

# SMALL FAMILY FARMERS: AT THE HEART OF CLIMATE JUSTICE

According to the latest report by the Intergovernmental Panel on Climate Change (IPCC) published in March 2014, there is no longer any doubt that global warming is caused by humans. Agriculture is closely linked to the issue of global warming. On the one hand, this sector is responsible for more than one third of greenhouse gas (GHG) emissions around the globe and, on the other, agriculture, which is dependent on climate conditions, is strongly impacted by climate change.

Farmers in the Global South are already facing multiple issues caused by global warming. Canadian agriculture is also impacted by the effects of climate change, although it is, generally speaking, less vulnerable than subsistence farming in the Global South.

Until now, the measures taken to combat climate change and reduce GHG emissions have proven ineffective, and even disastrous for small family farmers. At the root of global warming, and the ineffectiveness of the measures adopted to tackle it, is an economic model that is the source of a large number of inequalities and injustices worldwide, including food insecurity. Small family farmers and the social movements defending them have been denouncing and resisting this unjust economic system for many years. Their struggle is now allied hand in hand with the struggle against global warming.



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## The role of the agricultural sector in climate change

Agriculture significantly contributes to GHG emissions both in the Global North and the Global South. GHG emissions due to agricultural production alone are responsible for 11% to 13% of GHG emissions worldwide. This sector can be considered a major emitter, particularly when placed in contrast to its share of the global GDP, which in 2014 was 4%. GHG emissions from agriculture are unique in that they are composed mainly of methane (from livestock breeding and flooded rice cropping) and nitrous oxide (from the use of chemical fertilizers), representing respectively 45% and 46% of the GHG emissions of the agricultural sector. The agricultural sector is responsible for more than 70% of global emissions of nitrous oxide (N<sub>2</sub>O) and of more than 50% of methane (CH<sub>4</sub>) emissions.

If we also take into account GHG emissions emitted upstream (fabrication of agricultural inputs) and downstream (processing, transportation, and commercialization of agricultural products) from agricultural production, as well as changes in land use due to agriculture (mainly deforestation), we arrive at a GHG level of 30% to 32%. When transportation, processing and packaging, freezing, and retail sales, as well as food waste, are all taken into account, the global industrial agricultural system represents an estimated 44% to 57% of total GHG emissions.

The impact of agriculture on global warming differs, however, depending on the agricultural model that is applied. Industrial and small family farming are not on an equal footing when it comes to GHG emissions. Furthermore, **small family farming, in the context of food sovereignty, proposes social, economic, and productive alternatives that form an appropriate response to the struggle against climate change and to the dominant economic model that is responsible for it.**

### A look at Canadian agriculture

Canadian agriculture is characterized by its diversity. This sector is of crucial importance nationally, representing approximately 6.7% of GDP in 2013, and providing one in eight jobs. A majority of Canadian agricultural producers cultivate large areas and use capital- and energy-intensive techniques (fertilizers, fuel), but in Canada we also find a form of “small-scale” agriculture that innovates in terms of resilient practices.

The Canadian agricultural sector is undergoing significant transformation. The restructuring of agriculture has resulted in a progressive increase in the number of farms that operate as large-scale companies, while the number of individual farms is decreasing. Another strong trend in Canadian agriculture is the sharp rise in the use of inputs. The use of chemical nitrogen fertilizers doubled from 1971 to 2011, while the total area of cultivated land increased by only 15%. In addition, expenditures on chemical fertilizers and manure increased by 24.5% from 2005 to 2010. These nitrogen fertilizers are produced from natural gas and contribute to the GHG emissions of the agricultural sector.



### A look at agriculture in the Global South

Emissions vary greatly depending on the regions and countries in question. Asia is by far the biggest source of agriculture related emissions with 44% of the total, while the Americas rank second (25%), followed by Africa (15%), Europe (12%), and Oceania (4%). The trend observed since 2000 reveals an increase in the contribution of agricultural sector emissions in Asia, Africa, and to a lesser extent the Americas, while European and Oceania emissions have slightly decreased.

The increase of agricultural emissions in Asia in recent decades can be attributed to the use of industrial techniques, synthetic fertilizers, and especially an increase in livestock production. Yet we also observe that this trend has reached Africa, where emissions increased by 2% per year from 2000 to 2011, *i.e.* almost as quickly as in Asia (2.3%). Scenarios for the first half of the 21<sup>st</sup> century predict that growth in agricultural emissions will be more pronounced in Asia and Sub-Saharan Africa. These two regions will also experience two-thirds of the increase in food demand. Demand for vegetable oils and animal products will also increase sharply, and the production of both is associated with high GHG emission densities.

