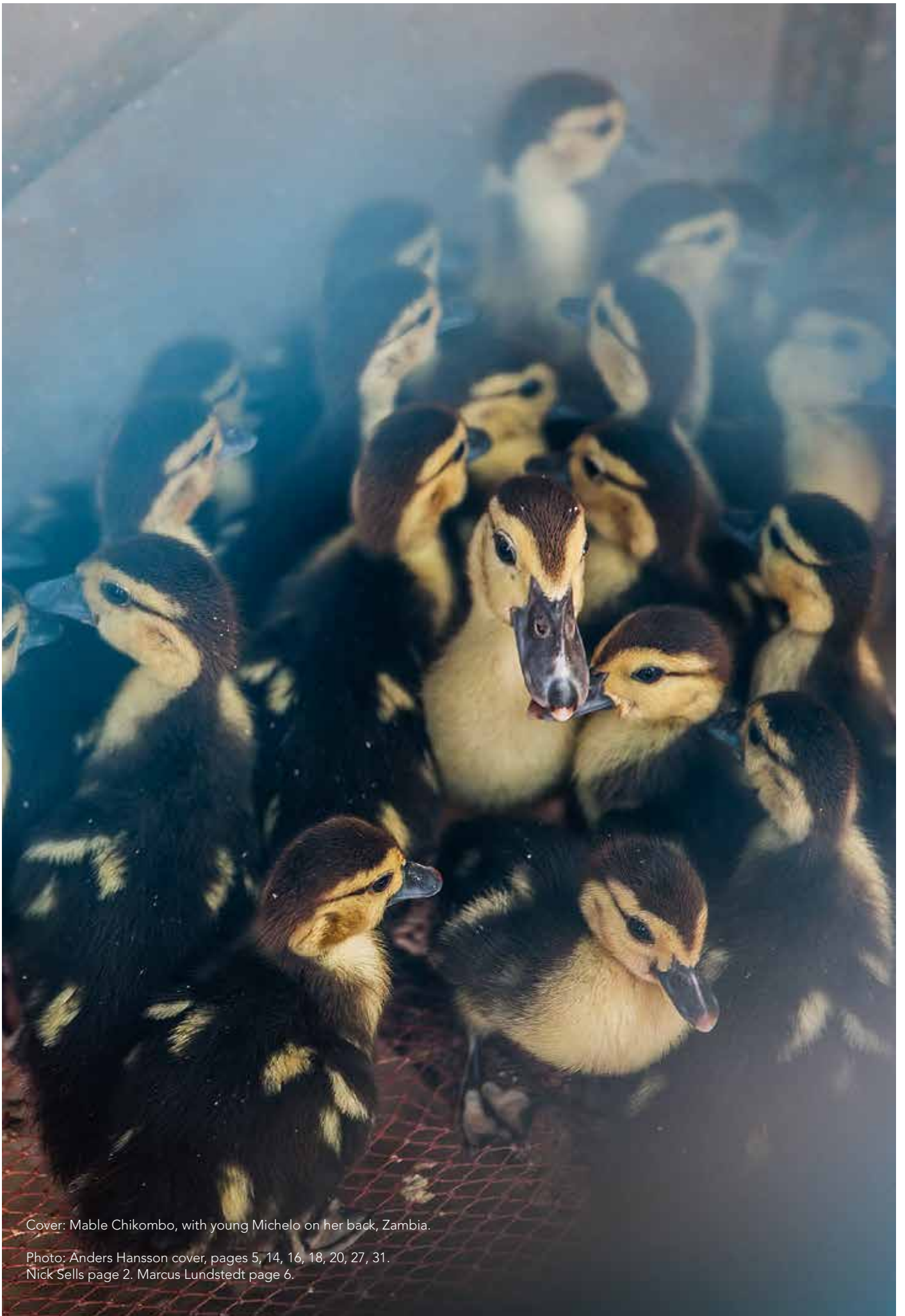


# REDUCING POVERTY THROUGH AGRICULTURE



 WE  
EFFECT



Cover: Mable Chikombo, with young Michelo on her back, Zambia.

Photo: Anders Hansson cover, pages 5, 14, 16, 18, 20, 27, 31.  
Nick Sells page 2. Marcus Lundstedt page 6.

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**Reducing poverty through agriculture**

Author: Agneta Gunnarsson and Mats Wingborg.

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## “ANYONE WHO WANTS TO FIGHT FOR THE POOR PEOPLE OF THE WORLD MUST ALSO FIGHT FOR THEIR AGRICULTURAL LIVELIHOODS.”

**Agriculture is facing a number of challenges. Consideration for the environment, ever more mouths to feed and helping to reduce poverty in the world. It will be difficult, but it is possible.**

We know that investing in agriculture reduces poverty and hunger. However, we also know that agriculture throughout the world has a direct and indirect impact on practically all the major environmental problems, from loss of biological diversity to climate change. We are perhaps the first generation with the knowledge and resources to alter the trend. Nevertheless, we are not doing enough of what we know is needed.

We Effect has compiled this report to provide a summary of the current knowledge at hand about sustainable, small-scale agriculture as a necessary and effective way to combat poverty and hunger. At the same time it can contribute to reducing climate and environmental impact.

In order to restructure agriculture to meet the challenges of the future, changes are required. Here in Sweden we can make a difference, through development cooperation and by pursuing a policy for more efficient and sustainable agriculture with a diversity of crops and production methods. This type of agriculture not only produces food but also gives the farmers so much more – cleaner water, natural fertilisation of the soil, resistance to pests and a more balanced and varied diet. It creates work and gives families the means to provide for themselves.

Some essential points for Swedish development cooperation are:

- To direct a greater proportion of development cooperation support towards agriculture. Today only a small

percentage of Swedish support goes towards developing agriculture in poor countries.

- Focusing on small-scale agriculture. There are several million small family farms in poor countries with just a few hectares each for growing crops and providing for themselves. Support for this type of agriculture reaches many of the world's very poorest people.
- Focusing on agriculture that is sustainable and builds strong communities. That means social and economic sustainability, but obviously consideration for the climate and environment is also required for social and economic improvements.
- Focusing on women. They constitute more than half of the poorest population in rural areas, so at least half of agricultural development cooperation support should go to them.



Obviously much more is needed; international agreements must be altered and poor countries themselves must also focus more on increased social, economic and ecological sustainability in their farming. However, the insight we want to communicate in our report is simple:

Anyone who wants to fight for the poor people of the world must also fight for their agricultural livelihoods.

**Anneli Rogeman,**  
CEO We Effect



A man with a mustache, wearing a blue and white striped long-sleeved shirt and dark pants, is kneeling in a field. He is smiling and looking towards the camera. He is holding a red-handled tool, possibly a hoe or a similar agricultural implement, with both hands. The background is a lush green field with some plants and trees. The lighting is bright, suggesting it's daytime.

***"Small-scale farmers often lack access to the necessary technology"***

Read more on page 12

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# AGRICULTURE IS THE KEY TO REDUCING POVERTY

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**Agriculture has a key role to play in food security throughout the world and lifting people out of poverty, but at the same time there are a number of challenges to be faced. These include a continually growing global population with new demands for food, fuel and raw materials, plus the fact that a switch to more sustainable and climate-smart farming methods is needed.**

The whole chain from field to table needs to be more resource-efficient with reduced levels of waste. Food security naturally also involves fair distribution. The food produced must be made available to those who need it most, and productivity and food quality in areas where people are currently suffering from hunger, malnutrition and poverty must be improved in a sustainable manner.

