#### The table below sets out the template for this document.

#### **Landing page** - intro text

#### Links to:

- Getting together with like-minded people
- Community farm models and their benefits
- Acquiring land for your farm
- Planning what to grow and how much
- Raising funds for your farm

# Getting together with like-minded people

# On this page you will find out about:

- Getting started
- Adopting a governing document
- Putting a team in place
- Volunteering
- training

# There is a link on this page for more information on:

 Community buying groups

# Community farm models and their benefits

## On this page you will find out about:

- Different models of community farms e.g. Cooperatives and community supported agriculture
- Examples of how other people got their farms started

# Acquiring land for your farm

# On this page you will find out about:

- What to look for
- Where to look
- Community land trusts
- Renting
- What is a fair cost for renting?
- Buying land.

# There are links on this page for more information on:

- Buildings and infrastructure
- Water supply

# Planning what to grow and how much

## On this page you will find out about:

- Nutrition
- Growth zones and growing conditions
- How much space you need.

# There are links on this page for more information on:

- Aquaponics
- Keeping bees
- Livestock
- Poultry

# Raising funds for your farm

# On this page you will find out about:

- Legal structures
- Trusts and foundations
- Corporate grants or public funding
- Crowdfunding
- Loans
- Community shares

# There is a link this page to more information on:

 Managing and mitigating risk

processing - Marketing your produce
-------------------------------------

#### **Explanatory note:**

The landing page and each subsequent numbered page (1, 2, 3 (3.1 to 3.3), 4 (4.1 to 4.7), 5 (and 5.1)) are written as separate web pages. Words in bold indicate where hyperlinks to relevant sections should be inserted.

The contents table below is to help the reader navigate the content in this document.

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### Landing page: Community farming

Knowing where your food comes from and how it is produced has never been more important. Setting up a community farm can help by:

- Providing nutritious healthy food,
- Regenerating soils and biodiversity,
- Building resilient and self-sufficient communities.

A community farm is a piece of land used to produce food, which is owned and run by a committed group of people.

There is no one-size fits all. Every community and every place is different. The following pages are intended to bring together information and inspiring examples to help get you started. Click on the links below to get started:

#### (1) Getting together with like-minded people

If you are interested in setting up a community farm, one of the first steps is to find your community. Who shares your passion and vision for locally grown food? Find out how to bring people together and get your farm started.

#### (2) Community farm models and their benefits

Community farms and farming cooperatives are well established in the UK. More recent farm models include community supported agriculture, social farms, you could also co-own a not-for-profit members' smallholding.

#### (3) Acquiring land for your farm

There are lots of things to consider before you buy or rent your plot. Where is the best place to look? What's a fair price? What utilities and access will you need? Who should you speak to about contracts?

#### (4) Planning what you want to grow and how much

How many people are you planning to feed and what do you need to grow to help provide a balanced, nutritious diet? Find out more about how much land you'll need and the costs involved.

#### (5) Raising funds

Getting your project off the ground is going to cost money. Raising sufficient funds can seem a daunting prospect, but there are ideas and funding sources out there, The following pages bring some of these resources together.

## (1) Getting together with like-minded people

"True communities are groups of people who keep coming together over issues they care about. You need to build community with people, not for them."[1]

Are there any community growing groups or farms already in your area? If not, then perhaps you might be willing to take that first step and get people excited by the idea of creating a community farm. Don't wait for someone else to do it!

Before you start you will need to think about what you want to do, why, how and who will benefit from your community farm. For example:

- Will it offer a service to everyone or a certain group of people or will it be of benefit solely to its members?
- What are the aims of the group?
- How do you want to achieve them?

If there is a community farm just outside the geographical area you want to cover, perhaps you could work with them to set up and run your new farm.

#### **Getting started**

There are a number of ways to get people involved, such as:

- Speak to neighbours and friends.
- Make contact with community organisations, clubs, societies, church groups, parent and toddler groups, parish councils.
- Advertise locally via parish magazines, local websites.
- Use social media networks such as Facebook and Twitter.

It's important to spend some time clarifying what you want to achieve and thinking about how you are going to do it. Put together an action plan for the different stages of work. That way everyone will know what they are working towards and work can be shared fairly. It can also make it easier to get more support and funding.

