

Ending malnutrition: what role for the private sector?

From prevention
to treatment





Global Health Advocates (GHA) is a global health advocacy organisation dedicated to fighting diseases stemming from poverty and inequality. GHA's mission is to advocate for policy change at the highest political level and to mobilise resources to tackle major health threats, build sustainable health systems and enhance health equity. GHA has offices in Paris and Brussels.

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Introduction

Hunger and malnutrition: a global challenge

After over a decade of decline, the number of people suffering from hunger is on the rise again. It is estimated that in 2016 global hunger affected 815 million people around the world¹.

Still, the world produces enough food to feed its current population.² Some figures suggest the current food system is not fit to respond to the global hunger challenge: one-third of food produced for human consumption is lost or wasted globally, which amounts to about 1.3 billion tonnes per year.³ In addition, while family farming accounts for up to 80% of food produced in Asia and sub-Saharan Africa, supporting the livelihoods of up to 2.5 billion people,⁴ small farmers are the most affected by hunger, making up about three quarters of the world's hungry.⁵ Around half of undernourished people, three-quarters of malnourished African children and most people living in absolute poverty are reported as being in small farms.⁶

The factors causing hunger and malnutrition are multiple. Some causes are direct and have an immediate impact on malnutrition, for example inadequate consumption of nutritious food, or disease. Other causes may be deeper and can have an indirect though still important impact on malnutrition: these can be a lack of adequate hygiene and sanitation conditions, unhealthy environments, insufficient health services or lack of nutritious and diversified diets.

Climate change is also posing a serious threat to food and nutrition security globally. Food systems and agriculture are heavily affected by climate change, but at the same time are also major drivers of it. At least one fifth of total greenhouse gas emission can be attributed to the agriculture sector.⁷ At the same time, climate change might increase the risk of hunger and malnutrition by up to 20 percent by 2050.⁸ Climate change is pushing millions of people into cycles of food insecurity, malnutrition, poverty that eventually could lead to forced migration, instability and conflict.

Table 1: Number of people suffering from different forms of malnutrition in 2016

155 million	Children under the age of five suffering from chronic malnutrition (having low height-for-age)
52 million	Children suffering from acute malnutrition (with low weight-for-height)
2 billion	People suffering from micronutrient deficiencies (inadequate intake of vital vitamins or minerals)
2 billion	People suffering from overweight or obesity

Source: Development Initiatives, 2017. Global Nutrition Report 2017: Nourishing the SDGs. <https://bit.ly/2Km0exp>

Conflict, forced migration, and food insecurity can feed into each other, creating a vicious circle for rural populations. Of the 815 million chronically food-insecure and malnourished people worldwide, the vast majority – 489 million – live in countries affected by conflict. For chronically malnourished children under five, the correlation is even stronger: an estimated 122 million of 155 million stunted children worldwide live in countries affected by conflict.⁹ Conflicts can increase food insecurity and limit the livelihood options of rural populations in particular, as was shown in the 2017 famines in Somalia, Yemen, South Sudan and Nigeria. Conversely, food insecurity can fuel existing conflicts. Conflict may also be intensified by migrations driven by food insecurity.¹⁰

Given the multi-faceted causes of malnutrition, it is unsurprising that the solutions to this challenge are also multiple, and require responses from a variety of sectors. First of all, there are specific sets of interventions aimed at addressing malnutrition by tackling its immediate causes. These approaches, that can for example aim to increase the intake of nutritious food, can be effective in the short-term but do not address the underlying causes of malnutrition. Long-term interventions to prevent malnutrition involve effective interventions across different sectors. Areas where actions are implemented to prevent malnutrition include health, gender, social policies, education, water and sanitation. In particular, the food and agriculture sector is vital to providing nutritious food for all, reducing poverty and protecting the environment.

From “billions to trillions”: seeking private sector engagement in development

When committing to meet the Sustainable Development Goals, a universally agreed framework with a wide set of development objectives, the international community immediately faced the question of how to finance this ambitious agenda. The universal breadth of this framework made clear that development aid alone was never going to be enough to finance Agenda 2030. As outlined already in the Addis Ababa Action Agenda on Financing for Development,¹¹ also domestic resource mobilisation and private sector investments should play an important role in the global framework to finance sustainable development. While the former is absolutely essential for countries to grow according to their own local strategies and development goals, the latter raises important questions. What exactly do we mean by private sector? Have private sector investments actually been proven to deliver pro-poor development impact?

What is meant by private sector?

The private sector is often referred to as the “silver bullet” to finance Agenda 2030. However, the private sector is a very heterogeneous category of actors that ranges from multinational companies to individual farmers. “The OECD defines the private sector in development cooperation as organisations that engage in profit-seeking activities and have a majority private ownership. This definition includes financial intermediaries, multinational companies, micro, small and medium enterprises (MSMEs), cooperatives, individual entrepreneurs and farmers who operate in the formal and informal sectors.”¹²

“Leaving no one behind” is a key principle underpinning Agenda 2030. Despite increased attention on the responsibilities of businesses over the last decade, corporate human rights abuses continue to be reported worldwide. A poorly regulated financial sector has also been pointed to as a major contributor to widening economic inequalities and wealth concentration. Therefore, counting on private sector actors to mobilise investments to improve the livelihoods of people living in poverty needs to happen within a strong and well-regulated public policy framework that can guarantee clear development added value and ensure private sector investments are in line with development objectives.

Since 2011, the EU and its Member States have been promoting a growing role for the private sector in development policy, especially via blending of public and private finances (public subsidies being used to incentivize private investment in partner countries).¹³ In 2017, in order to boost this approach, the EU launched its External Investment Plan (EIP). The objective of the EIP is to mobilise private sector investments in Africa and the EU Neighbourhood, backed by a public guarantee – the European Fund for Sustainable Development (EFSD) – which can be called if projects fail. The European Commission has committed to contributing €4.1 billion of public money via the EFSD in the period 2017-2020, which they claim will leverage more than €44 billion of private investments by 2020.

While there is strong political push to engage the private sector within development policies, civil society has raised serious concerns about the effectiveness of this approach.¹⁴ The benefits of blended finance for people living in poverty have not been demonstrated to date. Indeed, there is evidence that previous blending projects have failed to align with development effectiveness principles like country ownership, transparency and accountability, and that projects have not focused on reducing poverty. At EU level too, blending facilities have not been shown to have a strong pro-poor dimension.¹⁵ The political choice of diverting scarce public resources to support a model that has not been clearly proven to work for people and the planet is attracting increasing criticism from civil society as a premature and potentially dangerous decision.¹⁶

Why this study?

Global Health Advocates is an organisation advocating for effective development policies in the fight against health inequalities. As such, it has been strongly engaged in ensuring the development of robust policies to end malnutrition, particularly at EU level. Engagement with the private sector has become a political priority for EU development policies, which will trickle down and be operationalised at technical level, raising the question of the effectiveness of this engagement as a possible contributor to ending malnutrition.

Agriculture is identified by the European Commission as a key sector that can contribute substantially to tackling the underlying causes of malnutrition.¹⁷ In addition, the EU has been actively engaged in leveraging private investments in the agriculture sector through blending initiatives, which will continue within the framework of the EIP via the investment window “Sustainable Agriculture, Rural Entrepreneurs and Agribusiness.”

Global Health Advocates aims to contribute to this debate by looking into the impact of the private sector on malnutrition, analysing what role the private sector plays in addressing both the immediate and underlying causes of malnutrition. Strong attention will be paid to the role of the private sector in addressing the underlying causes of malnutrition, with a focus on how different types of interventions in agriculture can shape food systems and impact on malnutrition.

This study adopts a right-to-food approach to ending malnutrition. The right to adequate food is realized “when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement.”¹⁸ Being a human right, governments as well as non-state actors need to implement adequate and effective policies to ensure the fulfilment of the right to food for everyone.

Recognising the complex and multi-faceted nature of malnutrition, this study does not aim to be exhaustive, rather the goal is to inform the debate about the appropriate role of the private sector in both treating and preventing malnutrition.