## THE POOREST OF THE WORLD'S POPULATION MAKE A LIVING FROM FARMING

According to the UN, around 1.2 billion people are living in extreme poverty, which means that they are living on USD 1.25 or less per day.<sup>1</sup> Three out of four of these people live in rural areas and the vast majority of them make a living from agriculture or occupations linked to agriculture.<sup>2</sup>

The latest calculations from the Food and Agriculture Organization of the United Nations (FAO) indicate that almost 800 million people in the world are hungry and undernourished.<sup>3</sup> In this group too, three out of four live in rural

areas, making a living from agriculture, fishing or forestry. However, production is seldom sufficient to avoid hunger and malnutrition. This creates negative spirals. Malnutrition impairs people's physical capability and increases susceptibility to illness, which in turn reduces their facilities to look after the family farm in the best way, for instance.

Not only do several hundred million people go to bed hungry every day; a total of two billion people are suffering from a lack of micronutrients and 500 million are affected by obesity in the world<sup>4</sup>. In other words, sustainable consumption is an essential issue for both rich and poor, in the northern and southern hemispheres.

## THE MOST EFFECTIVE WAY TO LIFT PEOPLE OUT OF POVERTY

The 2008 World Development Report was entitled *Agriculture for Development*.<sup>5</sup> It was the first time since 1982 that this heavyweight among multilateral organisations launched an annual report about agriculture. The World Bank pointed out in its report that it was time to put agriculture back at the heart of the development agenda because economic growth within agriculture is at least twice as effective as growth within other sectors with regard to reducing poverty. However, despite the fact that several years have passed since the report was published, support for agriculture in developing countries has only increased marginally.

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1. The World Bank, Poverty overview, 2014.

2. The World Bank, Agriculture for Development, World Development Report 2008, 2007.

3. FAO, IFA, WFP, State of Food Insecurity in the World, 2015.

4. FAO, Statistical Yearbook 2013, World food and agriculture, 2013.

5. The World Bank, Agriculture for Development, World Development Report 2008, 2007.

According to a study from 2010, agriculture is even more important than previously believed for lifting people out of poverty.<sup>6</sup> The study covered some 80 countries and extended over a period of just over 20 years. It showed that growth within agriculture in low-income countries can be five times as effective as growth within other sectors in terms of reducing poverty among those who are worst off. In Sub-Saharan Africa, agriculture can be ten times more effective than other occupations at lifting those worst off out of poverty and destitution.

The studies show that a large proportion of the positive effects within agriculture radiate out like rings in water and have an impact on additional sectors through increased demand for goods and services.<sup>7</sup> This in turn creates more jobs within trades and services and increases local consumption. However, reductions in poverty achieved through more productive agriculture are greater if land and resources are fairly equally divided among the population. In countries with very uneven distribution the effects of growth are reduced for the poor because the positive effects primarily fall to those who own the land and other productive assets. The UN

agency UNDP also stresses the importance of improving productivity within small-scale agriculture.<sup>8</sup> UNDP specifies three reasons for this. Firstly, increased productivity in agriculture would contribute to lower prices for local food, thus also reducing poverty among those not working in agriculture. Secondly, increased productivity for small-scale agriculture would to a certain extent compensate for the uneven division of access to land, which often prevails in developing countries. Farmers with small plots would also obtain increased income. Thirdly, small-scale agriculture is often labour-intensive, which means that increased productivity could increase employment in rural areas in these countries.

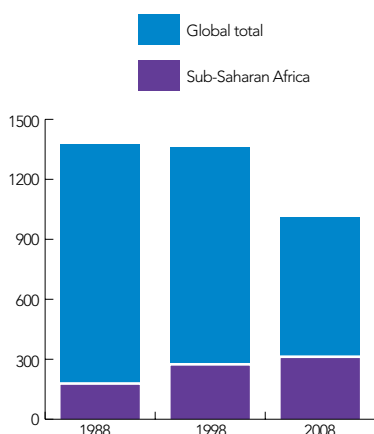
#### AGRICULTURE PROVIDES JOBS – WHERE THERE IS NO OTHER EMPLOYMENT

The percentage employed in agriculture is generally higher the poorer a country is. According to FAO, East Africa is the global region with the highest percentage of people working in agriculture – 73 per cent.<sup>9</sup> The corresponding figure for South Asia is 47 per cent<sup>10</sup> and for China 35 per cent<sup>11</sup>. Within the EU, only 5 per cent of the population are farmers<sup>12</sup> and in Sweden only 2.5 per

### Increasing numbers of poor in rural areas in Africa

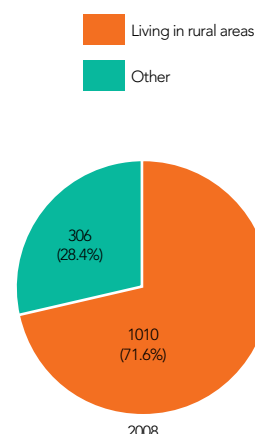
#### The number in extreme poverty in rural areas (millions of people)

While the number in extreme poverty in rural areas throughout the world is falling, in Africa it is increasing. This means that an increasing percentage of the very poorest among the world's population lives in rural Africa. Source: FAO



#### Percentage of global population in extreme poverty living in rural areas

Almost three quarters of all those living in extreme poverty in the world live in rural areas, and most of them are wholly dependent on agriculture for their livelihood. Source: FAO



6. Nordic Africa Institute, Hårsmar, M., Why is agriculture so important to reducing poverty? Policy Notes, 2010/7.

7. Ibid.

8. UNDP, Africa Human Development Report 2012 – Towards a Food Secure Future, 2012.

9. FAO, Statistical Yearbook 2013, World food and agriculture, 2013.

10. Ibid.

11. Trading Economics, Employment in agriculture (% of total employment) in China 2014. [www.tradingeconomics.com/china/employment-in-agriculture-percent-of-total-employment-wb-data.html](http://www.tradingeconomics.com/china/employment-in-agriculture-percent-of-total-employment-wb-data.html).

12. European Commission, EU Agricultural Economics Briefs, How many people work in agriculture in the European Union, 2013. [http://ec.europa.eu/agriculture/rural-area-economics/briefs/pdf/08\\_en.pdf](http://ec.europa.eu/agriculture/rural-area-economics/briefs/pdf/08_en.pdf).

13. FAO, Statistical Yearbook 2013, World food and agriculture, 2013.



cent<sup>13</sup>. These differences are also visible in the share of GNP from agriculture. In Ethiopia and Sierra Leone, for example, agriculture accounts for almost half of GNP, while the equivalent figure for Sweden is 1.8 per cent<sup>14</sup>.

The differences in conditions between farmers in industrialised countries and developing countries is a matter of organisation, access to effective advice, level of education, means to obtain financial services, proximity to markets and access to technology and input goods.

More people work within agriculture in low-income countries in part due to the fact that agriculture is less mechanised there and labour is cheaper. A further explanation – that is bound up with the previous two – is that small-scale family farms dominate in poor countries. Farmed land in these countries comprises 95 per cent small-scale farms of less than five hectares each, while only five per cent is made up of large-scale agricultural operations. In industrialised countries, 90 per cent of all agricultural land is generally used for large-scale agricultural operations.<sup>15</sup>

This means that in poor countries there are several million households running small-scale family farms of just a few hectares each.

