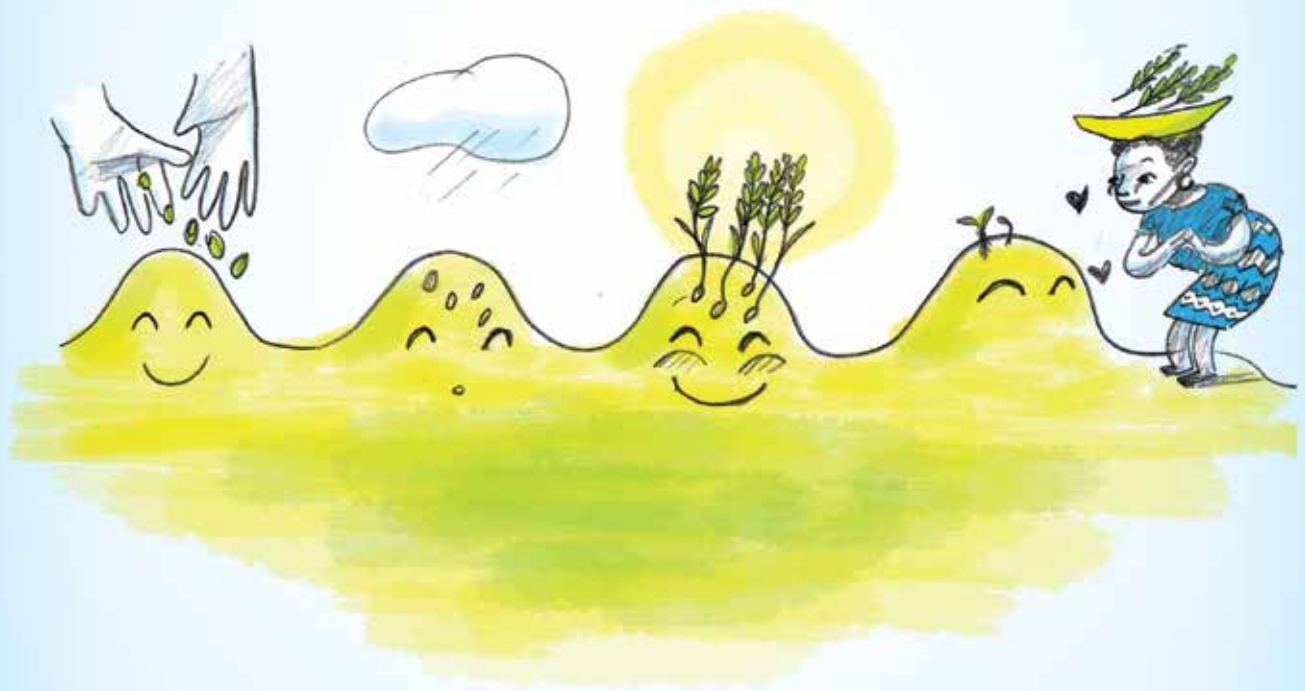




# SUSTAINABLE AGRICULTURE



## BACKGROUND FOR TEACHERS

- Women in agriculture
- Food Security
- Small-scale farming

Including  
**WORKSHOP  
TOOLKIT**  
and  
**RESOURCES**

# SUSTAINABLE AGRICULTURE

Sustainable Agriculture is the production of food or other plant or animal products using farming techniques that protect the environment, public health, human communities, and animal welfare.



Susan Wanjiku Kamau and Julia Gitari,  
Kwa-Gitau, Kenya

## WHY THE IMPORTANCE OF AGRICULTURE?

More than 240 million people in Africa are hungry. Most live in rural areas or small farms.

- Goal 1 of the **SDGs** is No Poverty, and Goal 2 is Zero Hunger, making sure all people – especially children – have access to sufficient and nutritious food all year round.
- Up to 80% of people in Africa live on the land and depend on small scale farming - growing food and earning income from their work. **In sub-Saharan Africa it is found agriculture is eleven times more effective at reducing poverty than other approaches.** (Source: Self Help Africa)
- By supporting small-scale farmers - improving productivity, as well as access to technology and markets – NGOs such as Self Help Africa help address the issue of hunger as well as the multitude of problems associated with poverty such as malnutrition, unemployment and health.
- Income generated through selling surplus produce enables communities pay for other goods and services and allows families to exist without aid.



