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## The Impact of IFAD's Involvement as an Inter-Governmental Organisation in the Livelihood of Moroccan Family-Farms

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### ABSTRACT

Family farming exists everywhere and each form has its own unique way in terms of managing the farm operations, farm size, productivity, socio-economic conditions, local knowledge and geographical location besides the externalities such as depletion of resources exacerbated by the climate change. Hence, the following question drives this study: "how does the involvement of IFAD affect farmers' livelihood in the Moroccan countryside?" Therefore, this research purpose outlines the role of family farming and its characteristics; challenges of farming livelihood and productivity in Morocco; and the International Fund for Agricultural Development- IFAD's support for inclusive rural transformation. This study holds the view that family farming with higher on-farm innovative inputs of processing activities can expect increased yields. The findings reveal that IFAD's global governance catalysed by modern corporation, -corporate governance for instance, - enables participation of rural beneficiaries in their projects, thus increasing their self-management of (environmental) natural resources and sustainability. Skills, training, innovation and technologies allow them to diversify and intensify their agricultural holdings, enabling access to new markets and to cope with the ecological risks though there is a limitation to the innovation and services extension. As a consequence, an induction inference and constructivism theory have been applied, accordingly, for this purpose.

**Keywords:** (Global)Corporate governance; inclusive rural transformation; Family farming; IFAD-IGOs; Morocco

### ABSTRAK

*Pertanian keluarga berada di banyak tempat dan masing-masing memiliki keunikan dalam hal pengelolaan operasi pertanian, ukuran lahan pertanian, produktivitas, kondisi sosial ekonomi, pengetahuan lokal dan lokasi geografis di samping faktor eksternal, seperti menipisnya sumber daya yang diperburuk oleh perubahan iklim. Oleh karena itu, tulisan ini mengajukan pertanyaan penelitian "sejauh mana keterlibatan organisasi antar pemerintah terkait dengan mata pencaharian petani di Maroko?" Penelitian ini bertujuan untuk menjelaskan peran pertanian keluarga dan karakteristiknya; tantangan mata pencaharian dan produktivitas pertanian di Maroko; dan dukungan IFAD untuk transformasi pedesaan yang inklusif. Para penulis berpendapat bahwa pertanian keluarga dengan kegiatan pemrosesan lahan pertanian yang lebih inovatif dapat meningkatkan hasil pertanian. Penelitian ini menemukan bahwa tata kelola global IFAD yang diberikan oleh perusahaan modern, - dalam hal ini tata kelola perusahaan, - memungkinkan pedesaan penerima manfaat dapat meningkatkan pengelolaan sumber daya alam (lingkungan) secara mandiri dan berkelanjutan. Keterampilan, pelatihan, inovasi, dan teknologi memungkinkan mereka untuk melakukan diversifikasi dan intensifikasi hasil pertanian, sehingga mampu mengakses pasar yang lebih luas dan mengatasi risiko ekologi, meskipun terdapat batasan dalam hal inovasi dan perluasan layanan.*

**Kata Kunci:** *Tata kelola perusahaan (global); transformasi pedesaan yang inklusif; pertanian keluarga; IFAD-IGOs; Maroko.*

## Introduction

Family farming reflects a way of living, the role farmers play in rural areas and the expectation of increasing the average household income and food consumption. Family farmers respond to food security and nutrition at the national economic level of the state hence they are expected to transform the rural area, by creating jobs and to reduce poverty. Three quarters of underprivileged Moroccans live in rural areas where poverty is three times higher than in urban zones whilst farming holdings (agriculture and fisheries) accounts for more than 14% of the gross domestic product (GDP), including main employers in the countryside that provides 80% of income.<sup>1</sup> Morocco being a middle-income country, it has a demographic growth of 1.4% with a population estimated at 34 million (2014) where rural people account for 40%.<sup>2</sup> Family farming is inextricably associated with family and land indissociably, local knowledge through cultural value and tradition and farming livelihood in rural communities.<sup>3</sup> Nevertheless, climate change impedes agricultural development because it has an impact on Moroccan economic growth. Indeed, its economic growth rarely exceeds 5% due to the climate variability (reduction of rainfall), the water resources, the depletion of natural resources, the lack of infrastructures in the mountains, semi-arid plains, and its poor soil.<sup>4</sup>

Furthermore, besides the fact family farmers preserve traditional food products, they

represent an opportunity to boost local economies and sustain the ecology. Their local knowledge enables them to manage land capabilities in order to ensure productivities despite the small size of the farm or land-related issues. Family farmers have the ability to improve the ecosystem services and to adopt various methods of farming, for instance agroecosystems or agroforestry. They respond easily to the demand of consumers and very often adapt to the new technologies once they have access to them. For example, growing crops that produce energy or process to residues and feed stocks in order to obtain a final product that not necessarily intended for consumption, such as growing barley, corn and palm plants for both consumption and bioenergy purposes, and a traditional drink from the skin of the barley, and other traditional medicinal purposes.<sup>5</sup> Since 2013, the Food and Agriculture Organization of the United Nations (FAO) views family farming<sup>6</sup> *as a means of organising agricultural, forestry, fisheries, pastoral and aquaculture production which is managed and operated by a family and predominantly reliant on family capital and labour, including both women's and men's. Plus, the family and the farm are intertwined, co-*

<sup>1</sup> International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.

<sup>2</sup> Ibid.

<sup>3</sup> Food and Agriculture Organization of the United Nations. *Global Dialogue on Family Farming*. Rome: Food and Agriculture Organization of the United Nations, 2015.

<sup>4</sup> International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.

<sup>5</sup> Deininger, Klaus. "Challenges posed by the New Wave of Farmland Investment." *The Journal of Peasant Studies* 38 no 2 (2011): 217-47. doi: 10.1080/03066150.2011.559007.; Bélières, Jean-François, Philippe Bonnal, Pierre-Marie Bosc, Bruno Losch, Jacques Marzin, and Jean-Michel Sourisseau. *Family Farming Around the World: Definitions, Contributions and Public Policies*. Paris: Agence Française de Développement, 2015. [http://agritrop.cirad.fr/576161/1/Belieres\\_Bonnal\\_Bosc\\_Losch\\_Marzin\\_Sourisseau-Family\\_farming-AFD-2015.pdf](http://agritrop.cirad.fr/576161/1/Belieres_Bonnal_Bosc_Losch_Marzin_Sourisseau-Family_farming-AFD-2015.pdf); Food and Agriculture Organization of the United Nations. *Global Dialogue on Family Farming*. Rome: Food and Agriculture Organization of the United Nations, 2015.; and Garner, Elizabeth, and Ana Paula de la O Campos. *Identifying the "Family Farm": An Informal Discussion of the Concepts and Definitions*. Rome: Food and Agriculture Organization of the United Nations, 2014. ESA Working Paper no. 14-10.

<sup>6</sup> Food and Agriculture Organization of the United Nations. *Why an FAO Definition of Family Farming? Final Version: Family Farming Definition*. Rome: Food and Agriculture Organization of the United Nations, March 25, 2013.

*evolve and combine economic, environmental, social and cultural functions.* By way of statistical definition, FAO recapitulates that *a family farm is an agricultural holding which is managed and operated by a household and where farm labour is largely supplied by that household.* Whilst family farming is performing their duties and other requested tasks, they encounter challenges which, at one extreme, are part of their characteristics as there is no standard form of family farming whether small or large-scale, even when considering their farms size or their economic means.

Therefore, besides portraying family farming or the farmers' livelihood, it is important to describe the role of an intergovernmental organisation- that is, the International Fund for Agricultural Development (IFAD) in Morocco. In actual fact, it plays a significant role in alleviating challenges faced by farmers in rural communities.<sup>7</sup> IFAD is a specialised international financial institution agency of the United Nations that intervenes in investing in rural people. In Morocco, the institution enhances farmers adding value of products, supports family farming to adapt to climate change, and institutionalises farmers' cooperatives. Plus, IFAD supports inclusive rural transformation through agriculture extension, market integration and financial inputs. Besides, IFAD extends help in innovative technologies so that youth is attracted to the farming sector as a means of relieving/diminishing the pronounced unemployment of young people. Moreover, women and young people being targeted as vulnerable people, IFAD ensures that women participate in project planning and its implementation besides providing them the facility for credit access.

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<sup>7</sup> International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco.* Rome: International Fund for Agricultural Development, 2016

The characteristics and the role of family farming become jeopardised when hinged with investment in technologies with new sustained practices to adapt to climate change. As an illustration, the management of natural scarce resources and their transformation into intermediary commodities for increased farming output productivity require water irrigation infrastructure and fertile land. This is so because the expectation to meet food security and nutrition makes family farmers be on the front line to the way forward to rural transformation and farming production as business purpose for the market integration.

The following question in this research, therefore, emerges: how does the involvement of IFAD affect farmers' livelihood in the Moroccan countryside? The hypothesis that a family farming enterprise with higher innovative inputs can expect increased high yields guides this study. This research intends to use the concepts of corporate governance catalysed/induced by global governance of IFAD and the family farming as a descriptive concept with the constructivism grounded theory.

## **Methodology/Theory**

### **Applied Theory: constructivism**

The constructivism theory has strategies in research as it places emphasis on contextualising social actions and realities.<sup>8</sup> In other words, it stresses the importance of the social construction because of the norms and

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<sup>8</sup> Adler, Emanuel. "Constructivism in International Relations: Sources, Contributions, and Debates." In *Handbook of International Relations*, 2nd ed. edited by Walter Carlsnaes, Thomas Risse and Beth A. Simmons, 112-44. Los Angeles: Sage, 2013; and Koleva, Petya, and Rodolphe Ocler. "Using Constructivist Grounded Theory to Construct a Substantive Theory for Corporate Social Responsibility." In *Current Issues in Corporate Social Responsibility: An International Consideration* edited by Samuel O. Idowu, Catalina Sitnikov, Dalia Simion, and Claudiu George Bocean (Eds), 125-39. Cham: Springer, 2018. doi: 10.1007/978-3-319-70449-4.

realities in a given society. Furthermore, like any other theory deriving its root from philosophy, constructivism adopts ontological and epistemological arguments which ease its normative arguments besides its practical analysis. For instance, 'family farming' needs to be contextualised as there is no single prototype of family farming if one considers geographical locality, or social and economic means which differ from one family farmer to another. The common resemblance consists of the components of family farming such as family and land, (family) labour force, and local knowledge which is a cultural aspect, and the farmers' livelihood in rural communities. Their local knowledge, thereby, becomes an epistemological argument in constructivism. Whereas the nature of being of a family farming enterprise through its scope of activities, its norms and its roles played in communities becomes an ontological argument.<sup>9</sup> As an example, there is a necessity to contextualise Moroccan family farmers' realities, namely the unemployment of youth, the inequalities of land holdings, the increase of food imports, the lack of social reproductive labour, the devastating effects of climate change and the weak community of farmers' organisation<sup>10</sup> whilst