### INCREASED EQUALITY YIELDS MORE SUSTAINABLE AGRICULTURE

According to FAO, women account for on average 43 per cent of the workforce within agriculture in developing countries. In Sub-Saharan Africa and South and East Asia this figure is higher. Here, women carry out half of the agricultural work, and in some countries even more.<sup>16</sup>

In all, approximately 70 per cent of the poorest people in the world are women, most of whom live in rural areas

and make a living from agriculture.<sup>17</sup> Positive progress for the women on these traditional family farms can therefore play a crucial role, not only in terms of equality, but also in reducing global poverty.

The role of women within agriculture and food production is also increasing in most parts of the world. This trend is especially evident in Sub-Saharan Africa. Men are increasingly choosing to move to the cities. As a result, an ever greater share of responsibility for agricultural activities falls to the women; we are seeing the feminisation of agriculture.

Better equality within agriculture would also involve other gains, in addition to women's rights being strengthened. Studies from Africa, Asia and Latin America have shown that the whole family often benefits from women achieving enhanced status and power within the family. Women generally allocate more money for food, health-care and education. This gives children better access to nutritious food and girls get a better education. The fact that girls get an education often results in them not getting pregnant until later in life and having fewer children, which, among other things, signifies important health benefits for women in developing countries.<sup>18</sup>

According to FAO, harvests are 20 to 30 per cent higher in agricultural activities controlled by men. This difference can be linked to the fact that men often have better access to labour, information, input goods and machinery. Another explanation is that women are often left to take care of the least fertile land. If women had the same opportunities as men, these differences could be dramatically reduced.<sup>19</sup> If female farmers could increase their harvests by 20 to 30 per cent, i.e. to the same level as the men's, the extra amount of food would be sufficient to reduce the percentage of malnourished people by 12 to

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14. Ibid.

15. FAO, What do we really know about the number and distribution of farms and family farms in the world?, ESA Working Paper No 14-02, Sarah K. Lowder and others, 2014.

16. FAO, The State of Food and Agriculture, Women in Agriculture, closing the gender gap for development, 2011.

17. Kooperation Utan Gränser (now We Effect), Världens tuffaste jobb (The toughest job in the world), 2010.

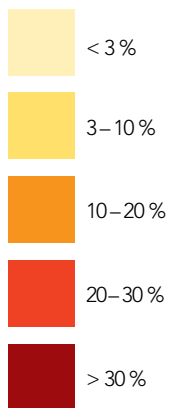
18. Ibid.

19. FAO, The State of Food and Agriculture, Women in Agriculture, closing the gender gap for development, 2011.

### The world's poorest countries are dependent on agriculture

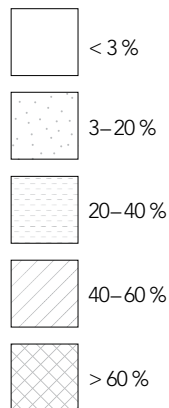
The map shows by colour how much of each country's GNP comes from agriculture and by fill pattern what percentage of employment is provided by agriculture. The picture is clear: The world's poorest countries are largely dependent on agriculture

Percentage of GNP from agriculture



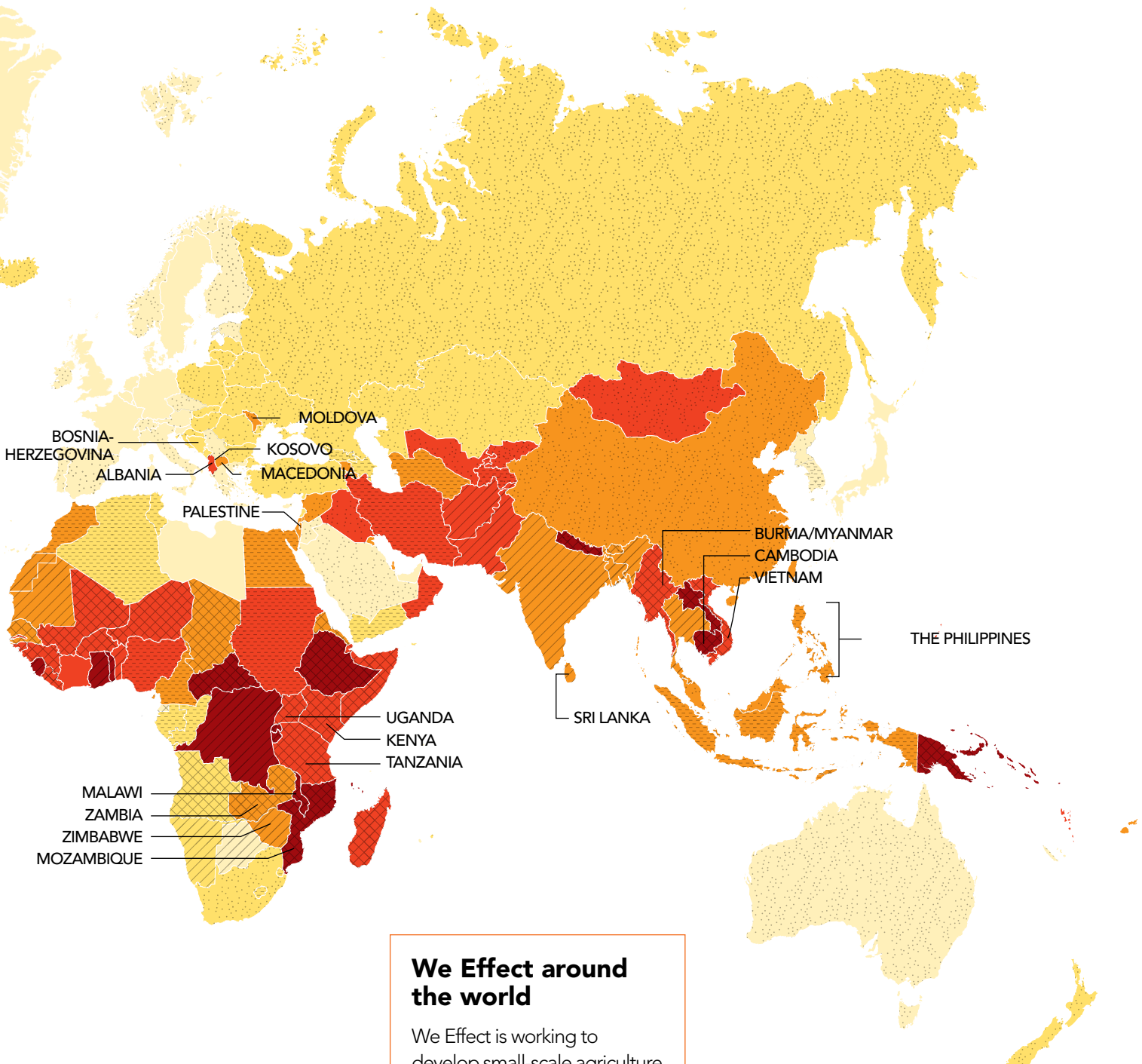
The average figure for the region has been used for the following countries, owing to lack of specific country data: Benin, Burkina Faso, Burma, Djibouti, Estonia, Greece, Guinea-Bissau, Haiti, Iraq, Iran, Israel, Cameroon, Kuwait, Liberia, Mali, Niger, Nigeria, North Korea, Oman, Palestine, Qatar, Serbia, Somalia, the Czech Republic, Venezuela, Western Sahara, East Timor.  
Source: FAO

Percentage employed within agriculture



The average figure for the region has been used for the following countries, owing to lack of specific country data: China, North Korea, Sudan, Western Sahara  
Source: FAO





### We Effect around the world

We Effect is working to develop small-scale agriculture in 24 of the world's poorest countries, which are named on the map.

