional knowledge and the correlated practices of biodiversity usage and family farming multi-functionality. The methodological framework proposed by Guyot is based on the intertwined sequence among four key issues: knowledge building, agricultural extension, agroecology and participatory approach. Conventional agricultural extension services are increasingly questioned, and today there are efforts to develop collective knowledge building methodologies which seek to regain the autonomy and traditional knowledge of rural population. Agroecology is proposed as an interesting opportunity that provides the scientific basis to support the process of transition from a conventional agriculture model to a sustainable rural development. By linking agroecology to a participatory experimentation approach Guyot identifies a practical way to foster the construction of a locally embedded knowledge. Her view is based on the analysis



of a recent project entitled "Experimentation in Agroforestry and Social Participation" developed in São Paulo State, Brazil. According to the author the assessment of the experimental areas, performed by technical visits, dissemination and exchange of knowledge shows where future agricultural extension should have to go: construction of a participatory knowledge better suited to local realities and development of a new form of knowledge building among producers and technicians.

The e-journal also contains a Book & Report Review section, by Sara Hassan and Alberto Mazzali, CeSPI, Rome, who present and briefly analyze some recent publications and reports on the specific theme of this issue, considered relevant from a policy-oriented point of view. This section combines a small selection of international organisations', think tanks' and academic reports, as well as some interesting audios and videos, all of them available as a free web download.

A regular article by Fouzi Mourji, together with Kawtar El Aida and Mounir El Kadiri from Hassan II University, Ain Chock, Morocco is partially connected to the thematic issue, even if it is conceived as a regular research article. Financial services for smallholder farmers are universally recognized as critical to achieving financial inclusion goals and sustainable rural development. The authors focus on microcredit clients and their aim is to evaluate and understand the determinants of subscription to health microinsurance and the so-called contribution effort. The article presents the results of an econometric analysis on subscription and willingness to pay effort, conducted by using data from a survey conducted among 562 Micro-credit associations in Morocco. The specific case of Morocco is very interesting because existing health care schemes cover only workers in the public and semi-public sectors and those working in the formal private sector, mainly in urban areas, whereas the complementary insurance products offered by banks and insurance companies to their customers are only available for a small stratum of society. Thus, the article provides readers with relevant insights which can be translated into useful inputs to the debate on smallholder agriculture. The article presents the theoretical framework and empirical literature review on the willingness to pay and the methods for its assessment – finally selecting two Tobit models - and discusses their econometric results: microcredit clients are averse to health risks, health microinsurance services are perceived as substitute to state health care services, and the models confirm that income (in particular savings) and household indebtedness are key determinants of subscription behaviors.

A final "Editorial Board Members' Corner" is conceived as a tool to set the tone of an open and fruitful debate on the thematic issue of smallholder agriculture today. There are a few short columns with views and critical thinking on the issue presented in the papers. These columns are not intended to be reviews of one or more specific articles included in the issue; rather they are conceived as general and brief considerations based on the articles, but serving as a food for thought to discuss significant social, economic and political issues in an international context from a multidisciplinary perspective.