<sup>9</sup> Food and Agriculture Organization of the United Nations. *FAO and Traditional Knowledge: The linkage with Sustainability, Food Security and Climate Impacts*. Rome: Food and Agriculture Organization of the United Nations, 2009. <http://www.fao.org/3/i0841e/i0841e00.pdf>; and Bélières, Jean-François, Philippe Bonnal, Pierre-Marie Bosc, Bruno Losch, Jacques Marzin, and Jean-Michel Sourisseau. *Family Farming Around the World: Definitions, Contributions and Public Policies*. Paris : Agence Française de Développement, 2015. [http://agritrop.cirad.fr/576161/1/Belieres\\_Bonnal\\_Bosc\\_Losch\\_Marzin\\_Sourisseau-Family\\_farming-AFD-2015.pdf](http://agritrop.cirad.fr/576161/1/Belieres_Bonnal_Bosc_Losch_Marzin_Sourisseau-Family_farming-AFD-2015.pdf)

<sup>10</sup> United Nations Development Program. *Human Development Report 2019: Beyond Income, Beyond Averages, Beyond Today: Inequalities in Human Development in 21<sup>st</sup> Century*. New York, NY: United Nations Development Program, 2019. <http://hdr.undp.org/sites/default/files/hdr2019.pdf>; Food and Agriculture Organization of the United Nations. *Global Dialogue on Family Farming*. Rome: Food and Agriculture

applying constructivism to Moroccan society. One of the operational approaches of constructivism is the interactionism and the social constructionism as it meets the gap of knowledge into actions.<sup>11</sup>

Constructivism in this study will prioritise examining phenomena and data. Moreover, the analysis of the existing situation enables researchers seeking to study the 'how' through an abstract understanding, for instance IFAD's involvement in investing in Moroccan rural people as a result of corporate governance falling under IFAD's global governance.<sup>12</sup> Moreover, IFAD's interaction with Moroccan family farmers bridge the gaps (past and present) of their human basic needs and present them perspectives of agriculture extension or of their agricultural holdings being market-orientated.<sup>13</sup>

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Organization of the United Nations, 2015.; International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016; and Costa, Massimo, and Patrizia Torrecchia. "Social, Environmental and Financial Information." In *Current Issues in Corporate Social Responsibility: An International Consideration* edited by Samuel O. Idowu, Catalina Sitnikov, Dalia Simion, and Claudiu George Bocean (Eds), 25-44. Cham: Springer, 2018. doi: 10.1007/978-3-319-70449-4.

<sup>11</sup> Koleva, Petya, and Rodolphe Ocler. "Using Constructivist Grounded Theory to Construct a Substantive Theory for Corporate Social Responsibility." In *Current Issues in Corporate Social Responsibility: An International Consideration* edited by Samuel O. Idowu, Catalina Sitnikov, Dalia Simion, and Claudiu George Bocean (Eds), 125-39. Cham: Springer, 2018. doi: 10.1007/978-3-319-70449-4.

<sup>12</sup> Costa, Massimo, and Patrizia Torrecchia. "Social, Environmental and Financial Information." In *Current Issues in Corporate Social Responsibility: An International Consideration* edited by Samuel O. Idowu, Catalina Sitnikov, Dalia Simion, and Claudiu George Bocean (Eds), 25-44. Cham: Springer, 2018. doi: 10.1007/978-3-319-70449-4.

<sup>13</sup> International Fund for Agricultural Development. *Proposed Loan and Grant to the Kingdom of Morocco for Rural Development Project in the Mountain Zones of Errachidia Province*. Rome: International Fund for Agricultural Development, 2007. <https://webapps.ifad.org/members/eb/91/docs/EB-2007-91-R-31-Rev-1.pdf>; and International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province*.

It is termed 'Constructivism grounded theory' as it enables corporate governance within its global governance. This is so, because the conception of corporate governance sets not just the conditions of structures and function for strategic decisions-, i.e., on public governance, on public corporation, on human rights concerns, on sustainable development, on corporate citizenship and on triple p (people, planet, profit). In a sense, corporate governance is, thereby, at one extreme an extension of political corporate social responsibility. However, it is also built on the particular/specific political economy that can be described as modern political economy.<sup>14</sup> Moreover, some entities, in relation to transnational corporations, touched on in corporate governance are for example, the state, the Inter-Governmental Organisation-IGOs, the citizens, Non-governmental Organisation-NGOs, besides corporations. In that sense, some of corporate governance's attributions of responsibility are a stimulus to modern corporation in light of global governance issues or global value chains.<sup>15</sup> Therefore, Moroccan family farmers through their existing (construction of) local knowledge<sup>16</sup> and their

(construction of) respective rural realities besides their needs to evolve (that is to say, rural transformation, regional and international market integration, adapting to climate change and inputs that intensify techniques of farming) enable the understanding of constructivism (grounded theory).<sup>17</sup>

### **Concepts set up: Corporate governance and constraints of 'family farming' as a descriptive concept**

This section will mainly discuss two concepts (i) corporate governance through IFAD's innovative support system for Moroccan family farmers and (ii) constraints of family farming as a descriptive concept.

#### **a. Constraints of 'family farming' as a descriptive concept**

The concept of family farming should be first discussed to clarify or identify the characteristics and the role of family farming with less emphasis stressed on the family farm. Constraints of 'family farming' as a descriptive concept refer to challenges of family farming accelerated by the climate variability, the need to respond to diverse forms of consumerism induced by the food production demand (food processed, organic and inorganic food), and the importance of adopting adaptive strategies to climate change among farming bio-energy crops

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*Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015. [https://www.ifad.org/documents/38714182/39736369/pdrz\\_mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz_mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9)

<sup>14</sup> Veldman, Jeroen. "Responsibility and the Modern Corporation." In *Globalisation of Corporate Social Responsibility and its Impact on Corporate Governance* edited by Jean J. du Plessis, Umukanth Varottil, and Jeroen Veldman, 72-92. Cham: Springer, 2018. doi: 10.1007/978-3-319-69128-2.

<sup>15</sup> Ibid.

<sup>16</sup> Food and Agriculture Organization of the United Nations. *FAO and Traditional Knowledge: The linkage with Sustainability, Food Security and Climate Impacts*. Rome: Food and Agriculture Organization of the United Nations, 2009. <http://www.fao.org/3/i0841e/i0841e00.pdf>; and Bélières, Jean-François, Philippe Bonnal, Pierre-Marie Bosc, Bruno Losch, Jacques Marzin, and Jean-Michel Sourisseau. *Family Farming Around the World: Definitions, Contributions and Public Policies*. Paris : Agence Française de Développement, 2015. [http://agritrop.cirad.fr/576161/1/Belieres\\_Bonnal\\_Bosc\\_Losch\\_Marzin\\_Sourisseau-Family\\_farming-AFD-2015.pdf](http://agritrop.cirad.fr/576161/1/Belieres_Bonnal_Bosc_Losch_Marzin_Sourisseau-Family_farming-AFD-2015.pdf)

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<sup>17</sup> Adler, Emanuel. "Constructivism in International Relations: Sources, Contributions, and Debates." In *Handbook of International Relations*, 2nd ed. edited by Walter Carlsnaes, Thomas Risse and Beth A. Simmons, 112-44. Los Angeles: Sage, 2013; and Koleva, Petya, and Rodolphe Ocler. "Using Constructivist Grounded Theory to Construct a Substantive Theory for Corporate Social Responsibility." In *Current Issues in Corporate Social Responsibility: An International Consideration* edited by Samuel O. Idowu, Catalina Sitnikov, Dalia Simion, and Claudiu George Bocean (Eds), 125-39. Cham: Springer, 2018. doi: 10.1007/978-3-319-70449-4.

or permaculture.<sup>18</sup> There is a necessity to use the technology (i.e., seeds bio-engineered) which is barely considered in traditional agriculture objectives.<sup>19</sup> Further to this, there exists national and international pressure to increase agriculture production in order to respond to food insecurity matter concerns sped-up by the 2008's food crisis price increase meanwhile, the poverty is on the increase, mainly in developing countries.<sup>20</sup> Besides, there is the need for Moroccan family farming to farm for a marketplace-orientated purpose including the consideration of fertile lands.<sup>21</sup> Therefore, family farming needs to increase farming capacity or productivity. Whilst the farm size still matters for farming extension, labour force is fundamental for agricultural holdings. The managerial and operational functions are the core/essence of activities orientation of a family farming enterprise. Plus, these activities consider sustained practices of biophysical ecosystems that intend to preserve

the environment and the livelihood, and of rural transformation.<sup>22</sup>

Furthermore, the concept of family farming needs to be understood in its context and purpose. One of the characteristics of family farming is at least small farms which are operated by family and the labourer. The labour force can be hired or limited to the family household farming.<sup>23</sup> The family labour or the employed labour is the scope of a family farming enterprise that results into farming capacity as productivity among the family, the farm and the labour force. This productivity is interpreted through the farm size, even the land extension which is inter-related with agricultural extension, productivity, and the machinery used or land ownership, though not limited to ownership.<sup>24</sup> The management and the operations of farming activities/functions are held by the family for market-orientated purposes. In other words, for an economic purpose as well as a cultural one

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<sup>18</sup> Morrow, Rosemary. *Earth User's Guide to Teaching Permaculture 2nd ed.* Australia: Melliodora, 2014.

<sup>19</sup> Deininger, Klaus. "Challenges posed by the New Wave of Farmland Investment." *The Journal of Peasant Studies* 38 no 2 (2011): 217-47. doi: 10.1080/03066150.2011.559007.

<sup>20</sup> High Level Panel of Experts. *Price Volatility and Food Security: A Report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security.* Rome: Food and Agriculture Organization of the United Nations, 2011. <http://www.fao.org/3/amb737e.pdf>

<sup>21</sup> International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment.* Rome: International Fund for Agricultural Development, 2015 [https://www.ifad.org/documents/38714182/39736369/pdrz\\_mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz_mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9); International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco.* Rome: International Fund for Agricultural Development, 2016.; and Costa, Massimo, and Patrizia Torrecchia. "Social, Environmental and Financial Information." In *Current Issues in Corporate Social Responsibility: An International Consideration* edited by Samuel O. Idowu, Catalina Sitnikov, Dalia Simion, and Claudiu George Bocean (Eds), 25-44. Cham: Springer, 2018. doi: 10.1007/978-3-319-70449-4.