### Adopting governing document

The next step is to put some structures in place to help with the smooth running of the community farm. This will set out:

- What it is set up to do (known as its 'objects')
- How your community will do those things (known as 'powers')
- Who will run the organisation (the trustees, directors, the board or management committee)
- How it is to be run and administrative arrangements (e.g. for meetings, voting, and looking after money)
- What happens if administrative provisions need to be changed
- What happens if the group wishes or needs to close

If you apply to a grant-making body they will want to see a copy of your governing document.

You can find templates for a governing document in annexes B and C of the PPFA's Group Buying Guide – The People's Food and Farming Alliance (the-pffa.org)

#### Putting a team in place

Every community needs a leader and usually has a core group of three to five people. You will need a minimum of three people on your team, usually taking the roles of chair, treasurer and secretary. This will be your 'governing body' or 'steering committee'. They will be responsible for making sure that the community works within its governing document and within the law, and is responsible for handling the finances. Your governing document will cover who does what, how they are chosen and how long they will remain in position.

#### Setting up a bank account

You will probably need to open an account with a bank, building society or credit union in order to finance your farm's activities. Whichever institution you choose will provide you with a 'form of mandate' for your governing body to complete. This will say who is authorised to sign cheques (usually at least two signatories are needed). It's good practice that signatories are not related to each other or in a relationship with each other.

#### **Volunteering**

Your community farm will depend on volunteers to grow and flourish. Most will have few, if any paid staff. Volunteering can be informal, but as your community group gets bigger it needs to be more organised. Volunteers need clear roles and responsibilities. There are many things that you may ask them to do, such as:

- Look after livestock and crops
- Help run events or run a veggie box scheme
- Carry out general maintenance and construction work
- Help with administration and fundraising, and
- Being a part of the management team!

It is good practice to pay expenses incurred while volunteering (e.g. fuel costs for delivering farm produce). You will need to think about how you will recruit, train and support your volunteers. It is also worth thinking about safeguarding - e.g. if you are thinking of hosting child centred activities. Find out more about safeguarding here - What is safeguarding? | NCVO and general guidance here Planning for volunteers | NCVO.

The following organisations can put people in your area, who are looking for volunteering opportunities, in touch with you. Why not put your community farm on the map with:

- Do-it, a UK-wide volunteering database that allows people to search according to the type of cause they want to support, the kind of work they want to do and the time they have available. Find out more at www.do-it.org.uk/
- The National Federation of Young Farmers Clubs, supports members aged 10
   28 in agriculture and to work in their local communities <a href="https://www.nfyfc.org.uk/">www.nfyfc.org.uk/</a>
- WWOOF UK (World Wide Opportunities on Organic Farms) puts volunteers in touch with organic farmers and gardeners looking for help. To find out more, visit the website at https://www.wwoof.org.uk/en

#### **Training**

Find out about free training on offer from national organisations, such as <a href="Free UK">Free UK</a> Charity, Management And Trustee Training Courses (charityexcellence.co.uk). Your local authority or community action groups may also have opportunities available for example, <a href="Durham Community Action">Durham Community Action</a> has provided free training courses on how to manage charity finances and how to use a risk register to manage risk.

You can find out more information here: <u>How to set up a community organisation or charity - MyCommunity</u>

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Click on the following link to find out more about:

- Community Growing Groups The People's Food and Farming Alliance (the-pffa.org)
- Group Buying Guide The People's Food and Farming Alliance (the-pffa.org)

[1] <a href="https://youtu.be/A0BID9PI5VY?feature=shared">https://youtu.be/A0BID9PI5VY?feature=shared</a>

### (2) Community farm models and their benefits

There is a long history of community farms in the UK. These include council owned farms, such as <a href="Cheshire Farms Service">Cheshire Farms Service</a> which was first established in 1909. Council farms can provide opportunities for people who want to enter the farming business.

In contrast, a cooperative is an association of people working towards a common purpose through a jointly owned and controlled enterprise. They share the risk and the benefits.