Treating malnutrition and responding to its direct causes: what role for the private sector?

There are multiple sets of interventions with the aim of tackling the symptoms of malnutrition. To respond to the immediate causes of undernutrition, these focus mainly on pregnant, lactating women and children under 2 years of age.

Specific interventions to tackle the direct causes of malnutrition¹⁹ can include measures like the promotion of appropriate infant and young child feeding practices, such as exclusive breastfeeding, the elimination of micronutrient deficiencies through fortification and supplementation and the treatment of acute malnutrition using therapeutic food.

The private sector has long been engaged in initiatives aimed at treating malnutrition, producing products to treat severely malnourished children and manufacturing nutrient-rich and fortified food. At the same time, some private sector actors have engaged in harmful practices to discourage women from exclusively breastfeeding their children.

The following sections will analyse some of the roles the private sector plays in tackling the direct causes of malnutrition, treating its symptoms, and what impact this has on ending malnutrition.

Food fortification and biofortification

Micronutrient deficiency, also known as hidden hunger, is the direct outcome of inadequate intake or absorption of vital vitamins and minerals such as iron or Vitamin A. It can undermine growth and development, possibly leading to serious conditions like anaemia or blindness. More than 2 billion people in the world are estimated to be suffering from micronutrient deficiencies, most living in developing countries, and most of these being pregnant and lactating women and young children.²⁰

The challenge of micronutrient deficiency is a global issue with multiple causes. In particular, as we will see below, unsustainable agricultural models and a corresponding lack of availability of nutritious and diverse crops can be determinants of hidden hunger. However, most interventions to tackle micronutrient deficiencies aim at treating the symptoms of the deficiencies by increasing the level of micronutrients in the food consumed, through processes of food fortification and biofortification, while not responding to the underlying causes.

Food fortification

Food fortification can be defined as the addition of one or more essential nutrients to food, with the objective of preventing or correcting a demonstrated deficiency of one or more nutrients in the population or specific population groups. Fortification of food with micronutrients can be a useful tool for reducing micronutrient deficiencies, and it should be seen as a legitimate part of a food-based approach when the existing food system fails to provide adequate levels of nutrients in the diet.²¹ One of the most common fortification approaches is to add micronutrients to staples, condiments or commonly consumed processed food. Examples can include salt iodisation, sugar fortification with Vitamin A, wheat flour fortification with iron.

There is some evidence and general consensus that fortification is an impactful intervention that can contribute to the fight against micronutrient deficiencies.²² Food fortification interventions are being increasingly supported by a number of multi-stakeholder alliances, governments, foundations, United Nations bodies, private sector actors and NGOs.

Private sector partners, engaged in the food industry, are important actors within food fortification programmes. They are involved in the production of both the food that is to be fortified (rice, sugar, condiments, flour) as well as the micronutrients premix for fortifying staples, and undertake the actual process of fortifying the food. The size of private sector companies involved can range from large multinational companies manufacturing micronutrients premix, to local and national medium and large food processors involved in national fortification programmes.²³

At the same time, governments and the public sector have a strong and crucial role to play, as they need to be in the driving seat of shaping fortification policies. Governments have the power to establish strict legal frameworks and are responsible for the monitoring of food safety and compliance with fortification standards. Governments also can identify whether specific fortification programmes can be suitable for specific contexts, taking into account the micronutrient deficiencies profiles of the country, as well as targeting nutritionally vulnerable groups like pregnant and lactating women, adolescent girls, and young children. Finally, and most importantly, governments also can ensure that fortification programmes are part of broader, comprehensive policy frameworks to address the fight against malnutrition.

While support for fortification policies is strong among many donors, UN agencies and foundations, increasingly concerns have been raised about its effectiveness by civil society organisations, peasant associations, consumer groups, and backed by academic studies.

Recent studies are pointing out that the nutrients added to food through a fortification process can be dramatically reduced due to exposure to light, high temperatures or humidity: in general shipping and storage conditions can have an impact on the nutrients content of fortified food, undermining the impact of these interventions. For instance, fortified soybean oils can lose up to 68% of their added vitamin A and D3 when exposed to natural lights during their storage.²⁴ To ensure fortified food can have positive impacts, shipping and storage conditions should respect high quality standards that are not often guaranteed in low and middle-income countries.²⁵

Biofortification

Biofortification is a fortification technique that has been attracting increasing attention and funding in recent years. It is the process by which the nutritional quality of food crops is improved through agronomic practices, conventional plant breeding, or modern biotechnology. Biofortification differs from conventional food fortification in that biofortification aims to increase nutrient levels in crops during plant growth rather than manually during processing of the crops.²⁶ Examples of biofortification can include Vitamin A biofortification of sweet potato, maize and cassava; iron biofortification of rice, wheat and bean; zinc biofortification of rice, wheat and maize.

Biofortification is promoted as a very cost-effective and long-term intervention to fight hidden hunger, with some evidence pointing to its positive impact on nutrition.²⁷ At the same time, it is also important to note that, like other fortification programmes, it is a single intervention that focuses on single nutrients, while very often people suffering from micronutrient deficiencies lack more than a single nutrient. And by investing in a limited number and varieties of crops, pushing farmers to increase the production of those fortified crops, reducing the production of other foods, biofortification could potentially contribute to undermining agrobiodiversity: specific biofortified seeds could be promoted at the expenses of other traditional and nutritious ones. This could potentially have a long-term negative impact on the resilience of farmers, reducing the availability of traditional nutritious food.

Different techniques, similar approaches

Both food fortification and biofortification can show positive results in the effort to treat micronutrient deficiencies, with an important role for the private sector. However, they fail to respond with a more structural approach to the causes of the deficiencies themselves: “Isolated fortification initiatives do not address the complex and mostly chronic nature of food and nutrition insecurity, including hidden hunger, which has its roots in poverty.”²⁸ Effective interventions to fight hidden hunger need to be based on dietary diversification, promoting balanced and micronutrient-rich diets, combined with interventions to respond to the underlying factors that could ensure adequate access to nutritious food.

While there is evidence that fortification initiatives can have a positive impact, providing benefits for rural populations by improving access to nutrient-rich food, there are also concerns that communities could become dependent on fortification technologies, especially if they are underpinned by strong intellectual property rights that limit the ability to adapt or transfer the technology. Furthermore, there is a risk that local farmers will be shut out of these new markets that have been “captured” by the private sector actors behind fortification technologies.²⁹ These risks are compounded by a narrative that treats people suffering from malnutrition more as consumers of products rather than as citizens with a right to food.

It is therefore key to integrate these interventions into comprehensive and effective food and nutrition security policies and frameworks, underpinned by a people-centred and rights-based approach. As we will see, governments could scale up their interventions to promote the production and consumption of diversified and nutritious food, thereby adopt long-term solutions aimed at reshaping and reforming food systems to deliver healthy and nutritious food.

Policies to tackle the direct causes of malnutrition, such as fortification interventions, should be part of broader strategies for the realization of the right to adequate food.

Ready-to-use therapeutic foods

Globally, an estimated 52 million children under-five are suffering from acute malnutrition, with around 17 million suffering from its severe form, having very low weight-for-height.³⁰ This condition is a leading cause of child mortality worldwide, with around 1-2 million children dying every year.³¹ In addition, children suffering from severe acute malnutrition have a risk of death more than 9 times greater compared to their peers.³²

Since the late nineties, innovative and effective products to treat severe acute malnutrition have been developed. Ready-to-use therapeutic foods (RUTF) are “energy-dense, micronutrient enhanced pastes used in therapeutic feeding.”³³ Typical ingredients for RUTF includes peanuts, oil, powder milk, sugar, vitamins and mineral supplements. RUTF has revolutionised the treatment of non-complicated forms of severe acute malnutrition, as it has been proven to be an effective intervention – with the World Health Organisation recommending the use of RUTF for treating severe acute malnutrition in 2007.