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<sup>22</sup> Garner, Elizabeth, and Ana Paula de la O Campos. *Identifying the "Family Farm": An Informal Discussion of the Concepts and Definitions.* Rome: Food and Agriculture Organization of the United Nations, 2014. ESA Working Paper no. 14-10.; and Bélières, Jean-François, Philippe Bonnal, Pierre-Marie Bosc, Bruno Losch, Jacques Marzin, and Jean-Michel Sourisseau. *Family Farming Around the World: Definitions, Contributions and Public Policies.* Paris : Agence Française de Développement, 2015. [http://agritrop.cirad.fr/576161/1/Belieres\\_Bonnal\\_Bosc\\_Losch\\_Marzin\\_Sourisseau-Family\\_farming-AFD-2015.pdf](http://agritrop.cirad.fr/576161/1/Belieres_Bonnal_Bosc_Losch_Marzin_Sourisseau-Family_farming-AFD-2015.pdf)

<sup>23</sup> World Bank. *World Development Report 2008: Agriculture for Development.* Washington, DC: World Bank, 2007. doi: 10.1596/978-0-8213-7233-3.

<sup>24</sup> Deininger, Klaus. "Challenges posed by the New Wave of Farmland Investment." *The Journal of Peasant Studies* 38 no 2 (2011): 217-47. doi: 10.1080/03066150.2011.559007.; Food and Agriculture Organization of the United Nations. *FAO and Traditional Knowledge: The linkage with Sustainability, Food Security and Climate Impacts.* Rome: Food and Agriculture Organization of the United Nations, 2009. <http://www.fao.org/3/i0841e/i0841e00.pdf>; and Bélières, Jean-François, Philippe Bonnal, Pierre-Marie Bosc, Bruno Losch, Jacques Marzin, and Jean-Michel Sourisseau. *Family Farming Around the World: Definitions, Contributions and Public Policies.* Paris : Agence Française de Développement, 2015. [http://agritrop.cirad.fr/576161/1/Belieres\\_Bonnal\\_Bosc\\_Losch\\_Marzin\\_Sourisseau-Family\\_farming-AFD-2015.pdf](http://agritrop.cirad.fr/576161/1/Belieres_Bonnal_Bosc_Losch_Marzin_Sourisseau-Family_farming-AFD-2015.pdf)

through local knowledge inheritance.<sup>25</sup> Moreover, there are difficulties for shifting from traditional farming to modern sustained practices<sup>26</sup> so that the environment is preserved and the climate change adapted. It requires extra means, even though it seems to be a necessity in order to respond to food security.<sup>27</sup>

Family farming is, therefore, a means of organising the farming- that is, crops, herd, forestry, fisheries, and aquaculture, whose management and operations are held by the family for the farming production purpose. This relies on the family labour and the capital, of both women and men.<sup>28</sup> The farming holding is fundamental to socio-economic conditions such as generating income for off-farm activities namely, education, other human needs priorities, or residential/livelihood consumption. Moreover, access to the marketplace and the increase of the average household's income steers the micro-economy which, in turns, is a catalyst of instilling the food security approach at the national level from a macroeconomic perspective

and at the international level.<sup>29</sup> Family farming is, consequently, requested to adapt to climate variability and other scarcity constraints such as land and water, thus enhancing the ecosystem for higher productive yield.<sup>30</sup> In addition, the family and the farm are intertwined and tied in the community, very often situated in the countryside. As a result, the family and the farm coevolve and combine existing local knowledge (culture). However, they are expected to practice sustained productivity for rural transformation, accordingly.<sup>31</sup> Furthermore, agricultural extension is also one of the roles of Moroccan

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<sup>25</sup> Food and Agriculture Organization of the United Nations. *FAO and Traditional Knowledge: The linkage with Sustainability, Food Security and Climate Impacts*. Rome: Food and Agriculture Organization of the United Nations, 2009. <http://www.fao.org/3/i0841e/i0841e00.pdf>; and Bélières, Jean-François, Philippe Bonnal, Pierre-Marie Bosc, Bruno Losch, Jacques Marzin, and Jean-Michel Sourisseau. *Family Farming Around the World: Definitions, Contributions and Public Policies*. Paris : Agence Française de Développement, 2015. [http://agritrop.cirad.fr/576161/1/Belieres\\_Bonnal\\_Bosc\\_Losch\\_Marzin\\_Sourisseau-Family\\_farming-AFD-2015.pdf](http://agritrop.cirad.fr/576161/1/Belieres_Bonnal_Bosc_Losch_Marzin_Sourisseau-Family_farming-AFD-2015.pdf)

<sup>26</sup> Food and Agriculture Organization of the United Nations. *FAO and Traditional Knowledge: The linkage with Sustainability, Food Security and Climate Impacts*. Rome: Food and Agriculture Organization of the United Nations, 2009. <http://www.fao.org/3/i0841e/i0841e00.pdf>

<sup>27</sup> Deininger, Klaus. "Challenges posed by the New Wave of Farmland Investment." *The Journal of Peasant Studies* 38 no 2 (2011): 217-47. doi: 10.1080/03066150.2011.559007.

<sup>28</sup> Food and Agriculture Organization of the United Nations. *Why an FAO Definition of Family Farming? Final Version: Family Farming Definition*. Rome: Food and Agriculture Organization of the United Nations, March 25, 2013

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<sup>29</sup> Food and Agriculture Organization of the United Nations. *A System of Integrated Agricultural Censuses and Surveys: Vol 1 World Programme for the Census of Agriculture 2010*. Statistical Development Series 11. Rome: Food and Agriculture Organization of the United Nations, 2005. <http://www.fao.org/tempref/docrep/fao/008/a0135e/a0135e00.pdf>; and World Bank. *World Development Report 2008: Agriculture for Development*. Washington, DC: World Bank, 2007. doi: 10.1596/978-0-8213-7233-3

<sup>30</sup> Food and Agriculture Organization of the United Nations. *FAO and Traditional Knowledge: The linkage with Sustainability, Food Security and Climate Impacts*. Rome: Food and Agriculture Organization of the United Nations, 2009. <http://www.fao.org/3/i0841e/i0841e00.pdf>.

<sup>31</sup> Garner, Elizabeth, and Ana Paula de la O Campos. *Identifying the "Family Farm": An Informal Discussion of the Concepts and Definitions*. Rome: Food and Agriculture Organization of the United Nations, 2014. ESA Working Paper no. 14-10; Food and Agriculture Organization of the United Nations. *A System of Integrated Agricultural Censuses and Surveys: (Vol 1) World Programme for the Census of Agriculture 2010*. Statistical Development Series 11. Rome: Food and Agriculture Organization of the United Nations, 2005. <http://www.fao.org/tempref/docrep/fao/008/a0135e/a0135e00.pdf>; Bélières, Jean-François, Philippe Bonnal, Pierre-Marie Bosc, Bruno Losch, Jacques Marzin, and Jean-Michel Sourisseau. *Family Farming Around the World: Definitions, Contributions and Public Policies*. Paris: Agence Française de Développement, 2015. [http://agritrop.cirad.fr/576161/1/Belieres\\_Bonnal\\_Bosc\\_Losch\\_Marzin\\_Sourisseau-Family\\_farming-AFD-2015.pdf](http://agritrop.cirad.fr/576161/1/Belieres_Bonnal_Bosc_Losch_Marzin_Sourisseau-Family_farming-AFD-2015.pdf) ; and Food and Agriculture Organization of the United Nations. *Why an FAO Definition of Family Farming? Final Version: Family Farming Definition*. Rome: Food and Agriculture Organization of the United Nations, March 25, 2013.

family farming in food security and rural transformation livelihood.<sup>32</sup>

### b. Corporate Governance

International organisation as an example of Intergovernmental organisation (IGO) plays a crucial role because it is an instrument through its role and functions. For instance, settling disputes, adapting to climate change, and facilitating access to social services (infrastructures) and rights (women's participation in association and their creation, women's access to financial services, hence a means of generating income or addressing illiteracy by attending class modules) in the international dimension.<sup>33</sup> Archer highlights that IGO needs resources in order to transform the inputs into outputs' system.<sup>34</sup> It is termed 'conversion function'. In other words, IFAD needs to maintain and to adapt itself overall as a unit when its outputs system delivers global

public goods (i.e., investing in Moroccan rural people) and also provides mechanism to reduce the impact of ecological and socio-economic matters exposed to farmers within new technologies. It is described as 'IFAD capabilities' besides its consideration in the Moroccan government and in global governance.<sup>35</sup> Global governance is, then, viewed as aggregate effort of managing global affair where IGOs are perceived primarily at the global level of governance as influential through control and management of activities across frontiers, but not limited to governments' tasks.<sup>36</sup> In addition, global governance covers activities that cross frontiers and which are normally outside the control of individual governments due to numerous interlinked issues.<sup>37</sup>

Because governments themselves are not able to deal with social issues such as disparities between rural and urban areas or escalation of catastrophic risks caused by climate change, global governance is, indeed, an impetus of modern corporation.<sup>38</sup> The latter adapts corporate

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<sup>32</sup> International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015 [https://www.ifad.org/documents/38714182/39736369/pdrz mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9); and International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.

<sup>33</sup> International Fund for Agricultural Development. *Proposed Loan and Grant to the Kingdom of Morocco for Rural Development Project in the Mountain Zones of Errachidia Province*. Rome: International Fund for Agricultural Development, 2007. <https://webapps.ifad.org/members/eb/91/docs/EB-2007-91-R-31-Rev-1.pdf>; International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015 [https://www.ifad.org/documents/38714182/39736369/pdrz mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9); and International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.

<sup>34</sup> Archer, Clive. *International Organizations*. 3rd ed. London: Routledge, 2001.

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<sup>35</sup> Almond, A. Gabriel, and G. Bingham Powell. *Comparative Politics: A Development Approach*. Boston: Little, Brown, 1966.

<sup>36</sup> Archer, Clive. *International Organizations*. 3rd ed., 108. London: Routledge, 2001.

<sup>37</sup> Archer, Clive. *International Organizations*. 3rd ed. London: Routledge, 2001.; and Martin, L. Lisa, and Simmons, A. Beth. "International Organizations and Institutions." In *Handbook of International Relations*, 2nd ed. edited by Walter Carlsnaes, Thomas Risse and Beth A. Simmons, 326-51. Los Angeles: Sage, 2013.