17 per cent. This in turn would mean between 100 and 150 million fewer hungry people in the world.<sup>20</sup>

Despite this, women often have limited influence over decisions relating to agriculture. Therefore it is crucial to involve women in decisions relating to development and preservation of agriculture, sustainable use and equitable distribution of the natural resources from biological diversity. The position of poor women needs to be strengthened and their knowledge, skills and experience utilised<sup>21</sup>.

#### **THE FARMERS NEED TO ORGANISE THEMSELVES**

The leaders of the African Union promised back in 2003 to focus more on agriculture, in the so-called Maputo Declaration. Only a handful of African countries have so far lived up to the promises made in the declaration. Politicians rarely prioritise small-scale agriculture, which is an obstacle to long-term sustainable solutions to the structural problems in agriculture. Smallholders in rural areas in developing countries are also often poorly organised and marginalised. This limits their political influence and they often have little scope to demand political responsibility for the lack of investment.

If the farmers were to come together in cooperatives and other types of member organisations, however, they could be stronger financially. This could make it easier to pay for investments, and give the farmers access to new markets and a stronger bargaining position in relation to large grocery chains and other buyers. Organisation also opens up opportunities for learning, training and dialogue.

Poor profitability and hard manual labour mean that agriculture today attracts ever fewer young people in low and middle-income countries. Strong farmers' organisations and the possibilities they can offer in the form of influence, access to financial services, knowledge, new income potential and social connections can help to raise the status of agriculture.

20. Ibid.

21. International assessment of agricultural science and technology (IAASTD). The study was carried out between 2005 and 2008 and resulted in one global and five regional reports and the synthesis report *Agriculture at a crossroads*.

#### **SMALL INVESTMENTS CAN MAKE A BIG DIFFERENCE**

One way to improve the economic conditions for small-scale agriculture and rural areas would be to develop activities, including processing of foodstuffs, something that was highlighted in a report from the UN's former Special Rapporteur on the right to food, Olivier de Schutter.<sup>22</sup> One strategy to accomplish this is to focus on local investments within storage, processing, packaging and sales of the products. Simple things such as a drying plant or facilities for packing fruit and vegetables in a commercially marketable way can give smallholders new income, which yields profitability for their activities.

However, small-scale farmers mostly lack access to the necessary technology, capital and financial services. Many live in remote and poor areas where lack of infrastructure and long distances to markets hamper sales and set-up of food processing activities. FAO states that farmers who have small margins often prefer to save any profits as insurance to be used in the event of a crisis rather than invest the money.<sup>23</sup>

Family farms in developing countries often have little potential for obtaining credit. One way to increase access to credit can be for smallholders to come together and set up saving and loan groups. Such farms often have need of other forms of financial services such as insurance. Other types of networks like producer cooperatives can promote investments and processing of foodstuffs.

#### **LAND IS AN INCREASINGLY IMPORTANT RESOURCE**

Small-scale agriculture often has limited scope for development due to lack of land or uncertain land rights. When farmers do not know if they will get to farm the land in the future, this generally reduces interest in making investments. Another reason is that farmers often lease or have permission to use land owned by larger landowners with-

22. UN, Report submitted by the Special Rapporteur on the right to food, Olivier de Schutter, 2010.

23. FAO, *Food Loss and Food Waste, 2014* & FAO, *Food Wastage Footprint, Impacts on Natural Resources, 2013*.

out having any guarantee of being able to farm the land in the future.

Women are particularly disadvantaged with regard to access to land. According to FAO, women control around 12 per cent of the land in South and South-east Asia, 15 per cent in Sub-Saharan Africa and roughly 20 per cent in Latin America. However, these figures conceal large variations between individual countries.<sup>24</sup>

In many developing countries land has also become an international capital investment. Land is purchased or leased for a prolonged period by foreign investors. Sometimes the purpose is to pursue sustainable forestry or

agricultural activities on the territory. In such instances foreign capital can help to develop agriculture in a positive direction for the local population. In other cases the purchase may be solely a way to manage capital or generate short-term returns. The worst forms of such purchases are often called *land grabbing*, which aims to take control of the land away from the local population and no long-term sustainable investment in agriculture takes place.<sup>25</sup> Companies in financially-strong countries are particularly likely to be involved in leasing or buying up land.<sup>26</sup> One effect of the foreign purchases is the risk of land prices rising, which can make it more difficult for small-scale farmers to develop their agricultural activities.

### How We Effect works in developing countries

- **WE EFFECT** conducts activities in 24 countries in Asia, Africa, Latin America and Europe. Our development cooperation efforts are always long-term, preventive and sustainable. In order to ensure the changes are lasting, we work together with local organisations on the ground. And always with the basic idea of supporting self-help initiatives.
- **WE EFFECT** is involved partly in dealing with the consequences of poverty: lack of food, lack of adequate housing, insecurity and lack of influence. However, we also want to change the structures that cause poverty: rules and laws that do not favour poor people, lack of democracy, equality and human rights.
- **TO ENABLE PEOPLE** to rise out of poverty, they need to be able to produce food, obtain income from their harvests and have adequate housing. We Effect therefore focuses on the following areas in order to reduce poverty and injustice: rural development, housing & habitat, access to land, gender equality and financial services.
- **OUR FOCUS** on rural development is motivated by the fact that the majority of the world's poor live in rural areas and investment in small-scale agriculture is one of the most effective ways to reduce poverty. Work on rural development includes attempting to influence decisions that may lead to sustainable and climate-adapted agriculture, and to agricultural reforms and trade rules that favour the poor. The result is food on the table, income from harvests and people coming together to have a shared voice in society.
- **WE EFFECT** works on financial services, including saving and loan groups, microloans, insurance and assistance with price negotiations.

24. FAO, The State of Food and Agriculture, Women in Agriculture, closing the gender gap for development, 2011.

25. IIED, FAO & IFAD, Land grab or development opportunity? Agricultural investment and international land deals in Africa, 2009.

26. Holden, J. and Pagel, M, Transnational land acquisitions, 2013.

Matreswaran Vanithanchani and  
Matreswaran Anushiya, Sri Lanka.



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# FUTURE CHALLENGES AND POTENTIAL IN AGRICULTURE

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**Agriculture offers a number of possibilities for lifting people out of poverty and hunger, which have been described above. However, there are also a number of challenges to be faced.**

If today's consumption and population trends continue, the Food and Agriculture Organization of the United Nations (FAO) calculates that global food production needs to increase by approximately 60 per cent by 2050.<sup>27</sup> At the same time many people are moving away from rural areas and depopulation represents an obstacle to increased productivity. Another obstacle is, as a contradiction, the fact that the fight for land and natural resources is increasing in many places. This is particularly true for many poor countries where resources are inadequate and the biggest population increase is expected.

Achieving the required increase in production while continuing as we have to date is not possible. This was established by the biggest interdisciplinary study of agriculture carried out to date.<sup>28</sup> The study, which was presented in 2008, has been followed by a series of other reports asserting that large areas of agriculture throughout the world need to make fundamental changes in order to cope with supplying a growing population and at the same time improving sustainability and reducing the climate and environmental impact of agriculture.

There are many different definitions of what is envisaged as environmentally-sustainable agriculture, but the con-

## DIFFERENT TYPES OF AGRICULTURE

Global agriculture covers everything from large, mechanised agricultural operations, in both industrialised countries and developing countries, to small family farms in developing countries, often consisting of just a few hectares of land or less, generally tended using hand tools and more traditional methods.

cept usually includes that agriculture should strive for a diversity of crops and production methods, be based on local conditions and resources and make the most of ecosystem services. Ecosystem services are the natural resources that ecosystems provide, e.g. air and water purification, pollination of crops, natural pest control and binding of carbon.