## WOMEN IN AGRICULTURE

- Women produce up to 70% of the food grown on small farms in Africa – and more than half of farmers in sub-Saharan Africa are women.
- Obstacles such as **availability of credit**, as well as **land ownership** and rights, limit women farmer's potential.
- We know if women had more access to resources agricultural production could be increased, and women are more likely to use the income from surplus to improve their family's **education, nutrition and health**.



# FOOD SECURITY

Food security is built on three pillars:

- **Food availability:** sufficient quantities of food are available on a consistent basis
- **Food access:** households and individuals have sufficient resources to obtain appropriate foods for a nutritious diet
- **Food use:** appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation



## Effects of food insecurity

- Undernutrition is when an individual has, or had in the past, an insufficient intake of food to meet dietary/energy requirements. Undernutrition is a form of malnutrition which results from serious deficiencies in essential nutrients.
- It can be **measured** in three ways: weight-for-age (underweight); height-for-age (stunting) and weight-for-height (wasting).

“...The most vulnerable people are running out of coping strategies. For those living on US\$2 a day, they have cut out health and education expenditure and have sold or eaten livestock. For those living on less than US\$1 a day, they have cut out protein and vegetables from their diet. For those living on less than 50 cents a day, which is more than 160 million people worldwide, they have cut out whole meals and sometimes go days without a meal.”

*Report to the Government of Ireland by the Hunger Task Force 2008*

## Causes of the global food security crisis

- **Drought and other extreme weather events.** Global warming has led to increasing droughts, floods, and unpredictability of the seasons which damage agricultural livelihoods. A comparison of the severest food crises reveals that all were preceded by drought or other extreme weather events, resulting in poor or failed harvests which in turn resulted in food scarcity and high prices of the available food. (HarvestHelp.org.uk)
- **Military conflicts** worsen food insecurity.
- Pests, cattle diseases and other agricultural problems such as erosion, soil infertility, etc.
- **Cash crops dependence.** In some parts of the world land is now used for growing crops like maize for bio fuel. This means less land is available to grow food resulting in higher prices for families who need to buy food. Countries which depend on cash crops are at high risk of food crisis because they do not produce enough food to feed the population.

“The persistent nature of these drivers, and their associated impacts, has weakened households’ capacity to cope, undermining their resilience and ability to recover from future shocks. The food crises in 2016 were both widespread and severe, affecting entire national populations...”

*FAO Global Report on Food Crises 2017*



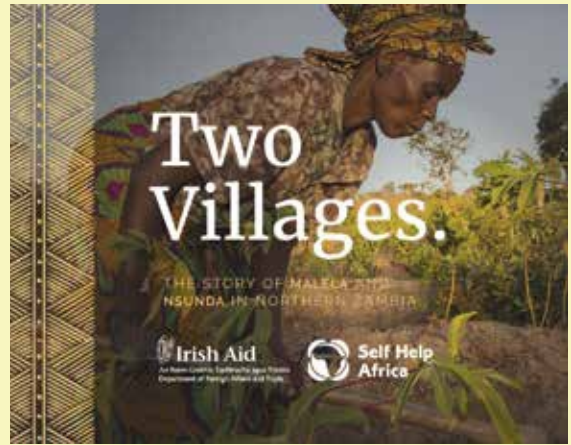
## Small-scale farming

**Small-scale farming** is a demonstrably effective method in combatting hunger, poverty and social injustice. Self Help Africa focus on supporting:

- Farming practices such as irrigation methods and seed husbandry that increase productivity in marginal areas
- Farmers organise into cooperatives
- Improved access to markets and financial services
- Access to credit
- Farms operate as small businesses
- Community-based rural enterprises, improved natural resource management, increased/diverse crops/livestock production

## [www.TwoVillages.org](http://www.TwoVillages.org)

With our experience in agriculture and the support of Ireland's principal farmers organisation, Self Help Africa focus on supporting small-scale farming in Africa as the most effective way to move from poverty and hunger. In the 'Two Villages' project we've been documenting the effects of our involvement over the past five years on the people of two remote villages in northern Zambia. In the Resources below are links to brief stories of some of these people. They illustrate how the Global Goals of Poverty, Hunger, Education, and Gender can be successfully engaged with.