<sup>38</sup> Veldman, Jeroen. "Responsibility and the Modern Corporation." In *Globalisation of Corporate Social Responsibility and its Impact on Corporate Governance* edited by Jean J. du Plessis, Umukanth Varottil, and Jeroen Veldman, 72-92. Cham: Springer, 2018. doi: 10.1007/978-3-319-69128-2.; Zürn, Michael. "Globalization and Global Governance." In *Handbook of International Relations*, 2nd ed. edited by Walter Carlsnaes, Thomas Risse and Beth A. Simmons. 401-25. Los Angeles: Sage, 2013.; Du Plessis, J. Jean, Umukanth Varottil, and Jeroen Veldman. "The Significance of Moving Beyond Corporate Social Responsibility." In *Globalisation of Corporate Social Responsibility and its Impact on Corporate Governance* edited by Jean J. du Plessis, Umukanth Varottil, and Jeroen Veldman, 3-23. Cham: Springer, 2018. doi: 10.1007/978-3-



responsibility under political corporate social responsibility which is in effect a term of modern political economy. It is termed 'corporate governance.' The latter can be described as modern corporation through attribution of responsibilities because of the capacities, the willingness and the interrelations partnership considerations of global governance issues.<sup>39</sup> For instance, IFAD in Morocco becomes an agent of change because its capabilities, its conversion function and its outputs system are on the front lines to fill the Moroccan governance gap. Moreover, corporate governance processes<sup>40</sup> are structured and function in modern political economy as appear for instance in the Organisation for Economic Co-operation and Development-OECD's 2015 principles of corporate governance. Some of these principles include the role of stakeholders in corporate governance, and aim to support economic efficiency, sustainable growth and financial stability.<sup>41</sup> Therefore, corporate governance of IFAD for instance, considers the triple P (People, Planet, Profit) in the case of

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319-69128-2.; and Costa, Massimo, and Patrizia Torrecchia. "Social, Environmental and Financial Information." In *Current Issues in Corporate Social Responsibility: An International Consideration* edited by Samuel O. Idowu, Catalina Sitnikov, Dalia Simion, and Claudiu George Bocean (Eds), 25-44. Cham: Springer, 2018. doi: 10.1007/978-3-319-70449-4.

<sup>39</sup> Veldman, Jeroen. "Responsibility and the Modern Corporation." In *Globalisation of Corporate Social Responsibility and its Impact on Corporate Governance* edited by Jean J. du Plessis, Umukanth Varottil, and Jeroen Veldman, 72-92. Cham: Springer, 2018. doi: 10.1007/978-3-319-69128-2.; and Zürn, Michael. "Globalization and Global Governance." In *Handbook of International Relations*, 2nd ed. edited by Walter Carlsnaes, Thomas Risse and Beth A. Simmons. 401-25. Los Angeles: Sage, 2013.

<sup>40</sup> Veldman, Jeroen. "Responsibility and the Modern Corporation." In *Globalisation of Corporate Social Responsibility and its Impact on Corporate Governance* edited by Jean J. du Plessis, Umukanth Varottil, and Jeroen Veldman, 72-92. Cham: Springer, 2018. doi: 10.1007/978-3-319-69128-2.

<sup>41</sup> OECD. G20/OECD Principles of Corporate Governance. Paris: OECD, 2015. <http://dx.doi.org/10.1787/9789264236882-en>

Moroccan family farmers by improving water infrastructure irrigation - (through Communautés d'irrigants and Association d'usagers de l'Eau Agricole- AUEA)-, and increasing agricultural productivity and incomes. Plus, IFAD's corporate governance responds to the food security and nutrition, to the empowerment and the capacity building, so that poverty is alleviated. As an illustration, this is accomplished through young people employment and women's access facility to financial services and market integration besides the institutionalisation of informal farmers' organisations.<sup>42</sup>

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<sup>42</sup> Veldman, Jeroen. "Responsibility and the Modern Corporation." In *Globalisation of Corporate Social Responsibility and its Impact on Corporate Governance* edited by Jean J. du Plessis, Umukanth Varottil, and Jeroen Veldman, 72-92. Cham: Springer, 2018. doi: 10.1007/978-3-319-69128-2.; Zürn, Michael. "Globalization and Global Governance." In *Handbook of International Relations*, 2nd ed. edited by Walter Carlsnaes, Thomas Risse and Beth A. Simmons. 401-25. Los Angeles: Sage, 2013.; Garner, Elizabeth, and Ana Paula de la O Campos. *Identifying the "Family Farm": An Informal Discussion of the Concepts and Definitions*. Rome: Food and Agriculture Organization of the United Nations, 2014. ESA Working Paper no. 14-10.; Costa, Massimo, and Patrizia Torrecchia. "Social, Environmental and Financial Information." In *Current Issues in Corporate Social Responsibility: An International Consideration* edited by Samuel O. Idowu, Catalina Sitnikov, Dalia Simion, and Claudiu George Bocean (Eds), 25-44. Cham: Springer, 2018. doi: 10.1007/978-3-319-70449-4.; International Fund for Agricultural Development. *Proposed Loan and Grant to the Kingdom of Morocco for Rural Development Project in the Mountain Zones of Errachidia Province*. Rome: International Fund for Agricultural Development, 2007. <https://webapps.ifad.org/members/eb/91/docs/EB-2007-91-R-31-Rev-1.pdf>; International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015 [https://www.ifad.org/documents/38714182/39736369/pdrz\\_mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz_mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9); Food and Agriculture Organization of the United Nations. *The State of Food and Agriculture: Innovation in Family Farming*. Rome: Food and Agriculture Organization of the United Nations, March 25, 2014.; and Ghazouani, Wafa, François Molle, and Edwin Rap. *Water Users Associations in NENA Region: IFAD Interventions and Overall*

Given the fact that the constructivism (grounded) theory is catalyst of social actions and takes into account norms in societies,<sup>43</sup> Moroccan family farming reflects its own realities besides taking into consideration that 'the family' and 'the farm' are interlinked and coevolve together.<sup>44</sup> As an example, according to 2018 data, 37,5% of the population in Morocco is considered rural.<sup>45</sup> Whereas the permanent cropland land area in 2016 accounts for 33%, the agricultural area under organic crop farming for 9 ha in 2017, and the whole agricultural land area accounts for 68,1%.<sup>46</sup>

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*Dynamics*. Rome: International Fund for Agricultural Development, October 2012.

<sup>43</sup> Adler, Emanuel. "Constructivism in International Relations: Sources, Contributions, and Debates." In *Handbook of International Relations*, 2nd ed. edited by Walter Carlsnaes, Thomas Risse and Beth A. Simmons, 112-44. Los Angeles: Sage, 2013; and Koleva, Petya, and Rodolphe Ocler. "Using Constructivist Grounded Theory to Construct a Substantive Theory for Corporate Social Responsibility." In *Current Issues in Corporate Social Responsibility: An International Consideration* edited by Samuel O. Idowu, Catalina Sitnikov, Dalia Simion, and Claudiu George Bocean (Eds), 125-39. Cham: Springer, 2018. doi: 10.1007/978-3-319-70449-4.

<sup>44</sup> Food and Agriculture Organization of the United Nations. *Why an FAO Definition of Family Farming? Final Version: Family Farming Definition*. Rome: Food and Agriculture Organization of the United Nations, March 25, 2013.; Garner, Elizabeth, and Ana Paula de la O Campos. *Identifying the "Family Farm": An Informal Discussion of the Concepts and Definitions*. Rome: Food and Agriculture Organization of the United Nations, 2014. ESA Working Paper no. 14-10.; and Bélières, Jean-François, Philippe Bonnal, Pierre-Marie Bosc, Bruno Losch, Jacques Marzin, and Jean-Michel Sourisseau. *Family Farming Around the World: Definitions, Contributions and Public Policies*. Paris : Agence Française de Développement, 2015. [http://agritrop.cirad.fr/576161/1/Belieres\\_Bonnal\\_Bosc\\_Losch\\_Marzin\\_Sourisseau-Family\\_farming-AFD-2015.pdf](http://agritrop.cirad.fr/576161/1/Belieres_Bonnal_Bosc_Losch_Marzin_Sourisseau-Family_farming-AFD-2015.pdf)

<sup>45</sup> World Bank. *Morocco Fertilizer Consumption in 2016*. Washington, DC: World Bank, 2020. <https://data.worldbank.org/indicator/AG.CON.FERT.PT.ZS>; and Trading Economics. *Morocco Consumer Price Index 2007-2020*. Trading Economics, 2020. <https://tradingeconomics.com/morocco/consumer-price-index-cpi>

<sup>46</sup> Food and Agriculture Organization of the United Nations. *World Food and Agriculture: Statistical Pocketbook 2019*. Rome: Food and Agriculture Organization of the United Nations, 2019. <http://www.fao.org/3/ca6463en/ca6463en.pdf>

Moreover, the Moroccan (family) labour force is an important factor that constructivism is likely to rely on as social action.<sup>47</sup> Plus, IFAD's activities enable rural transformation and market integration.<sup>48</sup> Even more, there is support of activities inducing agriculture extension and increased yield of agriculture holdings or of subsistence for income generation.<sup>49</sup> As a result, the employment in agriculture accounts for 38,3% in 2017.<sup>50</sup>

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<sup>47</sup> Adler, Emanuel. "Constructivism in International Relations: Sources, Contributions, and Debates." In *Handbook of International Relations*, 2nd ed. edited by Walter Carlsnaes, Thomas Risse and Beth A. Simmons, 112-44. Los Angeles: Sage, 2013.

<sup>48</sup> International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015. [https://www.ifad.org/documents/38714182/39736369/pdrz\\_mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz_mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9); and International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.

<sup>49</sup> Bélières, Jean-François, Philippe Bonnal, Pierre-Marie Bosc, Bruno Losch, Jacques Marzin, and Jean-Michel Sourisseau. *Family Farming Around the World: Definitions, Contributions and Public Policies*. Paris : Agence Française de Développement, 2015. [http://agritrop.cirad.fr/576161/1/Belieres\\_Bonnal\\_Bosc\\_Losch\\_Marzin\\_Sourisseau-Family\\_farming-AFD-2015.pdf](http://agritrop.cirad.fr/576161/1/Belieres_Bonnal_Bosc_Losch_Marzin_Sourisseau-Family_farming-AFD-2015.pdf); Deininger, Klaus. "Challenges posed by the New Wave of Farmland Investment." *The Journal of Peasant Studies* 38 no 2 (2011): 217-47. doi: 10.1080/03066150.2011.559007.; Boecker, Sarah, Shahnaz Ghahremani, Maggie Kuck, and Shane Ó Dell. "Organic Farming in Morocco: An Investigation of Agricultural Extension Centers." Thesis., Worcester Polytechnic Institute, 2020. [https://web.cs.wpi.edu/~rek/Projects/BioDiversity\\_Proposal.pdf](https://web.cs.wpi.edu/~rek/Projects/BioDiversity_Proposal.pdf); Garner, Elizabeth, and Ana Paula de la O Campos. *Identifying the "Family Farm": An Informal Discussion of the Concepts and Definitions*. Rome: Food and Agriculture Organization of the United Nations, 2014. ESA Working Paper no. 14-10; and Sulaiman, Rasheed V., *Delgermaa Chuluunbaatar, and Sreeram Vishnu. Upscaling Climate Smart Agriculture: Lessons for Extension and Advisory Services*. Rome: Food and Agriculture Organization of the United Nations, 2018.