The production of ready-to-use therapeutic foods is an area where private companies are playing a major role. A big role in the global production of RUTF is played by the French company Nutriset, who produced and patented the first commercially available RUTF product Plumpy’Nut® in 1996.³⁴ For about a decade, Nutriset was the only company producing RUTF, supplying the major agencies implementing programmes to treat severe acute malnutrition, raising concerns about high prices, as well as the risk of implementing agencies becoming dependent on a one single company, headquartered in industrialised countries. Starting in 2005, Nutriset has shared its patent with other manufacturers within the PlumpyField Network,³⁵ with the goal of increasing the “nutritional autonomy” of developing countries. Today, the number of companies producing RUTF has increased exponentially. In 2017, UNICEF procured RUTF from 23 different suppliers, of which 18 were located in countries affected with high levels of malnutrition.³⁶ UNICEF has also committed to support locally produced RUTF, with a goal of reaching 50% sourcing from developing countries, a target that has been met in 2016.

Despite the existence of this effective treatment for severe acute malnutrition, and despite progress in recent years, only approximately 3.2 million children accessed treatment in 2015 – making this less than 20% of total children suffering from severe acute malnutrition.³⁷ One of the main barriers to a substantial scaling up of treatment is the expensive price of RUTF. A recent study from Niger highlights how the price of RUTF was one of the highest costs within overall treatments for severe acute malnutrition – accounting for around €33 out of €75 for the total outpatient cost per child.³⁸

While global RUTF prices continue to decrease, locally produced products remain more expensive than RUTF imported from industrialised countries.³⁹ One of the main challenges local producers face is the supply of some of the ingredients needed to produce RUTF. These are difficult to source in developing countries, especially as they need to comply with international quality standards. This means that local manufacturers have to import raw materials (such as peanuts) as well as vitamins and minerals from international suppliers. Compliance with international food safety standards is also another aspect that drives upwards the price of locally produced RUTF.

Still, there is the need to continue promoting local production of RUTF, where the need to treat severe acute malnutrition is high, as this could lead to cost reduction in the long run. Potential additional benefits of local production include having stocks of RUTF readily accessible in case of emergency, lower transport costs, and local economic benefits such as job creation. An increase in availability of local stocks could help increase the availability of RUTF throughout the health system, limiting stocks-out and increasing adherence to treatment. Several actions could be taken to accelerate the shift to local production of RUTF,⁴⁰ for example facilitating national agricultural policies geared towards stimulating national food production and transformation, facilitating the production and provision of locally sourced high-quality ingredients, boosting investments in laboratory testing, promoting a competitive tax package for local production. In order to avoid dependence on donor-driven programmes, national health budgets should also include a specific line for RUTF procurement.

However, while RUTF is a very effective tool to treat severe acute malnutrition, it is not a panacea for all forms of malnutrition and like the other measures described in this section, it does not address the underlying causes of malnutrition. It remains a medical food that should be seen as a medical product and employed within a community-based approach. For this reason, RUTF should only be available through the health systems and should not be commercialised beyond the treatment of severe acute malnutrition. For instance, the commercialisation of RUTF as a food product and its use outside of suggested treatment protocols could potentially undermine best practices for infant feeding, such as exclusive breastfeeding. Responding to the underlying causes of malnutrition through a multi-sectoral approach to ensure access to equitable, quality health services and adequate, nutritious and diversified diets and prevention of childhood illnesses remains the best approach to preventing malnutrition, including its acute forms.

Promoting exclusive breastfeeding

There is global consensus that breastfeeding is one of the most effective interventions to protect new-born babies and infants as breast milk is a natural prevention against malnutrition and disease.

However, although progress has been made in the past years, breastfeeding rates remain worryingly low around the world: in low-income and middle-income countries, only 37% of infants younger than 6 months are exclusively breastfed. The scaling up of breastfeeding could prevent an estimated 823 000 child deaths every year.⁴¹ In 2012, WHO established six global nutrition targets for 2025, that include a target to increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%.⁴²

WHO and UNICEF recommend that all infants should be put to the breast within one hour of birth. In addition, all infants should be exclusively breastfed for the first six months of life. From six months, infants and young children should be given nutritionally adequate and safe foods that complement breastfeeding. Breastfeeding practices should continue for up to two years of age or beyond.⁴³

To promote exclusive breastfeeding, countries need to enforce strong public policies that promote breastfeeding and support women in their efforts to breastfeed their children exclusively for the first 6 months. These policies could include the adoption of protective legislation, training of health workers, counselling programmes to improve breastfeeding and the adoption of legislation to promote paid maternity leave for at least six months.

While there is clearly a strong role for public policies in the promotion of breastfeeding, there are concerns that private sector engagement in this domain can put children's lives at risk. WHO, as mentioned, advocates for babies to be exclusively breastfed. If this is not possible, WHO advocates that they be fed safely on the best available nutritional alternative. Breast-milk substitutes should be available when needed⁴⁴, but not promoted.

The market for milk formulas is highly profitable – currently worth USD 47 billion per year – and projected to increase by around 50% by 2020. Milk formula is the fastest-growing packaged food product, with most of this growth concentrated in Asian countries.⁴⁵

There have been serious concerns that the marketing activities of some manufacturers have led to infant formula being used unnecessarily and improperly, undermining exclusive-breastfeeding. This is why in 1981 the World Health Assembly adopted The International Code of Marketing of Breast-milk Substitutes⁴⁶, aimed at “ensuring the proper use of breast-milk substitutes, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution”. For example, the Code explicitly states that there should be no advertising or other form of promotion of infant formula to the general public. While some companies are establishing systems to comply with the Code, these rules are too often not being implemented in practice: according to a report from Save the Children there continue to be too many examples of violations of the Code by some manufacturers of breast-milk substitute.⁴⁷

It is therefore crucial for national governments to enact legislation encompassing the provisions of the Code, and to set up monitoring and enforcement mechanisms. While it is estimated that 135 countries had some form of Code-related legal measures in place in 2015, only 39 had legislation incorporating all or most of Code provisions. In addition, only 32 countries report having a monitoring mechanism in place, and of those, few are fully functional.⁴⁸ Because of the Code not being fully implemented and monitored in many countries, there are still many examples of companies breaching the Code around the world.

One way companies breach the Code is by finding techniques to subtly advertise and promote their products, for example by providing free samples of formula to mothers, meant to encourage formula feeding. This might start a vicious circle that discourages mothers from breastfeeding. According to a survey done in China, 40% of the mothers interviewed said they had received formula samples. Of these samples 60% were said to be provided directly by baby food company representatives.⁴⁹

In other cases, companies lobbied public authorities against the adoption of legislation in line with the International Code of Marketing of Breast-milk Substitutes. This happened for instance in Kenya, where companies lobbied the government to dissuade it from introducing a strong law banning the promotion of baby foods. The Kenyan government resisted this pressure and in 2012 adopted the Breastmilk Substitutes Regulation and Control Act 2012. As a result, in 2014 exclusive breastfeeding rates had almost doubled since 2008/9 (61% compared to 32%).⁵⁰

Private sector companies have a role to play in the production of breastmilk substitutes in cases where these are needed, but only within a regulated environment. At the same time, they face an inherent conflict of interest because their rival product, breast milk, is free, natural, and more nutritious, with additional benefits of strengthening the bond between mother and child. Private companies should commit to complying with the Code and avoid any actions that could undermine the promotion and practice of exclusive breastfeeding. In addition, public policies should be driving the agenda to expand and promote exclusive breastfeeding practices, ensuring companies fully respect the Code.

The need for sustainable and holistic approaches

Even if initiatives to respond to the immediate causes of malnutrition were to be fully scaled-up, chronic malnutrition could be reduced only by 20.3%.⁵¹

While these interventions are needed, particularly in specific settings, the role of the private sector within these initiatives can have varying impacts.