In addition to the environmental aspects, sustainable development also includes a social and an economic dimension. The former is based on building a society where basic human needs are met and the latter strives for secure livelihoods and balanced economic development.

Globally, agriculture is one of the biggest sources of greenhouse gas emissions. However, sustainable agricul-

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27. FAO, World Agriculture Towards 2030/2050: The 2012 revision.

28. International assessment of agricultural science and technology (IAASTD). The study was carried out between 2005 and 2008 and resulted in one global and five regional reports and the synthesis report Agriculture at a crossroads.

29. Ibid.



Auditor Mudenda, Zambia

ture could contribute to reducing the negative climate impact through production methods that bind carbon in the soil and through planting trees as well as reduced use of fossil fuels. But agriculture employing sustainable methods is not growing at a rapid enough rate to meet the challenges of the future.

In the 1960s the so-called green revolution led to dramatic production increases in several quarters, primarily through new high-yield varieties of rice and wheat being introduced<sup>29</sup>. Several countries in Asia quickly succeeded in reducing widespread hunger. The rice harvests per hectare were doubled in India, for example,

30. Forskning & Framsteg, 2006.04.01. <http://fof.se/tidning/2006/3/afrikas-grona-revolution-kom-av-sig>

31. FAO, Food Loss and Food Waste, 2014, [www.fao.org/food-loss-and-food-waste/en/](http://www.fao.org/food-loss-and-food-waste/en/).

and increased almost threefold in Indonesia. However, in Sub-Saharan Africa productivity only increased marginally. Few countries are currently self-sufficient in terms of staple foods and the need for food aid is still great.<sup>30</sup> In other words, the green revolution did not increase access to food universally. In addition, it has been criticised for large-scaleness, use of fertilisers and pesticides, unsustainable land cultivation and more. The distribution effects are also disputed; while some researchers maintain that the green revolution increased the economic gaps in rural areas, others feel that the poor have also benefited from production increases.

A new genuine green revolution is now needed. However, unlike the one that took place 50 years ago it must take into account environmental and climate aspects, and be based on the situation for small-scale agriculture in developing countries, which currently represents the majority of producers and also produces the greatest volume of food. It is essential to build on biological diversity rather than large monocultures and to get away from the idea that one solution fits all. Such diversified agriculture should be based on local circumstances and incorporate environmentally-adapted methods such as *agroforestry* and natural pest control. In addition, economical use of water is required so that more food is produced per litre of water, including growing less water-intensive crops and storing rainwater for dry periods.

The issue of whether agriculture can provide for a growing global population is also a matter of equitable distribution and whether the agricultural produce being produced can be better utilised. A high level of waste is currently to be found in all elements of production. In rich countries, waste is mostly created by shops and households, while in low-income countries it is primarily harvest and storage losses. FAO has calculated that one third of all food is never actually used as food but is destroyed somewhere along the chain from production to the consumers' tables.<sup>31</sup>

32. IPCC, 2013: Summary for Policymakers. In: Climate Change 2013: The Physical Science Basis.



## " BIOGAS FROM COW DUNG IS FREE"

Miriam Mbazima, photo by Adam Öjdahl



Bernadette Mutulokis, photo by Peder Björling



Miriam Mbazima is chairperson of We Effect's partner organisation Dairy Association of Zambia (DAZ) and she also runs her own dairy farm.

### HOW DOES MILK PRODUCTION HELP TO INCREASE INCOME FOR POOR HOUSEHOLDS?

Milk represents food and nutrition – and ultimately money. An ordinary dairy cow gives five litres of milk. With a loan from ZANACO a farmer can, among other things, improve the feed and the cow's health and increase production from five to fifteen litres. With the increased income he or she can considerably improve life for themselves and their family.

### WHAT'S THE IDEA BEHIND THE LOAN A COW PROJECT?

Many milk producers have difficulty getting bank loans to develop their activities. With the Loan a cow project, we help members to arrange the purchase of dairy cows. Instead of conventional collateral for the loan the animals are used as collateral and the loans are financed through earnings from milk production.

### HOW ARE YOU WORKING ON DEVELOPING THE VALUE CHAIN?

At present the dairy farmers take their raw milk to the

cooperative collection centre, the milk is then picked up and taken to a dairy where it is processed into various dairy products. We are currently training the farmers in processing and packaging, so that this can be done at the collection centre instead. The milk can then be sold locally and the dairy farmers' profits will increase, since pasteurised milk is worth more than raw milk.

### HOW INVOLVED ARE YOU WITH LOBBYING?

There is a great need for more collection centres. We have lobbied the government and so far three new centres have been opened. We are also putting pressure on the government to make the laws regarding sales of raw milk clearer. Some farmers sell their raw milk directly on local markets, which involves health risks because the milk has not been pasteurised.

### YOU ALSO USE BIOGAS, HOW COME?

Electricity is very scarce in rural areas, so biogas provides an excellent alternative for cooking, heating and cooling milk, for example. Many farmers worry about how to store their milk without access to electricity. Using biogas for milk cooling would allow more people to start milk production; the gas is free, of course – it comes from the cow dung.

A man wearing a black jacket, a dark cap, and grey pants stands in a lush green field. He is smiling and holding a woven basket in his left hand. The background is filled with dense green vegetation and trees.

***“Sustainable development also means building a society where basic human needs are provided for”***

Read more on page 15

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# AGRICULTURE MUST BE RESTRUCTURED

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**Agriculture throughout the world has a direct and indirect impact on practically all the major environmental problems, from loss of biological diversity and climate change to water shortages and air pollution.**

## CLIMATE CHANGE THREATENS AGRICULTURE

Ongoing climate change is one of the greatest challenges facing agriculture and those hit hardest are people who are already poor and vulnerable. In other words, global warming will particularly affect those who have contributed least to the current situation.

The report *Better Growth Better Climate*, published by The Global Commission on the Economy and Climate from 2014 states that a large proportion of small-scale agriculture in developing countries is already under tough pressure due to soil exhaustion, water shortages, deforestation and overgrazing. According to the report, the increasing greenhouse effect means that the pressure on such agricultural activities will further increase. Those particularly vulnerable are small-scale farms in Africa.

The raised temperatures increase the risk of both drought and flooding. Large areas in Africa that can currently be farmed will probably turn into desert. Other areas, primarily in more upland terrain, may experience better temperature and rainfall conditions and thus increased harvests, at least at the start. In some areas climate change will lead to flooding and changed river systems, which will then affect irrigation for agriculture.

The progressive warming may also prompt changed weather conditions such as increased intensity of hurricanes.

The UN's climate panel estimates that sea levels may rise by just over half a metre by 2100 as a direct consequence of climate change.<sup>32</sup> Certain countries and areas will be affected more than others. This applies in particular to low-lying areas in developing countries such as large parts of Bangladesh.

Poorer yield from agriculture due to climate change and difficulties finding clean water also increase the risk of the spread of diseases. Poor and vulnerable people often already suffer from poorer health and are afflicted by a number of different diseases.<sup>33</sup>

## AGRICULTURE CONTRIBUTES TO CLIMATE CHANGE

Climate change affects agriculture – but agriculture is also a cause of these changes. Emissions of greenhouse gases from agriculture, forestry and other forms of land use contribute heavily to the increasing greenhouse effect.