<sup>50</sup> Food and Agriculture Organization of the United Nations. *World Food and Agriculture: Statistical Pocketbook 2019*. Rome: Food and Agriculture Organization of the United

Nonetheless, despite the employment in agriculture in Morocco, female labour force (aged 15 years and older) participation accounts for 21,4% whilst the male one accounts for 70,4% with youth unemployment rate accounting for 1,03, in 2018.<sup>51</sup> These facts add to inequalities of land holdings or lack of land access faced by Moroccan female farmers.<sup>52</sup> Meanwhile, a large percentage of Moroccan female employed in agriculture amounts to 59,4% (within whole employment in agriculture accounting for 38,3%) in 2017,<sup>53</sup> adding to land properties rights issues. Moreover, these impediments incurred by Moroccan family farming are associated with a lack of social reproductive labour due to particularly increased disinterest of youths in the agriculture employment sector, having poor access to credit, a low level of training and vulnerability engendered by climate change fluctuation<sup>54</sup> besides global rising food imports (for instance, the cereal import dependency ratio accounting for 42,1% in 2017).<sup>55</sup>

Consequently, there is a fundamental need of increasing on-farm innovative inputs in order to reap the benefit of increased yield outcomes since agriculture value added to GDP in 2017 accounted for 12,4% in Morocco.<sup>56</sup> The following reinforcing causal loop of Moroccan farming needs to consider higher innovative on-farm inputs of processing activities which enables IFAD's outputs system or its conversion function capabilities.<sup>57</sup> This being so, in order to deliver global public goods for instance, investments in Moroccan rural and Moroccan government people are made through corporate governance within global governance.<sup>58</sup> Expected mechanisms provided by IFAD through corporate governance in order to endow rural transformation or market integration<sup>59</sup> include Moroccan family farming having access to basic social services, improving irrigation agriculture infrastructure, enhancing adaptive capacities for coping climate change, introducing new technologies and innovation so that youth is passionate about the agriculture sector, eased in

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Nations, 2019.  
<http://www.fao.org/3/ca6463en/ca6463en.pdf>

<sup>51</sup> United Nations Development Program. *Human Development Report 2019: Beyond Income, Beyond Averages, Beyond Today: Inequalities in Human Development in 21<sup>st</sup> Century*. New York, NY: United Nations Development Program, 2019.  
<http://hdr.undp.org/sites/default/files/hdr2019.pdf>.

<sup>52</sup> International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.

<sup>53</sup> Food and Agriculture Organization of the United Nations. *World Food and Agriculture: Statistical Pocketbook 2019*. Rome: Food and Agriculture Organization of the United Nations, 2019.  
<http://www.fao.org/3/ca6463en/ca6463en.pdf>

<sup>54</sup> International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.; and Food and Agriculture Organization of the United Nations. *Global Dialogue on Family Farming*. Rome: Food and Agriculture Organization of the United Nations, 2015.

<sup>55</sup> Food and Agriculture Organization of the United Nations. *World Food and Agriculture: Statistical Pocketbook 2019*. Rome: Food and Agriculture Organization of the United

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Nations, 2019.  
<http://www.fao.org/3/ca6463en/ca6463en.pdf>

<sup>56</sup> Ibid

<sup>57</sup> Archer, Clive. *International Organizations*. 3rd ed. London: Routledge, 2001.

<sup>58</sup> Veldman, Jeroen. "Responsibility and the Modern Corporation." In *Globalisation of Corporate Social Responsibility and its Impact on Corporate Governance* edited by Jean J. du Plessis, Umukant Varottil, and Jeroen Veldman, 72-92. Cham: Springer, 2018. doi: 10.1007/978-3-319-69128-2.; Zürn, Michael. "Globalization and Global Governance." In *Handbook of International Relations*, 2nd ed. edited by Walter Carlsnaes, Thomas Risse and Beth A. Simmons. 401-25. Los Angeles: Sage, 2013.; and Almond, A. Gabriel, and G. Bingham Powell. *Comparative Politics: A Development Approach*. Boston: Little, Brown, 1966.

<sup>59</sup> International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015  
[https://www.ifad.org/documents/38714182/39736369/pdrz\\_mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz_mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9); and International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.

access to finance services and women inclusiveness prioritised besides adult literacy, or farmers' informal organisations institutionalised.<sup>60</sup> Altogether, Moroccan local knowledge and its family farming's livelihood besides the increment of higher innovative on-farm inputs expect increased yields outcomes among fruit and vegetables indices, cereals indices, livestock production indices, cropping intensity ratio, food security, and exports. Among inputs, taking into account less emission in agriculture, the increased agroecosystem mechanism in forest area, the increased skilled labour force including female employment, the positive polarity of increase of precipitation and the less negative polarity of increase of temperature, increased renewable energy consumption and increased technology of water irrigation will generate non-farm income as well as market integration besides rural transformation. Therefore, the interactionism and social constructivism meet the gap of knowledge of management and operational farming activities. It is the applicability of constructivism (grounded) theory in Moroccan family farming endowed by the impetus of IFAD's corporate

governance as part of global governance in modern political economy.<sup>61</sup>

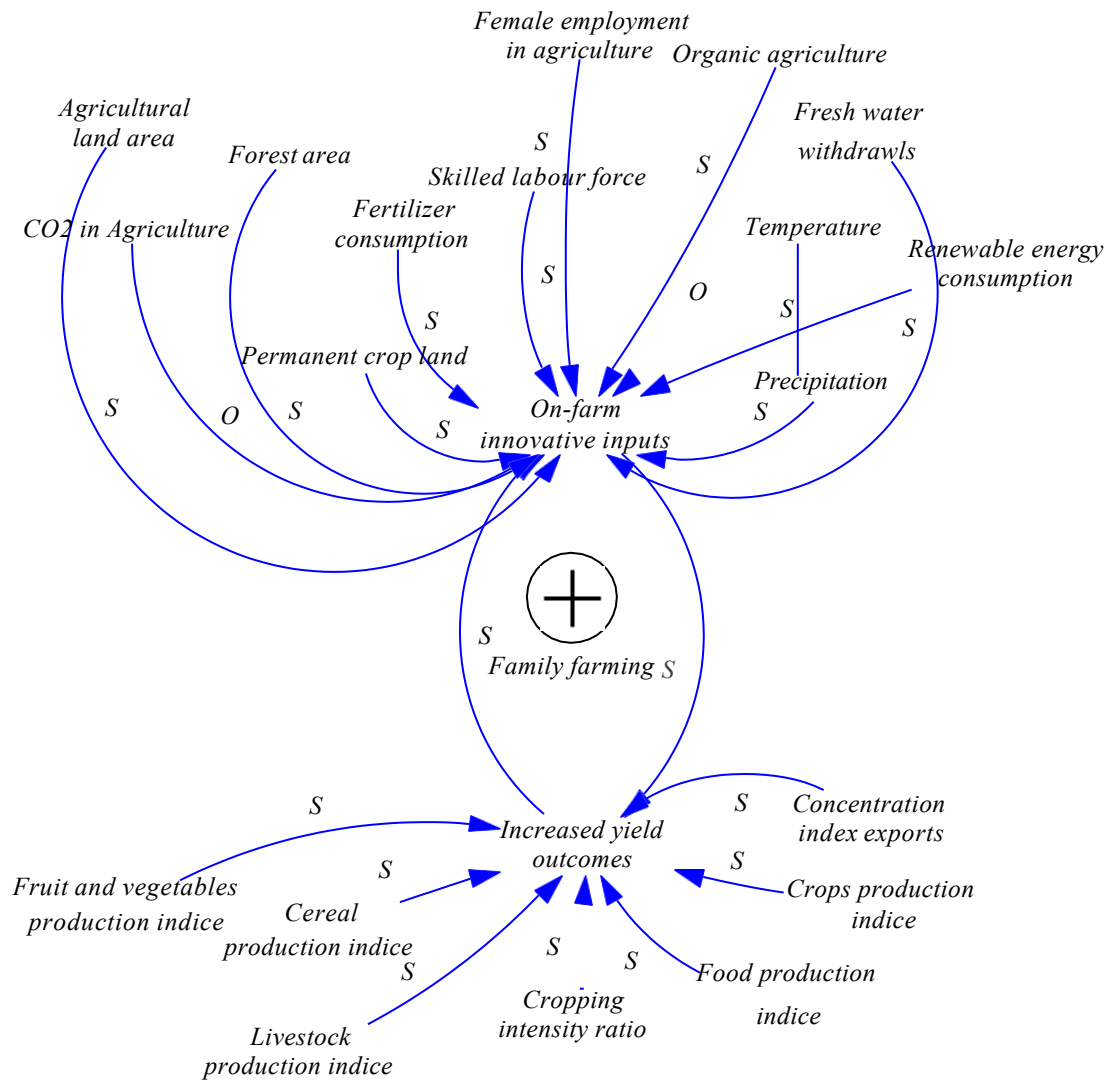
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<sup>60</sup> International Fund for Agricultural Development. *Proposed Loan and Grant to the Kingdom of Morocco for Rural Development Project in the Mountain Zones of Errachidia Province*. Rome: International Fund for Agricultural Development, 2007. <https://webapps.ifad.org/members/eb/91/docs/EB-2007-91-R-31-Rev-1.pdf>; International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015 [https://www.ifad.org/documents/38714182/39736369/pdrz\\_mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz_mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9); International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.; and Food and Agriculture Organization of the United Nations. *Global Dialogue on Family Farming*. Rome: Food and Agriculture Organization of the United Nations, 2015.