In some cases, such as in the production of ready-to-use therapeutic food to treat children suffering from acute cases of malnutrition, companies can play a key role in ensuring the provision of high quality, effective and affordable products. In other cases, private companies are massively investing in interventions to fight hidden hunger through food fortification and biofortification programmes. These interventions are “techno fixes” to the complex challenge of malnutrition that will only bring short term benefit if not properly integrated into strategies to shape food systems that can deliver healthy and diversified diets. In other cases, private companies’ actions are putting children’s lives at risk by undermining the promotion of exclusive breastfeeding, one of the best natural ways to prevent malnutrition.

Initiatives to respond to the immediate causes of malnutrition cannot be the only answer: they are not fit to address the complex multi-sectoral nature of malnutrition in the long-run. On the contrary, they can often reinforce dependence on food industries.

In order to contribute substantially to the eradication of hunger and malnutrition, strong efforts will be needed not only to treat malnutrition, but also to prevent it, with the recognition that current food systems are failing to deliver healthy and diversified diets that can ensure adequate consumption of nutritious food for everyone. Measures to treat malnutrition need to be effectively integrated within the framework of broader strategies to prevent malnutrition and tackle its root causes. The key to good nutrition is a diversified diet, that can guarantee access to a variety of foods, with right to food at its core.

A more holistic approach is therefore needed, that should take into consideration not only the nutritional dimension, but also the social, economic and environmental dimensions of food systems. The next section will present different sets of interventions in agriculture and food systems that have an impact on nutrition, highlighting how private sector engagement in these sectors can contribute to preventing malnutrition and how, conversely, it can be part of the problem.

Which role for the private sector in preventing malnutrition? A focus on agriculture

Many of the causes of malnutrition are the result of a complex set of interacting factors, that include health and sanitation, agriculture, food systems, gender relations, social equity, education and the social and environmental context. Addressing malnutrition in all its forms in a sustainable way requires understanding its root causes and working to address them.

Being a sector concerned with food production, agriculture is clearly linked to nutrition. It plays a crucial role in ensuring food systems are working effectively to deliver healthy, nutritious and diversified diets, which are essential to preventing malnutrition. Moreover, agriculture is the primary source of employment and income for most of the world's poor, who are the part of the global population most affected by hunger and malnutrition. Three out of four poor people in developing countries are thought to be living in rural areas and agriculture is the main source of livelihoods for around 86% of rural people.⁵² Agricultural development has enormous potential to make significant contributions to reducing malnutrition. However, a majority of agricultural interventions have not been able to prove their impact in reducing malnutrition.⁵³ In fact, as we will see, some agricultural interventions might have a negative impact on nutrition in certain cases.⁵⁴

Agriculture is also of increasing interest to donor countries, especially in terms of mobilising private investments, as in the case of the recently launched EU External Investment Plan,⁵⁵ which has a specific window for sustainable agricultural investments.⁵⁶ Within this window, it is recognised that “initiatives to support the investment capacity of small producers and rural MSMEs remain largely insufficient” and that the goal of the interventions developed in this area should be to narrow this gap. The EIP regulation states that investments should promote sustainable, low-carbon, climate-resilient and inclusive growth.

To end malnutrition, it is vital that the agriculture sector can deliver positive outcomes to improve nutrition, shaping sustainable food systems that can guarantee diversified and nutritious food.

While recognizing the essential multisectorality of nutrition, the attention of the next section will be on agriculture and food systems and their relationship with nutrition, highlighting the different roles private sector actors are playing in shaping agriculture interventions. In particular, different types of agricultural models will be presented, analysing the impact they have on nutrition. First, the widely implemented industrial model of agriculture, with its market-driven approach that places profit and production at the core of its strategies. This model is characterised by land acquisition, intensive systems of monocropping to produce staple crops, relies on external inputs such as chemical fertilizers and commercial seed varieties and is underpinned by a global export-oriented food system. Then, a more diversified and agroecological model, involving small farmers and MSMEs with a community-driven approach, characterised by diversification of production, low external inputs, production of a wide range of less homogeneous products often destined for short value chains and the use of locally-adapted seed and crop varieties, having at its core the right to food and food sovereignty,⁵⁷ with food sovereignty defined as “the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems.”⁵⁸



The impact of large scale industrial agricultural investments on nutrition

The narrative of “feeding the world” is often held up as a key justification for industrial agriculture⁵⁹. Beginning with the Green Revolution in Asia, the central idea behind this narrative is that food security can be attained for the world’s poorest through the steady intensification and specialisation of industrial agricultural practices within an international system that links producers and consumers via global value chains. The private sector should therefore support this model through investments in large scale agricultural projects.

This approach highlights a specific aspect of food security: the availability of food, determined by the level of food production. This means it has focused more on the issue of safe and sufficient food mainly through increased caloric intake, overlooking, and in some cases exacerbating, certain other factors that hinder access to food.

In theory, this approach supports positive nutrition outcomes, understood as a consequence of diets that include both a sufficient amount of food and adequate level of nutrients, by facilitating access to sufficient and diverse foods via global markets.

In practice however, its ability to deliver sufficient food has been put into question, and it has tended to overlook questions of the nutritional content of food and the diversity of diets, leading to a decline in nutritional value of food and to a neglect of diversity.

Nutritional content of food

There is mounting evidence that the industrial agricultural system is leading to a decline in the nutrition content of the food we eat. As monocropping and specialisation permeate agricultural systems, the corresponding rise in consumption of high energy crops has caused a decline in the consumption of more nutritious food such as legumes and pulses.⁶⁰ For example, in India, where the availability of legumes fell from 23 kg in 1961 to 12 kg per year per inhabitant in 2003,⁶¹ and in Kenya and Bangladesh, where tobacco farming displaced more traditional and nutritious foods.⁶²

Staple crops themselves have seen a decline in their nutritional content. A large study of agricultural production in the US found a significant drop in micronutrient content in major crops over 50 years and suggested there may be trade-offs between cultivating high yielding crop varieties and preserving nutrient content.⁶³ A decline in the nutrient quality of soil, caused by soil degradation (often associated with the practices of industrial agriculture), also affects the nutritional quality of food.⁶⁴

Investments in large scale industrial agriculture are also linked with environmental degradation and climate change.

Food systems are responsible for up to 29% of global greenhouse gas emissions, the majority of these emissions coming from large-scale monoculture farming typical of the industrial agriculture model.⁶⁵ This is increasing climate instability – which in turn has a negative impact on agricultural production, with smallholder farmers being most affected as they are more sensitive to climate shocks and other climate-related natural disasters.

Aside from their impact on food security and livelihoods, these factors also have implications for the nutrient content of food. With regard to climate change, concerns have been raised that rising CO₂ levels could alter the composition of plant life and correspondingly human nutrition,⁶⁶ and a recent study found that staple crops grown at higher CO₂ concentrations have conversely lower contents of nutrients like zinc and iron.⁶⁷

Dietary diversity

Despite increasing recognition of the benefits of a more diverse diet for nutrition, the approach of the investments described here overly emphasises one of the aspect of food security, the availability of food, while putting “little emphasis on durably improving people’s access to a diverse diet.”⁶⁸

Within the industrial agriculture system, diverse diets must be secured though access to global markets. However, where the ability to produce food for domestic or local consumption is undermined and where the ability to purchase food is limited by either food supply or income issues (often linked to land access issues, discussed below) households cannot access the range of foods needed to ensure diversity.

The actual availability of diverse and traditional crops has also been undermined by this system and the private investments that underpin it: “‘Underutilized’ or minor crop species such as indigenous leafy vegetables, small-grained African cereals, legumes, wild fruits and tree crops are disappearing in the face of competition with industrially produced varieties of rice, maize and wheat.”⁶⁹ In fact, those three crops alone supply more than 50% of the world’s plant-based energy intake.⁷⁰

The loss of locally adapted varieties of seeds also has serious consequences for nutrition. Availability of the wide range of foods needed for a diverse diet suffers as local varieties are lost and replaced by commercial seeds, often intended for monocropping.⁷¹ As more and more farmers swap their local varieties for the same few commercial crops, crop diversity erosion intensifies. In fact, it has been estimated that about 75% of plant genetic diversity has been lost worldwide due to the loss of local varieties.⁷²

Food security

Many donors and the international community promote initiatives in industrial agriculture as a key to addressing food security. However, there are clear indications that private sector investments in industrial agriculture have in fact created barriers to food security.