# SUSTAINABLE AGRICULTURE

## WORKSHOP TOOLKIT

- Begin by asking students to move desks to the side and seats into a large semi-circle.
- Start with an ice-breaker (see Appendix for suggestions) such as the Geography quiz.
- Introduce the subject and what you intend doing with the class.



## 1 INTRODUCTION TO THE CONCEPTS OF 'AGRICULTURE' AND 'SUSTAINABLE'

- "Why is **agriculture** so important, particularly in poor parts of the world?"  
*(Food, nutrition, health, surplus can earn income, pay for education...)*
- "What does '**sustainable**' mean?"  
*(Not depleting resources; keeping a balance between Environment, Economy, and People...)*

## 2 GROUP WORK

Break the class up into groups of 3-5 students depending on class size.

### Industrial scale vs small, family-run farming.

Read aloud, or hand around copies of, the Guardian article "*Agri-chemicals and ever more intensive farming will not feed the world*". (see 'Resources' below)

- Put the two big headings separately on the floor and scatter the other smaller phrases (22 in all) around below the big headings.
- Ask the groups to come up, examine the smaller phrases. Each group to lay five of them under a big heading. We end up with two columns on the floor.

- Ask the groups to discuss with the class the reasons why they have laid each small card where they did. Take each one and systematically question its place in its column.

This enhances understanding and of course, raises questions and initiates debate about the merits and demerits of each type of farming.



# 3

## INTRODUCE TWOVILLAGES PROJECT IN REMOTE NORTHERN ZAMBIA.

<https://www.youtube.com/watch?v=ZQFc29annWk>

The following examples can be used to support SDGs as well as Sustainable Agriculture workshops.



### Goal 1 – No Poverty

**End poverty in all its forms everywhere.**

This involves targeting the most vulnerable, increasing access to basic resources and services, and supporting communities affected by conflict and climate-related disasters.

The story of Showthem Ikiombe illustrates how we can engage with this Goal.  
Video: (Resources below)



### Goal 2 - Zero Hunger

**End hunger, achieve food security and improved nutrition and promote sustainable agricultural practices.**

Supporting small scale farmers and allowing equal access to land, technology and markets.

The stories of Rosemary Chate, Sydney Kalota and Pascalena Mulenga illustrate how we can engage with this Goal.

Video: (Resources below)



### Goal 4 - Quality Education

**All girls and boys complete free primary and secondary schooling by 2030.**

Education is one of the most powerful and proven vehicles for sustainable development.

The story of Stephen Linga illustrates how we can engage with this Goal.

Video: (Resources below)



### Goal 5 - Gender Equality

**Achieve gender equality and empower all women and girls.**

Ending all forms of discrimination against women and girls is not only a basic human right, but it also crucial to accelerating sustainable development.

The story of Felister Namfukwe illustrates how we can engage with this Goal.

Video: (Resources below)

Give the groups a few minutes after each video to discuss them, then ask for their responses.

- Were the stories sad or optimistic?
- Were the subjects despairing? Or hopeful?
- What might be some of the causes for their poverty?
- What could change their situations – access to markets to sell their produce, education, irrigation...?





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## EXERCISE: FOOD SECURITY

Compares circumstances around the Irish Famine of the 1840s with food shortages in Malawi in recent years.

- Break the students into four groups and position them in the four corners of the room.
- Give two of the groups the information about the Irish Famine and the other two the information about Malawi which you have printed out beforehand (see Resources below). Give them all a few minutes to read the slips of paper.
- Ask the groups to discuss three issues:

1. The causes of the food shortage in the case of the piece they read;
2. The results of the food shortages;
3. What was done to address the problem and who was responsible for this.