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<sup>61</sup> Adler, Emanuel. "Constructivism in International Relations: Sources, Contributions, and Debates." In *Handbook of International Relations*, 2nd ed. edited by Walter Carlsnaes, Thomas Risse and Beth A. Simmons, 112-44. Los Angeles: Sage, 2013; Veldman, Jeroen. "Responsibility and the Modern Corporation." In *Globalisation of Corporate Social Responsibility and its Impact on Corporate Governance* edited by Jean J. du Plessis, Umukanth Varottil, and Jeroen Veldman, 72-92. Cham: Springer, 2018. doi: 10.1007/978-3-319-69128-2.; Zürn, Michael. "Globalization and Global Governance." In *Handbook of International Relations*, 2nd ed. edited by Walter Carlsnaes, Thomas Risse and Beth A. Simmons. 401-25. Los Angeles: Sage, 2013.; Garner, Elizabeth, and Ana Paula de la O Campos. *Identifying the "Family Farm": An Informal Discussion of the Concepts and Definitions*. Rome: Food and Agriculture Organization of the United Nations, 2014. ESA Working Paper no. 14-10.; Costa, Massimo, and Patrizia Torrecchia. "Social, Environmental and Financial Information." In *Current Issues in Corporate Social Responsibility: An International Consideration* edited by Samuel O. Idowu, Catalina Sitnikov, Dalia Simion, and Claudiu George Bocean (Eds), 25-44. Cham: Springer, 2018. doi: 10.1007/978-3-319-70449-4.; International Fund for Agricultural Development. *Proposed Loan and Grant to the Kingdom of Morocco for Rural Development Project in the Mountain Zones of Errachidia Province*. Rome: International Fund for Agricultural Development, 2007. <https://webapps.ifad.org/members/eb/91/docs/EB-2007-91-R-31-Rev-1.pdf>; International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.; Food and Agriculture Organization of the United Nations. *The State of Food and Agriculture: Innovation in Family Farming*. Rome: Food and Agriculture Organization of the United Nations, March 25, 2014; Food and Agriculture Organization of the United Nations. *Global Dialogue on Family Farming*. Rome: Food and Agriculture Organization of the United Nations, 2015.; Ghazouani, Wafa, François Molle, and Edwin Rap. *Water Users Associations in NENA Region: IFAD Interventions and Overall Dynamics*. Rome: International Fund for Agricultural Development, October 2012.; Archer, Clive. *International Organizations*. 3rd ed. London: Routledge, 2001.; Martin, L. Lisa, and Simmons, A. Beth. "International Organizations and Institutions." In *Handbook of International Relations*, 2nd ed. edited by Walter Carlsnaes, Thomas Risse and Beth A. Simmons, 326-51. Los Angeles : Sage, 2013 ; and Bélières, Jean-François, Philippe Bonnal, Pierre-Marie Bosc, Bruno Losch, Jacques Marzin, and Jean-Michel Sourisseau. *Family Farming Around the World: Definitions, Contributions and Public Policies*. Paris : Agence Française de Développement, 2015. [http://agritrop.cirad.fr/576161/1/Belieres\\_Bonnal\\_Bosc\\_Losch\\_Marzin\\_Sourisseau-Family\\_farming-AFD-2015.pdf](http://agritrop.cirad.fr/576161/1/Belieres_Bonnal_Bosc_Losch_Marzin_Sourisseau-Family_farming-AFD-2015.pdf)

**Figure 1.** A Reinforcing Feedback of a Family Farming Causal Loop Diagram



Source: Authors, 2020. Using Vensim Software version PLE 7.3.

## Analysis

### a. Farming livelihood and food security in Morocco

Farming livelihood is the subsistence means of life in countryside and this comprises generating income. It is operated and managed by family farming, family farms, or the government.<sup>62</sup> Moroccan family farming faces the inequalities of land holdings, especially by women who hold a small proportion of land, or a fragmented one, and acute unemployment of youth because agriculture is vulnerable in Morocco due to climate change, the global rise of food import and the energy prices.<sup>63</sup> Moroccan family farming struggles to generate non-income farming for education and does not have sufficient access of credit as inputs. Moreover, a state system that supports socially reproductive labour and the rising food imports is lacking. Family farmers evolve with a low

level of training, poor access to credit, weak community organisation of farmers and property rights issues.<sup>64</sup> As a result, there are issues regarding sustained activities of family farming, socio-economic enhancement, land access limitations which do not enable agriculture extension, lack of basic social services besides infrastructure which hinges on market integration of the small scale family farming.<sup>65</sup> Understanding this situation, new knowledge and technology are one way to make agricultural occupation attractive to youth in order to address unemployment and food insecurity, and to promote farming as business.<sup>66</sup>

Therefore, family farmers are in charge of improving food security through their scope of actions so that productivity can be reached from the agricultural holdings by maximising quality of production, market competitiveness and the improvement of agri-food models which reflect them.<sup>67</sup> Further to this point, Moroccan farmers spend their farming margin in purchasing fertilizers, pesticides and other chemical treatment whilst their revenues do not cover all their farm expenses.<sup>68</sup> But, the use of

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<sup>62</sup> Food and Agriculture Organization of the United Nations. *The State of Food and Agriculture: Innovation in Family Farming*. Rome: Food and Agriculture Organization of the United Nations, March 25, 2014.; Food and Agriculture Organization of the United Nations. *Global Dialogue on Family Farming*. Rome: Food and Agriculture Organization of the United Nations, 2015.; International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.; Garner, Elizabeth, and Ana Paula de la O Campos. *Identifying the "Family Farm": An Informal Discussion of the Concepts and Definitions*. Rome: Food and Agriculture Organization of the United Nations, 2014. ESA Working Paper no. 14-10.; Sulaiman, Rasheed V., *Delgermaa Chuluunbaatar, and Sreeram Vishnu. Upscaling Climate Smart Agriculture: Lessons for Extension and Advisory Services*. Rome: Food and Agriculture Organization of the United Nations, 2018.

<sup>63</sup> United Nations Development Program. *Human Development Report 2019: Beyond Income, Beyond Averages, Beyond Today: Inequalities in Human Development in 21<sup>st</sup> Century*. New York, NY: United Nations Development Program, 2019. <http://hdr.undp.org/sites/default/files/hdr2019.pdf>; Food and Agriculture Organization of the United Nations. *Global Dialogue on Family Farming*. Rome: Food and Agriculture Organization of the United Nations, 2015.; and International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.

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<sup>64</sup> International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.

<sup>65</sup> International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.; and Food and Agriculture Organization of the United Nations. *Global Dialogue on Family Farming*. Rome: Food and Agriculture Organization of the United Nations, 2015.

<sup>66</sup> Food and Agriculture Organization of the United Nations. *Global Dialogue on Family Farming*. Rome: Food and Agriculture Organization of the United Nations, 2015.

<sup>67</sup> Bélières, Jean-François, Philippe Bonnal, Pierre-Marie Bosc, Bruno Losch, Jacques Marzin, and Jean-Michel Sourisseau. *Family Farming Around the World: Definitions, Contributions and Public Policies*. Paris: Agence Française de Développement, 2015. [http://agritrop.cirad.fr/576161/1/Belieres\\_Bonnal\\_Bosc\\_Losch\\_Marzin\\_Sourisseau-Family\\_farming-AFD-2015.pdf](http://agritrop.cirad.fr/576161/1/Belieres_Bonnal_Bosc_Losch_Marzin_Sourisseau-Family_farming-AFD-2015.pdf)

<sup>68</sup> Boecker, Sarah, Shahnaz Ghahremani, Maggie Kuck, and Shane Ó Dell. "Organic Farming in Morocco: An Investigation of Agricultural Extension Centers." Thesis.,

fertilisers is an investment for harvesting yield productivity. However, extra utilisation of fertilisers and land over exploitation lead to soil degradation, hence less yield productivity besides the exacerbation of climate fluctuation. In addition, farmers' revenues are not strictly limited to farming purpose as off-farm income is needed for health services and education, for instance. Nonetheless, farmers' revenue does not cover all farm scope activities as rural areas tend to remain less developed.<sup>69</sup> These challenges make Moroccan family farmers turn to organic farming as an alternative, even though it does not entirely solve the problem of soil degradation and rain-fed crops.<sup>70</sup> IFAD's projects enable farmers to access credit as inputs so that they can practice both ways of farming when there are water irrigation projects. Farmers who have access to the ground water system grow citrus which is an export- orientated crop generating high income. Meanwhile, farmers with less means grow cereal as it does not require much water. The drip water system and other irrigation technologies on a large- scale require irrigation infrastructure improvement which is a large investment in the view of non-state actors that help in bilateral cooperation such as the World Bank, and IFAD on the government' political

agenda of Morocco green plan to improve farming as business.<sup>71</sup>

As an example, forty Moroccan family farmers with around 7 hectares in the Sais Plain use a rain-fed, drip, surface and sprinkler irrigation system.<sup>72</sup> Among them, small-scale farmers struggle to cope with drought as they barely survive on crops sales revenues, but almost failing to feed their family due little earning profit. Since more productivity yield is driven by fertile soil, these small-scale farmers do not yield productivity from basic food such as fava beans, chickpeas, lentils, oats and barley because they do not have access to new technologies to adapt to weather variability, and to improve their productivity. Large-scale farmers in that region, however, have higher income from crops sales and can use their income to access technologies, such as rain water catchment for irrigation using drip irrigation system or ground aquifers.<sup>73</sup> Therefore, there is a chance that there is no prototype of family farming, except the methods used which reflect the scope of their activities through their management and operational functions as the final aim intends to increase economic income and social services. The following table shows the farming livelihood income generation and productivity from the economic, on social, on environmental and on agronomic perspectives before the next section explains the role of IFAD in supporting family farmers and rural communities.

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Worcester Polytechnic Institute, 2020. [https://web.cs.wpi.edu/~rek/Projects/BioDiversity\\_Proposal.pdf](https://web.cs.wpi.edu/~rek/Projects/BioDiversity_Proposal.pdf)

<sup>69</sup> Boecker, Sarah, Shahnaz Ghahremani, Maggie Kuck, and Shane Ó Dell. "Organic Farming in Morocco: An Investigation of Agricultural Extension Centers." Thesis., Worcester Polytechnic Institute, 2020. [https://web.cs.wpi.edu/~rek/Projects/BioDiversity\\_Proposal.pdf](https://web.cs.wpi.edu/~rek/Projects/BioDiversity_Proposal.pdf); and Food and Agriculture Organization of the United Nations. *The State of Food and Agriculture: Innovation in Family Farming*. Rome: Food and Agriculture Organization of the United Nations, March 25, 2014

<sup>70</sup> Boecker, Sarah, Shahnaz Ghahremani, Maggie Kuck, and Shane Ó Dell. "Organic Farming in Morocco: An Investigation of Agricultural Extension Centers." Thesis., Worcester Polytechnic Institute, 2020. [https://web.cs.wpi.edu/~rek/Projects/BioDiversity\\_Proposal.pdf](https://web.cs.wpi.edu/~rek/Projects/BioDiversity_Proposal.pdf)

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<sup>71</sup> Ibid.

<sup>72</sup> Ibid.

<sup>73</sup> Boecker, Sarah, Shahnaz Ghahremani, Maggie Kuck, and Shane Ó Dell. "Organic Farming in Morocco: An Investigation of Agricultural Extension Centers." Thesis., Worcester Polytechnic Institute, 2020. [https://web.cs.wpi.edu/~rek/Projects/BioDiversity\\_Proposal.pdf](https://web.cs.wpi.edu/~rek/Projects/BioDiversity_Proposal.pdf); and International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.