The New Alliance for Food Security and Nutrition (NAFSN) is an emblematic example of this type of investment in large-scale agriculture, and has been in the spotlight in recent years regarding the question of its impact on food security. Launched as a G8 initiative in 2012, the NAFSN was intended to attract private sector investment in agriculture to enable countries to develop their agrifood sector and thereby improve food security.⁷³ Ten African countries have joined the initiative: Burkina Faso, Côte d’Ivoire, Ethiopia, Ghana, Mozambique, Tanzania, Benin, Malawi, Nigeria and Senegal. Mechanization of production and the increased use of external inputs such as commercial seeds and chemical fertilisers, along with business models that integrate smallholders in global value chains, are key features of the NAFSN.

In 2016, the European Parliament, following a report commissioned by its development committee, adopted a resolution on the New Alliance that criticized its impact on food and nutrition security.⁷⁴ The resolution warns in particular against the risk of land grabbing and the promotion of certified seeds and in general highlights how policies implemented under NAFSN are undermining sustainable small-scale food production.

Looking more specifically at nutrition, the NAFSN has been criticised for being weak on the integration of nutrition in agricultural policies. References to nutrition are generally weak in the Country Cooperation Frameworks agreed under NAFSN: only 7% of investments include a direct nutritional component, and where nutrition is a component, implementation is weak.⁷⁵ In addition, studies have shown that while more than half of NAFSN commitments by private investors are based on non-food crops (cocoa and cotton), only 3% of investments mention products that contribute to nutrition and are intended for the local market.⁷⁶ Not only is nutrition largely missing within the framework of the New Alliance, but the potential negative impact of chemical fertilisers on nutrition is completely ignored and no monitoring mechanisms have been set up.⁷⁷

This issue derives in part from the fact that initiatives such as the New Alliance look at the problem from a narrow definition of food security which frames the solution in terms of increased caloric intake, failing to sufficiently consider the equally important role of nutrition security, or the access to and affordability of a diverse range of nutritious foods. Yet even in the narrow terms of securing sufficient calories, large-scale investments seem to be failing to deliver.

Rather, access to land and markets, resilient and sustainable livelihoods have all been shown to be negatively impacted by these types of investments.

Access to lands

Access to land is vital for food security as land is essential for the cultivation, consumption and sale of crops. Industrial agriculture projects can have a variety of negative impacts on the channels through which food is accessed.

Agriculture Growth Corridors are a prominent example of the types of investments supported by NAFSN, the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) being possibly the most well-documented case. Serious issues with SAGCOT have arisen from an attempt to fast-track land titling to secure investors for large commercial estates. Alongside reports of the use of force, arrests, conflict and coercion,⁷⁸ there were problematic assumptions that land was “unused or unoccupied”, when in fact in many cases communities were relying on the land for the cultivation of food and other livelihood necessities.⁷⁹ In Malawi too, a large scale agricultural project was established without the free, prior and informed consent of small scale farmers, leading to accusations of land grabbing.⁸⁰ There were reports of forced evictions with dozens of families driven from their homes. This followed policy and law changes supported by the New Alliance that encouraged the transfer of land to investors and were “likely to involve displacements of farmers.”⁸¹

Communities need access to surrounding land to collect wild foods like mushrooms and resources like wood, drinking and cooking water and fuel. Without access to these resources, communities struggle to make and prepare food,⁸² which has clear negative implications for household nutrition. In Nigeria, farming communities lost access to land to make way for the construction of a large-scale rice farm.⁸³ The land, which included water resources, fishing ponds and grazing areas, was a major source of livelihood for the local communities.

When communities cannot cultivate crops on their own land, they must rely on markets to supply them with food. This is not only important for ensuring sufficient access to food, but also for access to diverse and healthy food. Yet there is evidence that access to markets is also affected by the arrival of large scale agricultural investments.

Farmers who can sell their produce in the immediate local markets have voiced concerns that they have been unable to access larger markets and that they might be “crowded out” by larger investors.⁸⁴ And for those who must purchase food on the market, they can be affected by the dual problems of availability and affordability. Food shortages, caused for example by lack of access to the resources needed to produce food, limit the availability of food. Shortages also contribute to rising prices, hindering access to food for those who cannot afford steeper prices.⁸⁵

Labour and contract farming

To access food on the market, families must have sufficient income to purchase food. Yet many sources of income, such as selling food and other resources like wood and charcoal, depend on access to land that can be blocked off by private investments. This sometimes leaves people with little option but to accept new income opportunities that arise through these new investments.

Also for this reason, farmers can often opt to accept employment at commercial agriculture estates,⁸⁶ despite many problems recounted about this type of employment, including wages below the minimum wage, a lack of job security through formal contracts and sub-standard working conditions.⁸⁷ Communities deprived of farming land and pushed into precarious employment are at serious risk of food insecurity.

Similar issues arise in what is known as “contract farming”, where larger companies contract with small scale farmers to purchase agricultural products. The risk of falling into a cycle of debt and poverty is considerable for farmers who take part in these schemes. Under such schemes, farmers sign contracts and commit to producing food using certain production systems. They also receive production loans which are used to purchase the corresponding inputs, commonly seeds, equipment and (often chemical) fertilizers⁸⁸. The costs for smallholders to participate in such schemes can be extremely high. In some cases, farmers reported being driven into debt and default, with some facing legal threats from the private company. Many had to sell their belongings and feared further land dispossession if they could not repay the loans.⁸⁹

By shifting a significant amount of risk onto smallholders, these schemes can increase rural poverty thereby endangering access to sufficient, safe and nutritious food.

Seeds are a key part of many agreements in contract farming, with smallholders agreeing to purchase and use seeds supplied by the larger companies. These new seeds often depend on other inputs and water availability, meaning if farmers struggle to access inputs or experience a bad harvest they may find themselves saddled with debt because of this seed dependence. This risk is high for farmers who have switched to monocropping, as they are more vulnerable to the impacts of climate change and less able to build resilience through crop diversification. In fact, farmers seed systems themselves are a key source of resilience against threats like climate change. Local varieties are also more suited to the local environment, and are therefore better able to protect farmers and rural communities against the risks of pests, disease and climate change.⁹⁰

Once farmers have abandoned their own seeds in favour of these new varieties, it is quite difficult to undo this process. Women, who are often the primary seed-keepers, can suffer especially in these arrangements when they are deprived of their locally-adapted seeds along with the knowledge and skills in selecting and storing them.⁹¹

Efforts at this kind of “seed reform” are encouraged through the New Alliance, for example in Ghana and Burkina Faso,⁹² through seed regulations and government-sponsored programmes that promote hybrid seeds that increase dependency on inputs. Yet efforts like these that seek to replace local varieties and farmers’ own seed systems with commercial, externally-supplied seeds risk creating insecurity for farmers on multiple fronts that can seriously affect food security and undermine nutrition in rural communities.

More broadly, these types of large scale private investments in agriculture can impact negatively on the food security of smallholders by disempowering them, especially in decision making processes.

In some cases, big companies have tended to use their power to influence arrangements in their favour rather than to “strengthen the capacity and productivity of smallholder farmers.”⁹³ The risk here is that if farmers’ cooperatives or civil society are excluded from decision making, the interests of smallholders may not be taken into account and their food security and nutrition may be undermined.

Overall, this labour model is not working for the most vulnerable: “contractual mechanisms have been shown to risk exacerbating the gap between better-off and poorer farmers since they work for only the top 2-20 per cent of small-scale producers, mostly men.”⁹⁴

Export model

These schemes and projects which encourage the appropriation of vast amounts of land and the implementation of contract farming are part of a system of global agricultural value chains underpinned by an export model of food production. It is this system that encourages and drives the investments described above that can jeopardise food security and nutrition.