An 1849 depiction of Bridget O'Donnell and her two children during the famine

- When the groups have had sufficient time to discuss and note their findings, ask for **feedback** from them. (It can be a good idea for each group to have nominated a note-taker/speaker at the outset). Write the feedback for each of the two countries on two sides of the board under the three headings which they have discussed.
- When all the feedback is recorded (briefly, in heading form to save time) on the board, ask the students to identify **similarities** in the circumstances surrounding the two crises.
- We also consider the differences. A major **difference**, of course, is the fact that the Malawi government took steps with its Farm Input Subsidy programme while the government in place in Ireland in the 1840s took little or no steps (or totally inadequate steps) to assist the starving people.

“The exercise engages the students actively in the groups. It enables them to see that food shortages, famine and its attendant woes are not only problematic in the Global South but can and have affected us also in Ireland.

The exercise also illustrates how people suffering from a shortage of food can help themselves when they receive a small helping hand. It shows that real aid is not just charity. It's a hand up rather than a handout, to use the saying.”

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**SUMMARISE**  
(encourage students to help)



Showthem Sikombe and Elizabeth Namfukwe, Nsunda Village, Zambia

## RESOURCES

### Agri-chemicals

Guardian article “Agri-chemicals and ever more intensive farming will not feed the world”:

<https://www.theguardian.com/commentisfree/2016/oct/02/agrichemicals-intensive-farming-food-production-biodiversity>

#### 1. Ten phrases/ ideas from the Guardian article:

“contributes a third of greenhouse gases” - “profits go to big companies” - “chemicals used to assist drying process” - “two billion people overweight” - “using artificial manure” - “750 million people are hungry” - “breaking down crops into starch, sugar and fats” - “use of insecticides” - “concentration on one or two crops” - “higher short-term yields”.

#### 2. Write out a series of activities associated with small family-run farms:

“small loans available from local credit unions” - “local farm advisors” - “enhances diet” - “organic produce” - “farmer support from cooperatives” - “protecting local environment” - “profits from surplus go to households” - “growing a variety of crops” - “employing all the family” - “using organic manure” - “local market assistance” - “access to locally generated quality seeds”.

#### 3. After writing each of the above phrases on separate pieces of paper, **lamine** them for ease of use by students. Print two large headings, “Industrial Scale Farming” and “Small Family-Run Farms”.

### Video: TwoVillages

The [www.twovillages.org](http://www.twovillages.org) project addresses the Global Goals of Poverty, Hunger, Education, and Gender.

“Nsunda and Malela are two villages in Zambia’s remote far north. The people who live there have limited access to resources that we take for granted here in Ireland. Most households rely on farming. Most farms, however, don’t produce enough to feed a family for a year. For five years, Self Help Africa and Irish Aid have been helping more than 80,000 people in the region to increase their farm production and quality of life. Throughout this time, we have been following the lives of people from Malela and Nsunda. Through word, film and image, we share their stories.”

Showthem Ikiombe (Global Goal 1 – Poverty).

<https://www.youtube.com/watch?v=rArnAadszLM>

Rosemary Chate, Sydney Kalota and Pascalena Mulenga (Global Goal 2 – Zero Hunger)

<https://www.youtube.com/watch?v=izr0Xb09c9A>

Stephen Linga (Global Goal 4 – Quality Education)

<https://www.youtube.com/watch?v=cxEMXfDhdPQ>

Felister Namfukwe (Global Goal 5 – Gender Equality)

<https://www.youtube.com/watch?v=APZ5qvRFuIY>

### Exercise

There is also a storybook available from Self Help Africa.

- Exercise on Food Security from Irish Aid’s “Global Teacher” resource pack. Lesson 1

<https://developmenteducation.ie/resource/global-teacher-a-cross-curricular-teaching-resource-on-global-development-for-transition-year/>



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**developmenteducation.ie**  
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