**Table 1.** Farming Livelihood and Productivity in Morocco

<b>Morocco Economic Profile, Farming Productivity and Food Security</b>	
<b>Economic sustainability</b>	<b>Morocco</b>
Skilled labour force (% of labour force) (2010-2018)	18,7
<u>Concentration index (exports) *SDG 17,4 (2018) (Value)</u>	0,174
<b>Socio-Economic Sustainability</b>	<b>Morocco</b>
Gender Development Index (2018) (Value)	0,833
<u>Gender Inequality Index (2018) (Value)</u>	0,492
<b>Ecological Sustainability</b>	<b>Morocco</b>
Renewable energy consumption (% of total final energy consumption)	11,3
Forest area (% of total land area) (2017)	12,6
Fresh water withdrawals (% of total renewable water resources) *SDG 6	35,7
Agricultural land area (% of total land area) (2017)	68,1
Permanent cropland (% land area) (2016)	33
Agriculture area under organic agric, (ha) (2017)	9
Emissions in agriculture (CO2 eq, Gg) (2017)	14,258
Precipitation milimetre (2015)	2,47
<u>Temperature celsius (2015)</u>	12,55
<b>Farming productivity</b>	<b>Morocco</b>
Cropping intensity ratio (2017)	0,8
Employment in agriculture, female (%) (2017)	59,4
Fertiliser consumption (% of fertilizer production) (2016)	23,3
Food production indice (2004-2006 = 100) (2017)	118,5
Crops production indice (2004-2006=100) (2017)	134
Cereals production indice (2004-2006=100) (2017)	134
Fruit and Vegetables production indice (2004-2006=100) (2017)	132
<u>Livestock production indice (2004-2006=100) (2017)</u>	154

*Source: Data Computed from (UNDP, 2019; FAO ,2019; World Bank, 2020; and Trading Economics, 2020)*



**a. IFAD's project in the Kingdom of Morocco**

IFAD's global governance flowing through corporate governance in Morocco addresses climate change adaptation of the livestock, the crops and the water sector within intensification of inputs by using innovative technologies that support farmers' livelihood in order to access to new markets and diversification of these agricultural holdings.<sup>74</sup> IFAD intensifies the resource management and the irrigation in the Moroccan rural area due to the fact that land and water are scarce resources subject to conflict.<sup>75</sup> As a result, more than 12% accounts for total exports.<sup>76</sup> Moreover, training of farmers enables gaining new skills in fruit tree species (size and density) to grow that are appointed for export. Alternatively, growing fruit plants which are the result of agricultural extension purpose. IFAD's innovation lies in the participation and empowerment of beneficiaries,<sup>77</sup> because farmers struggle to access new technologies in order to increase productivity on the one side. On the other, it is because some crops like cereals earn little profit even though it tends to be the most produced due

to its lesser requirements in water fed. Furthermore, IFAD supports the enhancement or sustainability of agricultural biodiversity through bee farming and the traditional pollinator methods used to pollinate wild insects.

In addition, IFAD's projects in the rural mountains of Morocco enables access to services extension and agricultural information as its value chain development, so that market integration can be accessed by small-scale family farmers holders through agribusiness and cooperative development.<sup>78</sup> Involvement of women in income generation, the job's creation for young rural people, the accessibility to financial services, the agriculture extension, the market integration, and the adaptation to climate change besides the accessibility to information are all steps on the road to inclusive rural transformation and innovative ways to reduce the gap of existing productivity to the desired yield.<sup>79</sup>

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<sup>74</sup> International Fund for Agricultural Development. *Proposed Loan and Grant to the Kingdom of Morocco for Rural Development Project in the Mountain Zones of Errachidia Province*. Rome: International Fund for Agricultural Development, 2007. <https://webapps.ifad.org/members/eb/91/docs/EB-2007-91-R-31-Rev-1.pdf>; and International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015. [https://www.ifad.org/documents/38714182/39736369/pdrz\\_mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz_mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9)

<sup>75</sup> Ghazouani, Wafa, François Molle, and Edwin Rap. *Water Users Associations in NENA Region: IFAD Interventions and Overall Dynamics*. Rome: International Fund for Agricultural Development, October 2012.

<sup>76</sup> International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.

<sup>77</sup> Ibid.

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<sup>78</sup> International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015. [https://www.ifad.org/documents/38714182/39736369/pdrz\\_mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz_mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9)

<sup>79</sup> Ibid.

**Table 2.** Opportunities Addressed by the Project Driven by Objectives and Needs of Farmers

IFAD's Project implementation in the Kingdom of Morocco	Opportunities addressed by the project driven by objectives and needs of farmers	Target group and participation in rural area	Government's Contribution	Rural budgetary Allocation
<p><b>Rural Development Project in the Mountain Zones of Al-Haouz (approved in 2000 and implemented between 2002 and 2011)</b></p> <p><b>With global budget of US\$ 30,2 million</b> Contribution of IFAD accounting for US\$ 18 million</p>	<p>*Sustain socio-economic development through access to basic infrastructures rehabilitation of small-scale irrigation (extension) and soil and water conservation (ridges to control gully) and drinking water supply</p> <p>*Capacity building of formal and informal farmers organizations: self management</p> <p>*Increase productin conditions and diversify agricultural and non agricultural income</p> <p>*Access sustainale facility of underprivileged mainly women to financial services</p> <p>*income generating activities and microentreprise</p> <p>*Sustainable management of natural resources</p> <p>* rural poverty diversification income generating for farmers through small ruminants and beekeeping and growing fruit trees (cherries, plums, apples) export market oriented</p> <p>*70 literacy classes attended by 4,878 women which enable 20 women's association</p> <p>* 53% for farmers technical training (livestock and product marketing)</p> <p>*livestock, crop production and health disease related combated</p>	<p>*disavantaged rural population substance farmers, young people and women</p> <p>*18,550 households with half of farmers working on less 1ha farm</p> <p>96% farming less than 5 ha</p> <p>*13,6% of arable farm land from state forests and commune was distributed to 12,000 farmers</p> <p>the farm irrigated traditionally at 40%</p>	US\$10,9 million	US\$800,000

Source: Data Computed from (IFAD, 2015, and IFAD, 2007)

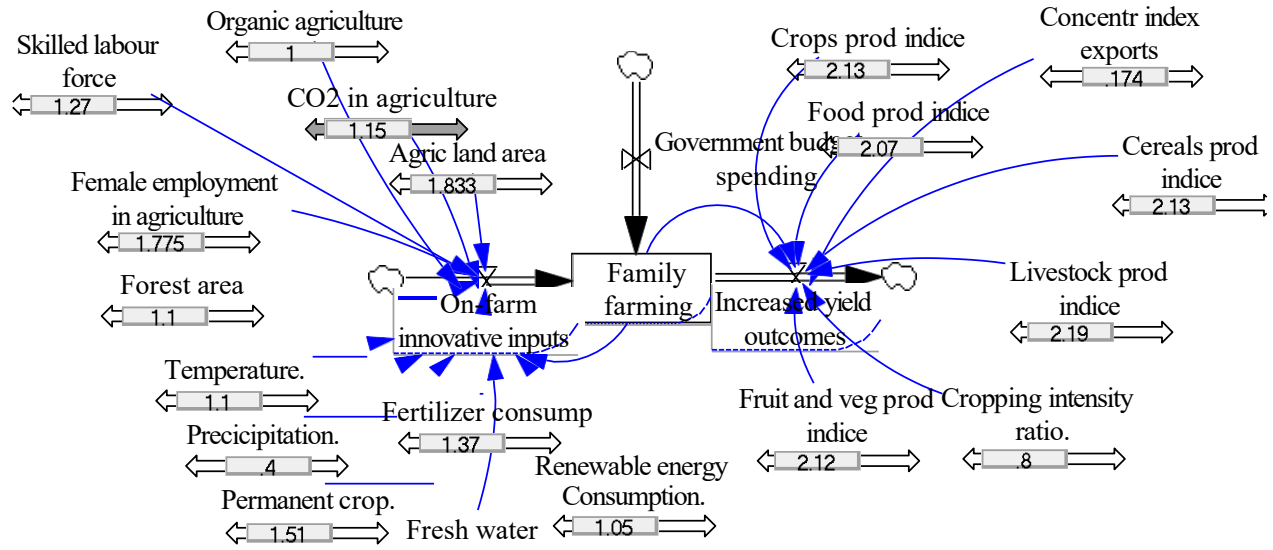
It is assumed that due to IFAD's corporate governance, the amount of its budget contribution in Morocco is influencing the factors of higher on-farm innovative inputs as 'inflows'. For instance, IFAD's budget contribution allocated to rural areas amounted to USD 800,000<sup>80</sup> (See table 2). The family farming stock flow considers government expenditures due to corporate governance of IFAD enhancing Moroccan government capacities aiming at outflows as yield outcomes. The inflows consider an increase of social production conditions and diversification of agriculture and non-farm income generating. It is intended to ease access of financial services, particularly to women. It also intends to attain adult literacy and the institutionalisation of farmers' organisations or the creation of women's associations. The capacity building of rural farmers includes technical training about the choice of proper crops seeds species and combating diseases related to crop and husbandry farming. It allows access to basic infrastructures, especially small-scale water (irrigation) infrastructure rehabilitation besides its extension, conservation of soil and water for farming and household purpose. Moreover, it enables drinking water supply. Some adaptive capacities to cope with climate change emphasise the intensification of growing various fruit trees (for export market-orientated), of diversifying crops by considering which type of crops request less water irrigation. Other

considerations consist on seasonal crops, diversifying livestock and enhancing beekeeping besides the pollinating system in order to sustain biodiversity. The model is simulated over a 10-year period, and the simulation interval or the length of the simulation (dt) is set at 0.5. Whilst the unit of time for this model is dollar/year for the output windows of stocks namely on-farm innovative inputs, family farming, and increased yield outcomes. Here is the simulation at initial time (0), and at the final time (10).