While more than 80% of smallholders operate in local and domestic food markets; food security discourse, including in the EU, has focused on linking smallholders to formal markets principally through export-oriented value chains instead of supporting “local, national and regional food systems.”⁹⁵

The risks to food security and nutrition intensify when production is geared towards global markets rather than meeting local or regional needs. As noted above, this can make communities more dependent on purchasing food, and when incomes are affected by large scale agricultural investment this can lead to a reduction in food and nutrition security and correspondingly to negative nutrition outcomes. These types of value chains have been characterized as “a generator of debt on the part of smallholders and of fatal dependence on external inputs and markets.”⁹⁶

This international system also creates wider risks that can impact on the food security and nutrition of small scale farmers and rural communities. Price shocks and price volatility arising from international trade can risk the creation of “international poverty traps”, while an increasingly competitive international environment can exacerbate food insecurity through disruptions to the food supply for those who struggle to compete.⁹⁷

A model worth rethinking?

The approach to food security and nutrition linked to this international, market-driven system of agriculture fails to tackle the root causes of hunger and malnutrition. By focusing on increasing calories through the production of a few staple crops, and supplying single nutrients through food fortification (as was discussed in the previous section), this system ignores important issues that impact on food security and nutrition. As we have seen, through this model the livelihoods of smallholders and capacity of rural communities to produce enough nutritious food to eat are put at risk (despite accounting for 80% of food produced in Asia and sub-Saharan Africa), the ability to access a diverse and healthy range of foods is reduced, and the actual nutrient content of food is also reduced.

This model is also increasingly linked to climate change and its impacts. As already noted, industrial agriculture hinders farmers' ability to develop resilience to climate change and natural disasters, phenomena which are placing an increasing burden on small scale farmers.⁹⁸ Compounding the problem, industrial agriculture methods have been linked to increasing greenhouse gas emissions, with agriculture, forestry, and other land use changes contributing as much as 25% of all human-caused greenhouse gas emissions.⁹⁹

Other environmental impacts related to industrial agriculture include land degradation and the loss of biodiversity and other ecosystem functions. Ironically, these impacts have been linked to a decline in yields for many of the staple crops associated with this model, which have "either failed to improve, stagnated after initial gains, or collapsed."¹⁰⁰

Given the risks and problems associated with these investments, it must be asked "whether investing in support to smallholders would not have produced stronger poverty-reducing impacts, without the risks associated with large-scale commercial farms."¹⁰¹

This model is also starting to be questioned by some international donors, who were among the main supporters of this approach. In February 2018 France publicly announced it will withdraw from the New Alliance for Food Security and Nutrition.¹⁰² This announcement comes as the consequence of an independent evaluation of the impact of the New Alliance in Burkina Faso, which showed mixed results. The measures taken in Burkina Faso to free up land for future investors caused considerable changes in food security and food consumption practices, with a real risk of land grabbing to the detriment of small farmers.¹⁰³ With this announcement, France acknowledged the failure of this approach, and stressed it will strengthen its support for inclusive and sustainable rural development and family farming. The French example should be followed by other donors who are still part of the New Alliance, including the European Union.

Given all these considerations, the kinds of large scale private sector investments described here do not appear to be effective at ensuring positive nutrition outcomes. The next section will look at whether a rights-based, community-lead model of sustainable agriculture that focuses on the quality of food and the system underpinning it can work more effectively for nutrition.

Diversified and agroecological models of agriculture: holistic approaches fit for nutrition, climate, health and resilience

While the current agricultural system is focusing on productivity and quantity of food, it is not delivering on ensuring access and guaranteeing the quality needed to provide nutritious food. As noted above, starting with the Green Revolution, global policies have been geared towards investments in a few staple crops in order to increase productivity, while failing to invest in diverse and more nutritious food. This led to the current situation the world is facing today, where only 30 crops supply 95% of the calories that people obtain from food, and only four crops – maize, rice, wheat and potatoes – supply over 60%.¹⁰⁴

The reliance of agricultural production on a very limited range of crops is not only having a negative impact on the availability of nutrient-rich food, leading also to the homogenisation of diets, but it is also a threat to agricultural biodiversity, with the environmental consequences that come with this.

To address the malnutrition challenge, investments in agriculture should be geared towards the adoption of a more diversified approach, and agroecology offers a promising model that will be explored in this section. One potential benefit of adopting such a holistic approach is that it addresses a range of different sectors, including health, food and the environment, thereby contributing to overall improved health and nutrition status.

Agricultural diversification refers to “maintaining multiple sources of production, and varying what is produced across farming landscapes and over time.”¹⁰⁵ Agroecology is “the science of applying ecological concepts and principles to the design and management of sustainable food systems.”¹⁰⁶ It includes different approaches to maximise biodiversity and stimulate interactions between different plants and species, with the objective to build healthy agro-ecosystems and secure livelihoods.¹⁰⁷ Agroecological approaches need a low level of external inputs like chemical fertilizers, antibiotics and pesticides. Relying less on these inputs and on mechanization, they are characterised by a higher level of labour intensity.

Productivity

One criticism often directed to agroecological approaches in agriculture is that they cannot guarantee the same level of productivity as the traditional industrial model.

While it is true that in the past decades the production of main staple crops has increased, we have already seen how industrial models of agriculture are having negative impacts on the environment, which could eventually lead to a decline in yields for many staple crops. Conversely, recent studies¹⁰⁸ are showing that diversified agroecological approaches can result in similar or even greater levels of productivity, without negative environmental impacts.

In developing countries, organic systems¹⁰⁹ have been reported to be producing up to 80% more yields than conventional agricultural, while in developed countries organic systems produce slightly lower yields (8% less).¹¹⁰

Similar results have been obtained by other studies: a review of 286 projects in 57 developing countries, found that farmers adopting a “resource-conserving” agriculture had increased agricultural productivity by an average of 79%.¹¹¹

These figures help in debunking the myth that the traditional industrial agricultural model is the only model that can guarantee a sufficient level of production to feed the world. Diversified and agroecological methods of food production could contribute substantially to feeding the current and future human population while maintaining soil fertility and without the need to exploit new lands.

Building resilience

Agriculture systems must become more resilient to extreme weather events and their adaptive capacity must be improved and strengthened to face changes in local climatic conditions. At the same time, agriculture systems need to adapt quickly to shocks such as seasonal shortages and natural disasters.

Diversified agroecological models can create resilience by diversifying agricultural production.

Indeed, agricultural biodiversity and the use of different crops, species and breeds can allow smallholder farmers to minimize the risks of complete loss in case of extreme weather events, such as droughts or floods, building resilience to climate risks.

There are increasing examples of how a diversified agroecological approach can help small farmers mitigate risks and threats related to climate change. In Ghana, for example, farmers are planting varieties of crops that mature faster in order to deal with changes in seasonality and rainfall brought on by climate change. In other countries, farmers are utilising drought or flood tolerant crops to cope with the changing environment conditions.¹¹²

In addition, a diversified agroecological strategy could include the promotion of so-called 'neglected and underutilized' crops, that have been forgotten in the last hundred years, despite being uniquely adapted to their local environments and playing a vital role in supporting diverse diets in local communities. This has resulted also in a loss of traditional knowledge and cultural heritage. Yet these neglected and underutilized crops could help increase the diversification of food production, adding new species to diets that can result in increasing nutritional intake, while at the same time strengthening the use of traditional crops and respecting local cultures.

This diversification of agricultural production also helps build economic resilience for communities. It reduces the dependence of farmers on external inputs, limiting their financial risks in case of crop failure and reducing the need for chemicals (pesticides and fertilizers);¹¹³ it can be seen as a form of self-insurance to foster resilient livelihoods. Furthermore, diversified systems can help reduce the risks that come with variable yields and seasonal shortages. Ecological farming also makes the best possible use of locally available inputs, thus keeping money in the local economy.¹¹⁴ Being also a labour-intensive practice, diversified agroecology can also offer new job opportunities for on-farm and off-farm activities, linked to the reduced use of mechanization and pesticides.