There are a variety of ways to work out how much of the total greenhouse gases originate from global agriculture. According to The Global Commission on the Economy and Climate, agriculture, including cattle breeding, together with forestry is responsible for around 24 per cent of emissions of greenhouse gases.<sup>34</sup>

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33. Global Commission on the Economy and Climate, *Better Growth Better Climate*, 2014.

34. Ibid

35. FAO, *Statistical Yearbook 2013, World food and agriculture*, 2013.

36. Ibid.



Farmers in Choma, Zambia

Industrially-powered agriculture is first and foremost responsible for emissions of greenhouse gases. Smaller family-based farms in developing countries commonly generate significantly lower emissions. Accordingly, one challenge for such operations is to increase productivity in a sustainable manner without increasing emissions.

The greenhouse gases from agriculture include emissions of methane gas from rice cultivation, emissions of nitrous oxide from manure, and use of fossil fuels in agriculture and for transport of agricultural produce. Furthermore, the rapid increase in meat production has led to increased emissions of methane gas from cattle's digestion. Meat production has also meant large areas of land being used to produce soy for animal feed. Both animal feed and meat are transported across the globe, which in turn further increases emissions of carbon dioxide.

Deforestation can also contribute to the increasing greenhouse effect, primarily because it releases carbon dioxide through breakdown of biological material. There is a direct link to agriculture here, since forest is often felled to make way for agriculture. However, if forest is replanted, the carbon dioxide can be bound again, but even then devastation of forests can lead to negative effects on biological diversity.

Many poor people live close to forests and are affected by deforestation. This is particularly true for indigenous populations and ethnic minority groups. For such groups, the forest and the biological diversity often serve as insurance and a central source of livelihood, as cultivated food is made to go further using products from the forest during the low season or in crisis situations.

### OTHER NEGATIVE ENVIRONMENTAL IMPACT FROM AGRICULTURE

Approximately 30 per cent of all land in the world is used for growing crops or as grazing land for cattle.<sup>35</sup> Further-

more, watering of agricultural land accounts for 70 per cent of human consumption of fresh water.<sup>36</sup> This use of land and water resources has a substantial impact on nature and the environment.

The use of fertilisers, pesticides and other chemicals, primarily in industrial agriculture, causes pollution of air, water and soil, which threatens to disrupt ecosystems and by extension lead to negative consequences for human health. Global agriculture is the main source of nitrate and ammonia contamination in both groundwater and surface water. In addition, agriculture contributes to the spread of phosphate contamination in watercourses.

UNCTAD estimates that 75 billion tons of fertile soil is lost every year. This chiefly happens in areas where large-scale forestry and agriculture are expanding.<sup>37</sup>

The consequences of agriculture that does not show consideration for the environment are therefore not just negative impact on the climate, but also impoverishment of land, increased salt content in soil and eutrophication of watercourses, with a long-term risk of affecting the size of harvests and the profitability of agriculture.

According to FAO, more and more fossil fuel is required to produce food. However, there is a big difference in fuel consumption between large-scale industrialised agriculture in rich countries and small-scale agriculture in developing countries. FAO has previously calculated that in the USA it takes the equivalent of 7.7 tons of oil to produce the amount of food required annually to feed 400 people. In Senegal, only 0.25 tons of oil is used to produce food for 400 people.<sup>38</sup>

### SUSTAINABLE AGRICULTURE THAT IS PRODUCTIVE

To enable agriculture to cope with future challenges, it must be based on sustainable thinking and diversification, where the goal is not to obtain maximally large

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37. UNCTAD, Trade and Environment Review – Wake Up Before It Is Too Late, UNCTAD, 2013.

38. FAO, The Energy and Agriculture, 2000.

39. UNCTAD, Trade and Environment Review – Wake Up Before It Is Too Late, UNCTAD, 2013.

40. UN, Report submitted by the Special Rapporteur on the right to food, Olivier de

harvests in the short term through overuse of fertilisers and other chemical additives. This is pointed out by parties such as UNCTAD in its report *Trade and Environment Review – Wake Up Before It Is Too Late*.<sup>39</sup> There are currently a number of different strategies for simultaneously increasing environmental sustainability and global food production. Common to these is the aim to preferably use local resources and knowledge about natural processes, rather than introducing chemical additives to increase production. The term *agroecology* is increasingly used as a collective concept for such strategies.<sup>40</sup>

In order to cope with future food supply and reduce environmental impact, a switch is needed away from agricultural practices where a small number of crops are grown using artificial irrigation, chemicals and fertilisers to increase the yield.

Instead more sustainable and diversified agricultural practices are required; for example, utilising water more efficiently, including growing crops that require less water and storing rainwater. One central idea in this context is resilience in agriculture, which means that systems must be designed and managed to cope with different types of problems, ranging from drought and pest infestation to fluctuating market prices and changes in agricultural policy.

Several international studies show that sustainable agriculture can provide good returns or even increase harvests in many contexts. According to the report for the UN by Olivier de Schutter, follow-up on almost 300 projects aiming to create more sustainable agricultural activities in 57 poor countries in various parts of the world showed that productivity increased by an average of 79 per cent. The projects meant that millions of smallholders achieved higher incomes and specifically increased the yield for potatoes, sweet potatoes and cassava.<sup>41</sup>

The aforementioned report also refers to an evaluation of 40 projects in 20 African countries, where the aim was to strengthen sustainability on small family farms. The projects employed a range of environmentally-adapted methods such as soil conservation, agroforestry and natural pest control for crops, to increase the yield. Over a period of three to ten years this resulted in harvests doubling on average.<sup>42</sup>

Sometimes seemingly small innovations for sustainability can yield a high level of return. In Kenya, researchers and farmers have jointly developed an ecological strategy for reducing weeds and insects that damage crops. The strategy involves keeping pests away from the maize plantations by growing leguminous plants that insect pests avoid together with the maize. At the same time, the insects are attracted to surrounding plantings of a type of sticky grass that serves as a trap for pest insects. Where it has been used, this strategy has doubled production of both maize and milk.<sup>43</sup>

In Malawi too it has proven possible to combine improved sustainability in agriculture with an increasing yield. Among other things, nitrogen-fixing trees have been used as an alternative to industrially-produced nitrogen fertiliser to increase maize production. This method led to an increase in yield from one ton per hectare to between two and three tons per hectare.<sup>44</sup>

The examples above show that sustainability can be combined with maintained or increased productivity. IIED also observes that everything increasingly points towards agriculture based on sustainability, local resources and diversity. The benefits appear to be especially great in areas affected by extreme weather and acute environmental impact. IIED cites examples from Central America, Bolivia, Kenya and China that show how diversity of crops meant less damage to plantings than monocultures in connection with storms, flooding or other extreme weather events.<sup>45</sup>

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Schutter, General Assembly, 2010.

41. Ibid.

42. Ibid.

43. Ibid.

44. Ibid.

45. IIED, *Agroecology, What it is and what it has to offer*, 2014

46. UNCTAD, *Trade and Environment Review – Wake Up Before It Is Too Late*, UNCTAD, 2013.

47. Ibid.

## “WITHOUT LAND YOU HAVE NO SAY”

Photo: Marcus Lundstedt



María Teresa Fernández Ampié (above left) is chair-person of Coordinadora de Mujeres Rurales (CMR) in Nicaragua, which has been collaborating with We Effect since 2005. CMR works, among other things, to develop the value chain for small farms run by women and to promote their right to land.

### WHY DO FEMALE FARMERS NEED A SEPARATE ORGANISATION?

In mixed organisations it was difficult for women to gain power and to affect decisions for real. When we first started our work with the women, they would stand up at the meetings and introduce themselves by saying: “I’m a housewife and I help my husband with the farming.” Now they introduce themselves proudly by saying: “I’m a farmer!”