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<sup>80</sup> International Fund for Agricultural Development. *Proposed Loan and Grant to the Kingdom of Morocco for Rural Development Project in the Mountain Zones of Errachidia Province*. Rome: International Fund for Agricultural Development, 2007. <https://webapps.ifad.org/members/eb/91/docs/EB-2007-91-R-31-Rev-1.pdf>; and International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015. [https://www.ifad.org/documents/38714182/39736369/pdrz mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9)

**Figure 2.** System Dynamics Modelling for Moroccan Family Farming



Source: Authors, 2020. Using Vensim Software version PLE 7.3.5

As a display of the times appears, so does the simulation progress. For instance, the auxiliary variables or convert such as the skilled labour force which is a response to youth employment and female inclusiveness of projects' participation and training in agriculture varies from 1.27 to 6.475 within units of 1/year. The converter forest area is varying from 1,1 of units, 1/year to 5.55. It is one of the solutions to distribute arable farm land to the disadvantaged rural population, for instance farmers, young people and women. As an example, 13,6% of arable farm land from state forest and communes was distributed to 12,000 farmers with traditional irrigation accounting for 40%. Similarly, 18,550 households with only half of farmers working on less than 1 ha arable land farm or 96% farming on less than 5 ha.<sup>81</sup> Considering the fact that Morocco is a medium human development accounting for 0.676 with a GINI coefficient of 21,7 % in 2018,<sup>82</sup> this distribution of state forest as arable land farm for disadvantaged rural people reduces poverty and induces income generation besides promoting gender equality. Moreover, the Moroccan gender development index accounts for 0.833 whilst its gender inequality index accounted for 0.492 in 2018.<sup>83</sup> With inclusiveness of women, the

auxiliary variable female employment in agriculture simulation varies from units of 1/year 1,775 to 7.2 as the simulation progresses. The water irrigation infrastructure enhancement can consider fresh water withdrawal which varies from 1,55 to 8 units, 1/year. As a result, higher stock of on-farm innovative inputs causes strip of family farming stock increases, which in turns endows an output of increased yield outcomes stock (see figure 3). Similarly, as a display of the times appears, the auxiliary variable concentration index export varies from 0.174 to 1 unit of 1/year; crops production indices from 2.13 to 20; food production indices from units 1/year, 2.07 to 20; fruit and vegetables production indices from 2.07 to 20 units 1/year, livestock production indices from 2.19 to 20, units 1/year and cereals production indices from 2.13 to 19.975 units of 1/year.

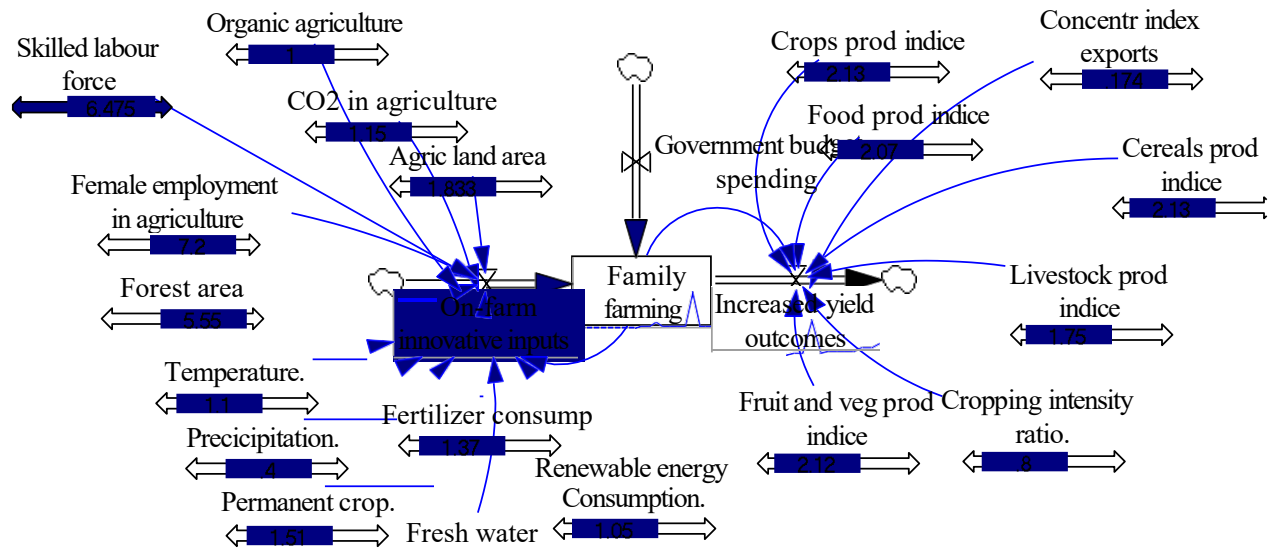
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<sup>81</sup> International Fund for Agricultural Development. *Proposed Loan and Grant to the Kingdom of Morocco for Rural Development Project in the Mountain Zones of Errachidia Province*. Rome: International Fund for Agricultural Development, 2007. <https://webapps.ifad.org/members/eb/91/docs/EB-2007-91-R-31-Rev-1.pdf>; and International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015. [https://www.ifad.org/documents/38714182/39736369/pdrz\\_mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz_mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9)

<sup>82</sup> United Nations Development Program. *Human Development Report 2019: Beyond Income, Beyond Averages, Beyond Today: Inequalities in Human Development in 21<sup>st</sup> Century*. New York, NY: United Nations Development Program, 2019. <http://hdr.undp.org/sites/default/files/hdr2019.pdf>

<sup>83</sup> Ibid.

**Figure 3.** System Dynamics Modelling for Moroccan Family Farming Over Time Using Stocks and Flows



Source: Authors, 2020. Using Vensim Software version PLE 7.3.

## b. Results and Discussion

Family farming is not part of the policy making process, especially for the environmental policy process. Access to financial services is a positive point for responding to the global need of food security and an extension or variability of agricultural holdings. The facility to land tenure needs to be improved through social policies protection. The Moroccan state needs to increase positive protectionism due to the rise of global food imports. IFAD's support, on its side, is to expand the national, regional and global market for upstream family farmers, mainly small-scale holders due to their vulnerability. Plus, women and youth are the most vulnerable and subject to increased poverty. In addition, even though there seems to be a higher rate of education in Morocco, the rate of employment is problematic associated with 2010's Arab spring. That is why, IFAD's support through innovative technologies for youths, training, empowerment of women is likely to reduce the rate of unemployment and to create attractive occupation of youths in Agriculture besides the women inclusiveness approach. Furthermore, there is an agro-ecological approach through the agroecosystem or agro-forestry when the forest under the responsibility of the state is distributed to landless people in arable mountains so that inequality is reduced and poverty decreased. Besides, although increased on-farm inputs is likely to yield increased output, it is important to consider the crop margin, particularly for export-orientated production, and the crop diversification for the domestic marketplace. This is so, because there is an increase of cereals productivity, but the crop earns little profit whilst it is for export market-orientated purposes. Further, the training and services of farmers need to be expanded. For instance, farmers are trained to differentiate tree species but the lessons do not expand on how a particular choice of the tree species can be made

in order to sustain variability, especially the size and density of the trees due to the limitation of arable land size.<sup>84</sup> Nevertheless, the institutionalisation of farmers' informal organisations enable their self-management, self-awareness and self-dependency which is an impetus of market integration and rural transformation. However, despite the high sustainability of IFAD project, its performance and improvement of quality are declining because it seems to handle too many projects at the same time, especially in the Near East and North Africa. However, exception is for Environmental and Natural resource management and sustainability where the trend of support is positive.<sup>85</sup> Nevertheless, the evaluation shows correlation among activities undertaken by IFAD in general. For instance, the innovation, the climate change adaptation, the environmental and natural resource, IFAD performance, or the sustainability of government performance has a moderate correlation which means they are significant whilst effectiveness with rural poverty impact has a strong correlation.<sup>86</sup> This sustainability and impact of the rural area are explained by the efficient use of natural resources by small and medium family farmers<sup>87</sup> in narrowing the productivity gap and sustainability of production besides the new

<sup>84</sup> International Fund for Agricultural Development. *Investing in Rural People in the Kingdom of Morocco*. Rome: International Fund for Agricultural Development, 2016.

<sup>85</sup> International Fund for Agricultural Development. *2019 Annual Report on Results and Impact of IFAD Operations*. Rome: International Fund for Agricultural Development, 2019.

<sup>86</sup> International Fund for Agricultural Development. *2019 Annual Report on Results and Impact of IFAD Operations*. Rome: International Fund for Agricultural Development, 2019.

<sup>87</sup> International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015. [https://www.ifad.org/documents/38714182/39736369/pdrz\\_mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz_mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9)

skills of crops species, size and density such as, the fruit trees in Mountains.<sup>88</sup>

## Conclusion

Land/farm and labour are the major components of family farming on which they rely and which determine the farm capacity or productivity. Rural Moroccan family farmers overuse land which enables them to have higher land productivity, but the labour productivity varies according to the size of the family farm and the labour force employed. Smallholder farmers are common with small plots with typically lower labour productivity which stresses the constraints of family farming in terms of per capita income earnings as expenses are not limited to the farm alone. Moroccan family farmers have a general matter of adapting to climate change and acute water scarcity since their orientation of farming are export market-orientated. Large-scale (family) farmers with much or increased income can afford their own accessibility of water irrigation infrastructure which generates more productivity of yield as their agriculture holdings are not subject to seasonal farming. Hence, it endows multidimensionality of farming.

Besides the agri-ecological concerns and the constraints of farmers' average income, the food price import and the global market mechanism tend to restrict the socio-economic expansion of farmers, and make them suffer from poverty. Therefore, it requires overcoming some of the challenges by adopting new technologies, alternatively with traditional agricultural methods, thus extending the agriculture. It is also a means of accessing

financial facility credit, acquiring skills to choose species crops and livestock for growing that are the export-orientated market. Therefore, development of formal market and rural market integration is paired the extension of a broader range of services, namely the institutionalisation of farmers' informal organisation, the reduction of illiteracy, and the increase of value chain development from the on-farm inputs processing activities to adapt to ecological threats. Furthermore, globalisation of the market, or farming process diversification, such as growing fruit tree plants, poly-cropping and rearing husbandry including pollinating methods intensify the increase of farmers' earning. This is, thereby, good not just for farmers' spending on their needs but also, because it enables the off-farm income generating. Plus, IFAD's global governance with its capabilities and output system through its corporate governance in Morocco reveals that small and medium-scale family farmers can increase labour productivity and increase national food production with more yield productivity enabling them to earn more profit through innovation, new skills and technologies besides a particular focus on young people's needs and women. In conclusion, family farming with higher innovative inputs can expect increased yields though there is a limitation to services and market extension due to the level of the technologies and innovation provided, besides the externalities of climate change.

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<sup>88</sup> International Fund for Agricultural Development. *Kingdom of Morocco Rural Development Project in the Mountain Zones of Al-Haouz Province: Project Performance Assessment*. Rome: International Fund for Agricultural Development, 2015. [https://www.ifad.org/documents/38714182/39736369/pdrz mh\\_ppa\\_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9](https://www.ifad.org/documents/38714182/39736369/pdrz mh_ppa_e.pdf/b70c0bb6-dc4a-47e8-8ba2-d5249daa8da9)



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