Dietary diversity and nutrition

Agricultural diversity has the potential to be a transformative approach to foster dietary diversity and improve nutrition. A diversified agroecological approach can improve yields, improve the nutritional content of food and reduce the dependency of farmer on input suppliers. This can translate into increased local availability of nutritious foods and increased farmers' incomes, thus resulting in strengthened food and nutrition security.

A number of recent studies¹¹⁵ have shown that diversity in household agricultural production has direct and important linkages with dietary diversity and nutrition. At the same time, agricultural biodiversity has been proven to contribute to human nutrition by increasing dietary diversity and quality. Adopting diversified cropping systems and micronutrient-rich varieties has been shown to help improve the intake of both macro- and micronutrients. In particular, different studies show how consumption of nutritious food like fruits, vegetables and legumes is strongly associated with greater farm diversity.¹¹⁶ The positive link between diversified agricultural production and dietary diversity is even stronger in households where decisions over what to do with agricultural earnings were taken mainly by women, as there is evidence that when income is controlled by women, it has a significantly greater positive effect on child nutrition and household food security than income controlled by men.¹¹⁷

It is clear that diversified agricultural production can lead to more diversified and nutritious diets for farming households that consume primarily what they themselves produce. Nevertheless, the majority of farmers in developing countries are not strictly subsistence-oriented or market-oriented, but rather produce agricultural goods for both sale and their own consumption. It has been shown that farmers that are more open to market may have quite diverse diets if their income is used to buy nutrient-rich foods that can diversify diets (fruits, legumes, vegetables). The potential to earn income from new crops could act as an incentive to diversify agricultural production, which could improve dietary diversity. Thus, it is key to promote access to local markets for small farmers, to allow them to earn incomes that can be used to improve dietary diversity and increase intake of nutrient-rich foods.

To achieve greater diversification of agricultural production, it is crucial to guarantee access to a rich diversity of seeds, also to allow farmers to adapt to droughts or floods, to new pests and diseases and other challenges linked with climate change. However, seed diversity does not occupy a significant place within the business models of the largest seed companies, many of whom are in fact actively engaged in promoting seed reforms that increase farmers' dependency on commercial seeds. And through the use of intellectual property rights, big companies in the seed industry are eradicating seed-saving and sharing practices, diminishing the gene pool and thus reducing the world's food and nutrition security. Very little efforts and investments are dedicated to supporting farmers in enabling them to contribute to diversity and resilience.

Several initiatives are being implemented in different parts of the world to protect agrobiodiversity, which may be threatened by the uniformity encouraged by the spread of commercial seed varieties, and to defend the seed systems through which farmers traditionally save, exchange and sell seeds, often informally.

Farmers' seed systems are facing increasing restrictions, especially following the increasing use of intellectual property regulations on seeds, with some peasant practices having even been declared illegal and criminalised in some countries, like Colombia and Tanzania.¹¹⁸ As a consequence, the poorest farmers may become more dependent on expensive inputs, creating the risk of indebtedness.

Facing these challenges, peasant farmer organisations around the world are mobilising to resist these restrictions, raising their voices to oppose strict seed laws, defending the farmers' seed systems which, for small farmers, are a source of economic independence and resilience in the face of threats such as pests, diseases or climate change. Examples of social and peasant movements of this kind can be found in Latin America, Asia, Africa, as well as in Europe and North America.¹¹⁹

NGOs are also engaged in the effort to create systems that allow seeds to remain freely available without patents, with the aim of promoting the freedom to use seeds and stimulate breeding, diversification and resilience. An example of this approach is the Open Source Seeds Programme¹²⁰ from the NGO Hivos, implemented in different countries, including in East Africa, where it is partnering with Bioversity International to enable small farmers to increase food and nutrition security and mitigate climate change, building capacities and increasing access to climate-smart crops and crop varieties by establishing viable business models for Open Source Seed Systems in the region.

The Open Source Seed system is based not on exclusive intellectual property rights, but on the idea of protected commons. Breeders declare their seeds open source, and farmers and consumers support the search for well-adapted varieties and appetising crops suitable for current cultivation technologies. The key feature of "open source seed" is a clear commitment by all actors involved to maintain freedom to use the seed and any of its derivatives. This commitment accompanies the seed and its derivatives through any transfers and exchanges.



A model that is working

To end malnutrition while respecting our planetary boundaries, we need a major shift in food systems towards a low carbon, highly-adaptive, resource-preserving agroecological model of agriculture, that puts people's right to food at the centre, promoting improved access to safe, diverse and nutritious food.

As has been shown, diversifying food production and consumption is the most sustainable and holistic option to ensure an adequate intake of nutritious food. In particular, diversified agroecological models of agriculture have the potential to deliver positive nutrition outcomes, at the same time empowering small farmers, respecting the environment and building resilience.

This model appears particularly relevant to small-scale farmers and the most food insecure food producers. In addition, agroecology "still has some unexplored but promising potentials as it has not benefited yet from substantial public investments and research programs."¹²¹ Despite promising results so far, research into sustainable models of agriculture like agroecology is lagging behind, with most current research focused on industrial agriculture, concentrated on a small number of crops. A study from 2015 has shown how at EU level the share for research into organic and low input farming does not exceed 12% of the total EU funding for agriculture research.¹²²

Agroecology allows small and family farmers to become more autonomous and self-sufficient in terms of external inputs (including expensive and environmentally harmful synthetic agricultural inputs), encouraging them to maximise the use of available resources on the farm.

In addition, diversified agroecological approaches are strengthening and supporting the concept of food sovereignty, moving away from the mainstream productivity approach, focused on quantity of food over quality. The concept behind food sovereignty, very much aligned with agroecology, contrasts with the mainstream productivity-based approach which holds that increases in food production, particularly of non-diverse crops, will solve the world's hunger and malnutrition problem. Instead, agroecology "focuses on local autonomy, local markets and community action for access and control of land, water, agrobiodiversity which are of central importance for communities to be able to produce food locally."¹²³

Moreover, agroecology is a model that aims at guaranteeing the protection of the global commons, allowing local communities to access common resources and participate in their management and control through democratic processes. This supports, for example, alternative models of land ownership, which recognise land not as a commodity, but as a common good. It also supports the concept of seed sovereignty, with the recognition of seeds as a common good, that should be selected and multiplied on the farm, resulting in enhanced ability to adapt to local conditions and climate, and preventing farmers from being dependent on multinational companies.¹²⁴

Because of its nature and characteristics, agroecology is an approach where small scale producers, farmers cooperatives and micro, small and medium enterprises (MSMEs) can have a key role to play in adopting this model of agriculture. Initiatives taken by these actors to move away from the industrial model of agriculture toward more sustainable and diversified agroecological systems should be promoted and facilitated. Small scale farmers should be considered the most legitimate private sector actors in this field, as the drivers of change towards agroecological models of agriculture that can deliver positive nutrition outcomes.

Initiatives to seek a stronger role for the private sector in agriculture should primarily focus on supporting local farmers, and micro, small and medium sized enterprises, to enable them to move towards an agroecological model of agriculture. This should be done by investing in capacity building, provision of basic infrastructure, facilitating access to credit and linking farmers with local territorial markets. In addition, agroecology being a labour-intensive practice, requiring skilled techniques, it is key to promote training for farmers to facilitate the implementation of agroecological practices. It is also crucial to enable and stimulate cooperation between smallholders via cooperatives, so to create spaces for market organization that benefit small farmers.

Conclusions and recommendations

Malnutrition is a complex and multi-faceted problem, with multiple sets of causes. Interventions to respond to this challenge can either aim to treat malnutrition, responding to its immediate causes and tackling its symptoms, or to prevent malnutrition, tackling its root causes.

While interventions to treat malnutrition are very much needed in specific contexts, they cannot be the only answer to this challenge. They must be integrated with much-needed long-term interventions aimed at preventing malnutrition. Agriculture plays a crucial role in ensuring food systems are effectively working to deliver healthy, nutritious and diversified diets, which are among the most sustainable and holistic options to prevent malnutrition.