### HOW DO YOU WORK TO INCREASE FARMERS’ INCOMES?

First with the basics – by creating awareness of their rights. Then by increasing knowledge of how important it is to diversify their crops and to grow in a sustainable manner. This leads to better harvests of various types of crops, which yields more money throughout the year. In addition, the families eat a better and more varied diet, e.g. spinach and aubergine. Any surplus vegetables can be sold at the market.

Photo: Nic Proder



### WHAT DOES DEVELOPING THE VALUE CHAIN INVOLVE?

It is about taking small, but meaningful steps. For example, a cooperative in Jinandega previously only sold their bananas at the local market at low prices, and their rice to buying agents for a price below production costs. Now they harvest, wash, pack and ship the bananas themselves and have secured a contract with Walmart. In future, they want to produce banana chips as a way to increase value and incomes even more.

### HOW DO YOU SEE THE LAND RIGHTS ISSUE FROM A FEMALE PERSPECTIVE?

Without land you have no say. You cannot decide what you want to grow, develop your farm, obtain loans or credit. If you have your own land, you earn income that you decide how to spend. The distribution of land is still deeply inequitable, although ownership by women has increased from 8 per cent of land in the mid 1990s to 24 per cent in 2013. The right to land is also bound up with violence against women, which is a big yet hidden problem in many villages. If a woman has no right to any land, she dare not leave her violent husband. If she leaves, she leaves with nothing.

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# ECONOMIC PREREQUISITES FOR SUSTAINABLE AGRICULTURE

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**Various international rules and regulations affect agriculture in developing countries, for example, the loan terms formulated by international financial institutions such as development banks, the regulations within the World Trade Organization (WTO), multilateral and bilateral trade agreements and various agricultural subsidies.**<sup>46</sup>

In many developing countries, imported foodstuffs have taken a crucial share of the market at the expense of locally-produced food items. This has worsened conditions for small-scale farms, and local food production has stagnated in several countries. According to UNCTAD, this is due to the fact that the WTO's regulations have made it possible for industrialised countries to retain subsidies, trade barriers and financial incentives for exports of agricultural produce.<sup>47</sup>

If formulated differently, global agricultural and trade regulations could contribute to transformation of agriculture along more sustainable and equitable lines. At present it is the opposite, if anything; the rules and regulations are preserving the existing system. One conclusion is that the approach to global agriculture should be characterised by a rights perspective. The starting point should be strengthening the rights of vulnerable and poor people and their financial means to buy and produce their own food.<sup>48</sup>

Development cooperation policy has a key role to play in this context. Around 40 years ago agriculture was a priority area within development cooperation. At its peak, a full 20 per cent of global development assistance went towards agriculture, according to FAO. However, the 1980s saw a drastic decrease. There were several reasons for this. Criticism of the African countries' agricultural policies and the economic crisis in these countries contributed to the decline. Development cooperation projects that yielded poorer results than expected also played a part in this. As did the fact that insufficient food production was not seen as a problem at that time. Public debate in the 1980s was instead dominated by the surplus of agricultural produce, for example, within the EU. Increasing migration to cities and lower prioritisation of agricultural issues within development cooperation efforts also contributed to the marginalisation of agriculture.<sup>49</sup>

When food prices rose steeply in 2008, causing food riots in over 30 countries, an increasing number of world leaders promised increased development assistance. Although not all the promises were honoured, agricultural development assistance increased somewhat. However, this did not lead to a decisive break in the trend. One unfortunate consequence of agriculture being given less emphasis within development cooperation efforts is that expertise and technical know-how

48. Ibid.

49. Kooperation utan gränser (now We Effect), Sveket mot de fattigaste (The betrayal of the poorest), 2008.



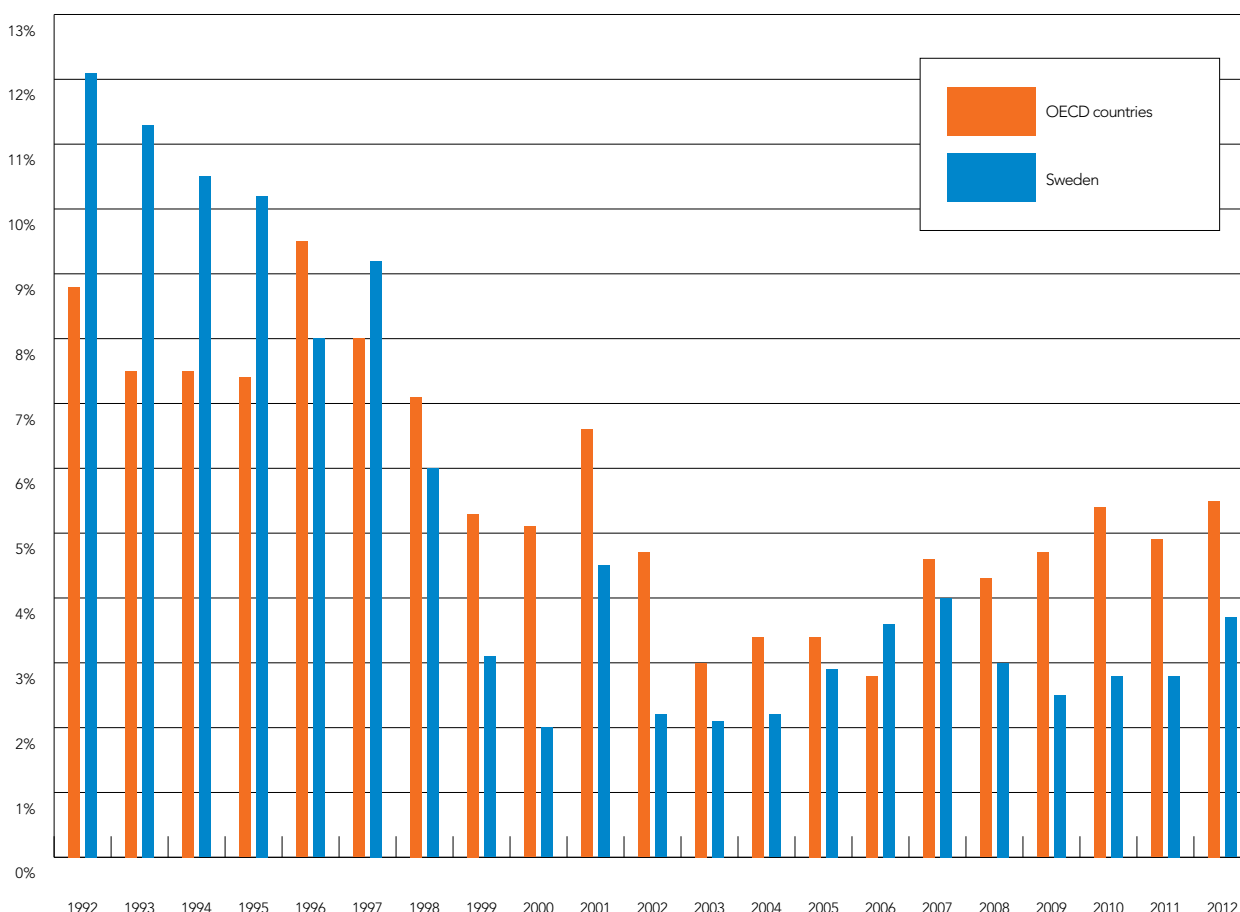
have declined among development cooperation authorities and several development organisations.