### Small family farming is under pressure worldwide

The industrial agricultural model continues to expand worldwide despite being one of the biggest contributors to climate change. Small family farmers suffer the most serious consequences of climate change, while being confined to plots of land that are less than two hectares and lacking the financial resources to face such impacts. **Yet, they are the ones who feed the world. In the Global South, small family farming includes about 85% of farmers and produces 60% of the food consumed worldwide, while only occupying 20% to 30% of arable land.** This situation is largely attributable to national and international policies which have systematically favoured the development of the agro-industrial export sector.





## Small family farming: a model for feeding the planet

Figures from the World Bank show that small family farmers – almost 1.5 billion people, including 500 million landless peasants – represent over half of the global labour force.

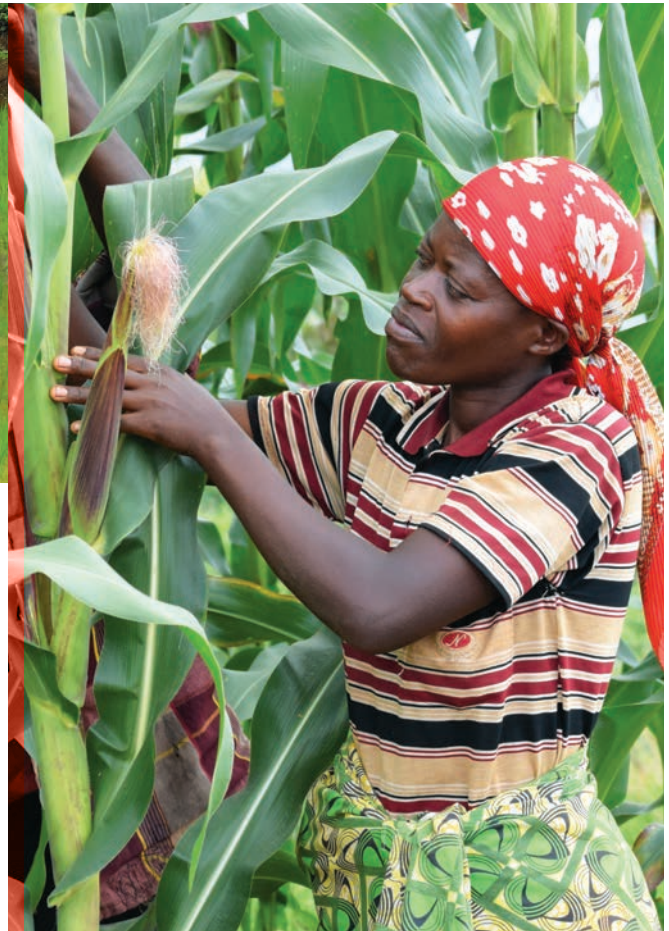
Small family farming, which is the main type of agriculture practiced in the Global South, varies greatly worldwide. Nevertheless, it is defined by some general characteristics. Firstly, this type of agriculture is a family affair, *i.e.* the farm is family-run and uses family labour. It is both the family's primary activity and primary source of income. In addition, most small family farmers use only manual and animal labour. The area farmed by small family farmers rarely exceeds two hectares. Although small family farming may have a foothold on international agricultural markets with annuity products intended for export, it is clear that it must be supported, because it still guarantees, first and foremost, the food security of families and communities.