Acknowledging that the current food system is facing challenges to deliver positive nutrition outcomes for the global population, interventions in agriculture need to shift towards diversified agroecological models that have the best potential to deliver positive outcomes not only for promoting good nutrition and health, but also for combating climate change and building resilience.

What role for which private sector?

Following the analysis made in this study, acknowledging the multi-faceted causes of malnutrition and the focus of this study on agriculture and food systems, and without being exhaustive, we can summarise some of the **roles of private sector in treating malnutrition and tackling its immediate causes** as follows:

- **Production of supplementary food to treat malnutrition**

Ready-to-use therapeutic food is an effective tool to treat children suffering from acute malnutrition, in particular through a community-based approach. Private companies can play a key role in ensuring the provision of high quality, effective and affordable products. Support should specifically be given to local producers, in order to ensure lower costs in the long run, higher coverage of treatments and the creation of sustainable livelihood opportunities.



- **Food fortification and biofortification**

Private companies play a key role in investing in interventions to fight hidden hunger through food fortification and biofortification programmes. However, it needs to be recognised that as single interventions, they cannot effectively address the causes and scale of malnutrition.

- **Food fortification**

These interventions can be effective only if properly integrated into publicly-owned strategies to shape food systems that can deliver healthy and diversified diets. If not, food fortification risks being a short-term “techno fix” to the complex challenge of malnutrition and as such will not be sustainable or make lasting impacts.

- **Biofortification**

This practice is in contradiction with food sovereignty. Farmers become more dependent on modified foods, seeds and plants, controlled by external and often private actors, therefore subject to strong intellectual property protection and sometimes high prices. This approach privatises common goods, doesn't empower small scale farmers and is in contradiction to a rights-based approach to food.

- **Exclusive breastfeeding**

Breastmilk substitutes manufacturers are putting children's lives at risk when illegally marketing baby milk formula, undermining the promotion of exclusive breastfeeding that is one of the best natural preventions of malnutrition. Private companies should limit their action to the production of baby milk formula for mothers and children under specific health conditions where it is advisable to use these, without irresponsibly marketing and promoting their products at the cost of undermining appropriate breastfeeding practices. Private companies that are breaching the International Code of Marketing of Breast-milk Substitutes should be held legally accountable for their actions by national authorities.

We can summarise the **role of private sector in preventing malnutrition and tackling its root causes**, through interventions in agriculture, as follows:

- **Support diversified agroecological models of agriculture**

Diversified agroecology is an approach that not only can have positive nutrition outcomes, but can also combat climate change, build resilient communities and promote good health. Small scale producers, farmers cooperatives and micro, small and medium enterprises (MSMEs) can have a key role to play in adopting this model of agriculture. Initiatives taken by these actors to move away from the industrial model of agriculture towards more sustainable and diversified agroecological systems should be promoted and facilitated. This should be done by investing in capacity building and training, facilitating access to credit and linking farmers with local territorial markets.

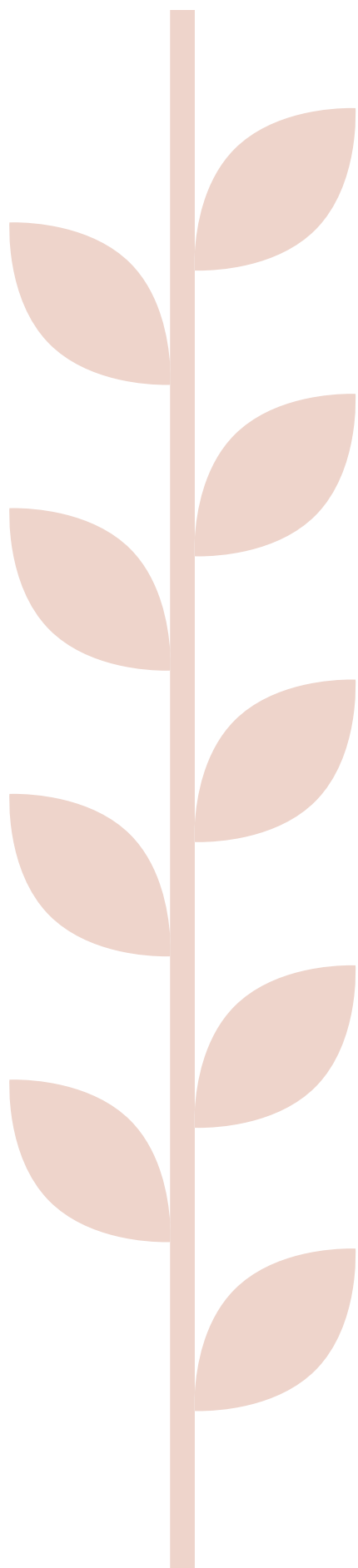




Engaging the private sector to end malnutrition – under which circumstances?

When the donor community, such as the European Union, seeks to leverage private sector engagement to promote nutrition, a set of recommendations should be taken into account:

- **Evidence-based policies to engage the private sector:** Before investing in initiatives to leverage private sector engagement in development, donors must be able to prove a clear development added value of the private sector intervention, based on solid evidence and impact assessment. No engagement with the private sector should be promoted based on flawed theories of change of resource mobilisation, short-term political interests or weak evidence.
- **The key role of public policies:** Public authorities and national governments have a key role to play, and need to be in the driving seat to promote effective and sustainable long-term strategies to ensure healthy, nutritious and diversified diets, adopting relevant legislation and promoting effective nutrition policies. Public authorities should implement policies to guarantee the right to food of their citizens and should ensure legal accountability for any violations.
- **The crucial role of small farmers:** It is important to consider small scale farmers as fully legitimate private sector actors in the field of agriculture and food systems, as they produce the majority of food in the world but are still the most affected by malnutrition. Initiatives to seek engagement with the private sector should first and foremost be addressed to small farmers, as they should be considered the main drivers of change towards delivering sustainable and positive nutrition outcomes.
- **Phase out support to industrial models of agriculture:** Donors must acknowledge that the current industrial model of agriculture has failed to improve global food and nutrition security, having focused on increasing the quantity of agricultural production rather than its quality, and having produced negative consequences on climate, health and resilience of local communities. The EU should not support initiatives that seeks to leverage investments by agribusiness promoting an industrial model of agriculture. As an important step in this direction, the EU should officially withdraw its support from the New Alliance for Food Security and Nutrition, following the example of France.



- **Support transition to diversified agroecological models of agriculture:** Evidence increasingly shows that these models are effective at ensuring positive outcomes for nutrition, combating climate change, building resilience of local communities and promoting good health, at the same time strengthening the concept of food sovereignty, strengthening local markets and empowering communities to produce food locally. Initiatives that seek to support the private sector in agriculture should primarily focus on supporting local farmers, and micro, small and medium sized enterprises, to enable them to move towards a diversified agroecological model of agriculture.
- **Increase research into innovative and sustainable models of agriculture:** The current industrial model of agriculture still attracts most of the investments in research and innovation (R&I), while the potential of innovative approaches like diversified agroecology is massively underexplored. The EU and other main global R&I players should substantially shift the focus of their agriculture research programmes towards innovative, sustainable and diversified models of agriculture, such as agroecology, that should be climate-resilient, nutrition-sensitive and context-specific.
- **European External Investment Plan – Agriculture window:** The European External Investment Plan (EIP) needs to ensure full transparency and accountability. All interventions implemented should be sustainability-proof, demonstrating a clear development added value from all private sector partners engaged. The current operations proposed under the agriculture window will make it difficult for the most marginalised small farmers, especially women, to benefit. Nevertheless, we stress that this window should support initiatives to promote diversified agroecological models of production that could contribute to preventing malnutrition, empowering small farmers and supporting the investment capacity of MSMEs, providing capacity building and training, linking local producers to territorial markets and facilitating access to credit, focusing in particular on women, promoting their empowerment in the agriculture sector. Indicators to monitor and ensure nutrition sensitivity of investments should be included. Small farmers and local farmers' organisations, together with civil society, should be considered key partners in the implementation of the agriculture window, ensuring an inclusive governance approach to the implementation of projects.

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