Another problem previously mentioned is that only a few African states are living up to the promises they made in the Maputo declaration in 2003 to increase investments in agriculture to comprise 10 per cent of each country's budget. The low level of agricultural development assistance from the OECD countries, including Sweden, in this context represents a very unfortunate signal to these countries that agriculture

has a low priority. A higher level of agricultural development assistance, on the other hand, could stimulate these countries to invest more in agriculture themselves.

Development cooperation should also have the aim of strengthening the developing countries' farmers organisations, so that they can make demands of the government in the country where they operate to increase support for agriculture and create more favourable rules and regulations.

### Support for agriculture in developing countries has reduced



Percentage of Swedish development assistance that goes towards agriculture, forestry and fishing compared to the average for OECD countries. Source: OECD/DAC, <http://stats.oecd.org/qwids>

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# THE WAY FORWARD

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**Agriculture in low and middle-income countries is facing a threefold challenge. At the same time as needing to feed more mouths, agriculture must also be environmentally adapted and contribute to reducing poverty. The way forward is agriculture that contributes to a sustainable and just world free from poverty.**

We Effect has been involved in rural development, agricultural development and fighting poverty since 1958. Our work focuses on both the challenges and the huge potential in small-scale agriculture in low and middle-income countries. In addition to the knowledge summarised in this report, we have extensive experience of these issues and a clear vision of what needs to change in order for agriculture in poor countries to be able to meet the challenges faced and contribute to reducing poverty, strengthen the position of women and prevent and reduce negative impact on the environment. Some of the most essential changes we want to see in the future are:

- The poor agricultural population in low and middle-income countries must have consolidated scope to come together to improve their situation. This could be small farmers' cooperatives or, equally, nationwide interest groups. The group, cooperative or organisation can make it possible for smallholders to gain knowledge about new sustainable growing or processing techniques, to make investments that provide new storage possibilities or as a group to gain better access to markets for selling their products.
- Cooperation is also a means of greater influence for marginalised groups with a low status that must be given the same opportunities as others to make their voices heard within these organisations. The right to organise, however, is not a matter of course in many of the countries where We Effect works. The Swedish government should work to

strengthen this right, through international organisations such as the UN and EU, but also through the useful contacts Sweden has with its development cooperation countries. The organisations themselves also need to be given support though Swedish development cooperation.

- Despite the fact that small-scale agriculture in low-income countries is often relatively resource-efficient and less chemical intensive, We Effect sees a need for a shift towards increased environmental sustainability. We have shown in our report that there is no conflict between such a shift and poverty reduction. On the contrary, environmentally-adapted agriculture in poorer countries can yield increased productivity and a number of other gains in the form of ecosystem services such as clean water and natural pest control, and also provide fuel, animal feed and building materials, increased resistance to extreme weather and much more to benefit the smallholder. The objective is not to preserve small-scale agriculture, but to give it scope to develop.
- The investments in agriculture in developing countries must also have an even clearer gender equality perspective and give women the same access to production resources as men. We are already seeing a positive trend here, especially in Swedish development cooperation activities. Our report has shown that such increased gender awareness can lead to effective poverty reduction and increase both sustainability and productivity in agriculture.
- Helping the poor in rural areas to improve their access to markets and financial services in order to increase their food supply and their income is a crucial part of We Effect's strategy. This requires intensification of agricultural production, increased commercialisation and specialisation and creation of formal relationships between producers and the food industry. Improved infrastructure, including adaptation of production and aftercrop techniques, contributes to farmers'



Keith Hasimuna, Zambia

entrepreneurship, increased market integration and a more commercially-oriented production system. Rural financing is reducing vulnerability through savings and access to credit, helping households in rural areas to handle seasonal lack of liquidity and proceed with planned activities. The establishment of community-owned village banks and savings and credit associations is particularly important for smallholders, female entrepreneurs and young people. Financial services are therefore crucial to enable people in rural areas to provide for their basic needs, invest in their farms and ultimately lift themselves out of poverty.

- Greater investment in agriculture in developing countries is needed. Sweden is only investing a few per cent of its development cooperation budget in agriculture in poor

countries. This percentage needs to increase. What is also required is greater investment in agriculture by the developing countries themselves, and functioning institutions and authorities, regulations and infrastructure are crucial to enable agriculture as a sector to develop along socially, financially and environmentally sustainable lines.

## “WE WORK FOR CHANGE, AND CHANGE IS ALWAYS DIFFICULT”



Leak Thai. Photo: Nick Sells.

Yinh Ya (above left) is administrative director of Community Translation Organization (CTO) in Cambodia, which has been collaborating with We Effect since 2012. The organisation works to support local farmers through farming techniques and to strengthen opportunities for agricultural cooperatives in Cambodia.

### WHAT CHANGES IN THE WEATHER ARE YOU SEEING IN CAMBODIA?

We are seeing changes in the rainy season, among other things, and flooding has become more common. Before, it could be ten or twelve years between floods, but now it can happen at any time during the rainy season. In some areas, around 60 per cent of the income-generating crops were destroyed in 2012 and 40 per cent of livestock.

### HOW IS THIS AFFECTING THE FARMERS YOU WORK WITH?

Many farmers are used to the year looking a certain way and planning their work accordingly. In Cambodia, for example, farmers begin their rice cultivation in May, but now the rain may start as early as March. This naturally makes it difficult to plan.

### AND WHAT ARE THE SOLUTIONS?

The first is education, covering both climate change

and how to better adapt. The second is assisting with models and technologies for adaptation. For example, putting forward alternatives to rice growing during dry periods. We also assist with integrating crops to provide variation between short and long-term cultivation. Here in Cambodia we also use traditional methods of animal breeding. We are working to elevate houses and chicken coops to protect them from the water.

### WHAT ROLE DOES TRAINING PLAY IN YOUR PROJECTS?

Farmers in Cambodia are in need of change and they need to switch from subsistence farming to pursuing commercial activities. This requires training in farming techniques and access to machinery. It also requires environmental awareness and knowledge of marketing to be able to operate commercially.

### WHAT DIFFICULTIES DO YOU ENCOUNTER IN YOUR WORK?

We work for change, and change is always difficult. Here in Cambodia, agriculture is closely interlinked with culture, tradition and knowledge, which means that change takes time. In addition, we, as an organisation, have limited time and resources.

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# ABBREVIATIONS

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- CAADP: Comprehensive Africa Agriculture Development Programme (an initiative to develop agriculture led by African states).
- CGIAR: Consultative Group on International Agricultural Research (a global network of research institutes within the agricultural field).
- DAC: Development Assistance Committee (OECD agency).
- FAO: Food and Agriculture Organization of The United Nations.
- IAASTD: International Assessment of Agriculture Knowledge, Science and Technology for Development (an interdisciplinary evaluation of global agriculture).
- IIED: International Institute for Environment and Development.
- LRF: The Federation of Swedish Farmers.
- UNCTAD: United Nations Conference on Trade and Development, UNCTAD.
- ReSaAKSS: Regional Strategic Analysis and Knowledge Support System (programme initiated by CAADP to gather statistics and evaluate agriculture in Africa).
- UNDP: United Nations' Development Programme.
- WFO: World Farmers' Organisation.
- WMO: World Meteorological Organization.
- WTO: World Trade Organization.

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Farmers in Choma, Zambia.

There are several million small family farms in poor countries with just a few hectares each for growing crops and providing for themselves. Helping them to develop their farms is the most effective way we know of in the world today to combat poverty. This report looks at the challenges and potential facing poverty-reducing agricultural activities.



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