## What are the GHG emissions of small family farming?

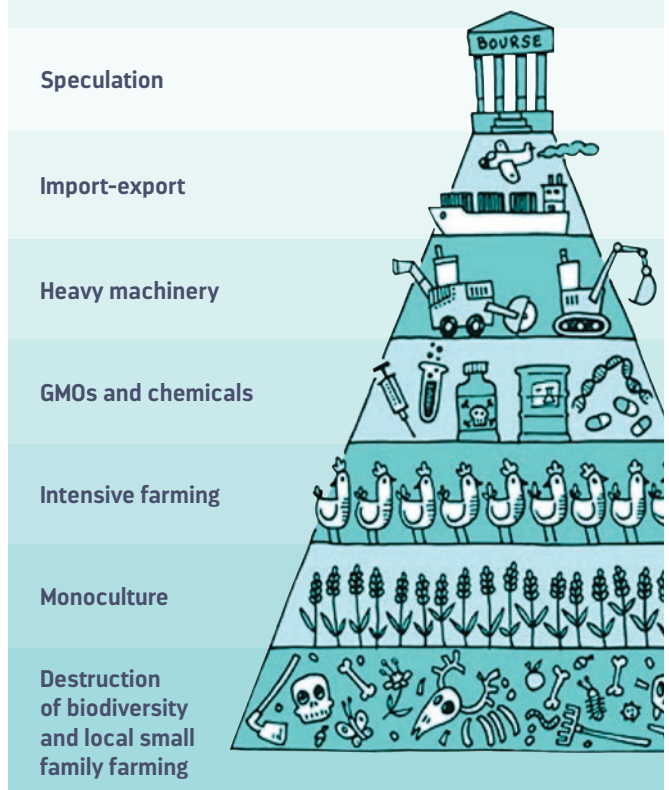
There are no specific figures for the GHG emissions produced by small family farming because little research has been done in this regard. In addition, the term “small family farming” refers to a wide variety of agricultural systems and models, which makes it difficult to analyze. Nevertheless, peasant agriculture is still the main type in certain countries of the Global South, and it is possible to estimate its impact on global warming by analyzing GHG emissions from agriculture by country.

This method of analysis shows that the majority of agricultural GHG emissions come from countries where the dominant agricultural model is industrial agriculture, while agricultural GHG emissions produced by countries in the Global South, where small family farming is still the main form of agriculture, are almost nil.

In comparison with the industrial model, practices used by small family farmers emit much less GHG emissions. Firstly,



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small family farmers have less access to chemical inputs, including nitrogen fertilizers, which are major N<sub>2</sub>O emitters. Secondly, the small areas farmed by these farmers do not require the use of tractors and large agricultural machinery, which are also big CO<sub>2</sub> emitters. The production of small family farmers is mainly for household subsistence and local markets, translating into lower freight transport emissions. As for livestock breeding, it is rarely intensive in the case of small family farming. Moreover, traditional peasant systems favour breeding small and intermediate ruminants such as goats or sheep or monogastric animals like pigs and chicken, which emit less methane.

In Canada, despite the net predominance of industrial agriculture, there are many initiatives designed to foster agriculture that is more environmentally-friendly and more strongly connected to community needs. **Urban and peri-urban agriculture and community-supported agriculture** are two examples of the type of initiatives that are transforming the Canadian agricultural model.

### Small family farming is at the heart of change

The climate crisis is forcing society to once again ask itself fundamental questions that go to the very essence of what it means to be human, of our place in nature, of living together, of justice, and more. These questions are being asked by a growing number of people trying to create a new, more just, and less consumer-oriented society, including Pope Francis who urges humanity “to realize that a true ecological approach *always* becomes a social approach; it must integrate questions of justice in debates on the environment, so as to hear *both the cry of the earth and the cry of the poor.*”<sup>1</sup> We must listen to small family farmers who, on a daily basis, are experiencing the consequences of global warming and the injustices of the current economic model, and are experimenting with agronomic, economic, political, and cultural alternatives. Let’s recognize their importance and preserve their place in tomorrow’s world. Small family farmers will provide the food of the future, will protect the land and the environment, and are economic, social, and cultural innovators; they are working on the transition that will enable humanity to fight effectively against global warming and move beyond the current economic model that is causing it.

<sup>1</sup> Pope Francis. *Encyclical Letter on Care for our Common Home*. Médiaspaul: Montreal. P. 37.



### A FEW RECOMMENDATIONS

In solidarity with peasant movements, women’s movements, and civil society associations, Development and Peace puts forward the following recommendations:

**At climate negotiations and particularly at COP 22, agriculture must be at the heart of solutions.**

**Development and Peace asks that international investments aimed at taking action against climate change:**

- 1. Recognize the essential role of small family farming in the struggle against climate change and hunger in agricultural and environmental policies;**
- 2. Support access to land for small family farmers, agroecology, and the development of local farmers’ markets;**
- 3. Ensure that the voices of small family farmers, through the movements that represent them, are included in all consultations and decisions that affect them.**

This is a summary of the report entitled *Small Family Farming: At the Heart of Climate Justice* by Development and Peace. You can read the full report at [devp.org/en/resources/advocacy](http://devp.org/en/resources/advocacy)

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