There are over 600 agricultural and farming cooperatives in the UK, with an estimated turnover of £6.2 billion in 2014 [1]. Farming cooperatives help small and medium-sized farmers compete more effectively in the marketplace, by pooling resources and expertise. You can find out more by reading the PPFA's guide here - <a href="https://the-pffa.org/setting-up-a-farming-cooperative/">https://the-pffa.org/setting-up-a-farming-cooperative/</a>

#### Organisation types and legal models

There are many different ways to set up a community farm and legal models. For example:

- Starting a cooperative <a href="https://www.uk.coop/start-new-co-op">https://www.uk.coop/start-new-co-op</a>
- Community supported agriculture
   <a href="https://communitysupportedagriculture.org.uk/">https://communitysupportedagriculture.org.uk/</a> or <a href="https://communitysupportedagriculture.org.uk/">Starting a Market Gardener</a> CSA Veg Box Schemes, Prices and Advertising (youtube.com)
- Social farms https://www.farmgarden.org.uk/
- Community benefit societies <u>What is a Community Benefit Society? Cwmpas</u> or <u>The Benefits of a Community Benefit Society (youtube.com)</u>
- Community interest company <u>Community Interest Companies Guidance -</u> <u>GOV.UK (www.gov.uk)</u> or <u>Webinar: Starting a community interest company</u> (youtube.com)
- Charity <u>Set up a charity: step by step GOV.UK (www.gov.uk)</u>
- Community land trusts (although more often used for social housing) https://www.communitylandtrusts.org.uk/

The Plunkett Foundation provides help and advice on how to set up a Community Benefit Society - see Model Rules for a Community Benefit Society (plunkett.co.uk).

### What model is best for you?

Before you decide what model is right for you, you should consider:

- How will the organisation be funded?
- Will any profits be distributed?
- Will the organisation be controlled by voting members?
- Will the organisation be charitable?

During this planning phase you should also consider mapping out the risks and benefits associated with different organisational models, renting or buying land, planning what to grow and raising funds. Click here to find out about **managing and mitigating risk**.

Communities come together with shared values. PFFA have showcased My Little Farm - a not-for-profit member's smallholding. You can find out more about their

values here <a href="https://mylittlefarm.uk/mission">https://mylittlefarm.uk/mission</a> and watch an interview with farm founder Keiver John here <a href="https://the-pffa.org/news/learn-how-to-build-a-community-farm/">https://the-pffa.org/news/learn-how-to-build-a-community-farm/</a>

The good news is that communities have been doing this for years and very successfully too. They have shared their stories as guides and blogs explaining how they did it. For example:

- Fordhall Community Farm guide to setting up a community owned farm <a href="https://www.fordhallfarm.com/wp-content/uploads/2022/06/A-guide-to-setting-up-and-running-Community-Farms.pdf">https://www.fordhallfarm.com/wp-content/uploads/2022/06/A-guide-to-setting-up-and-running-Community-Farms.pdf</a>
- Tablehurst Community Farm blog https://www.tablehurstfarm.org.uk/post/a-community-farm

A community farm can do much more than grow food. It can involve events, open days, workshops and volunteering days. These build your community, help to raise income and get work done.

For people already running farming operations, communities offer a source of support. For more information on help available see, for example:

- Farming Community Network support for existing farmers <a href="https://fcn.org.uk/">https://fcn.org.uk/</a>
- Land Workers Alliance a union of farmers <a href="https://landworkersalliance.org.uk/">https://landworkersalliance.org.uk/</a>

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Click on the following link to find out more about:

 Community Growing Groups – The People's Food and Farming Alliance (the-pffa.org)

[1] https://www.farminguk.com/content/knowledge/Report-on-the-co-operative-farming-s ector(7247-4337-2098-8613).pdf

### (3) Acquiring land for your farm

Once you have a clear idea vision for your community farm, the next step is to find land. Whether you decide to buy or rent will depend on your community's financial situation and the land options available.

"Speak to your local farmers - they may be able to help get you started and you may be able to help them and their family stay in business."

People are more likely to invest their time and money if they know they stand to gain the long-term benefits. If you choose to rent, aim for a long term tenancy. Remember, it also takes time to become familiar with the capabilities of a piece of land and to build up its fertility [1].

#### What to look for

You must check for the quality and suitability of your land before you rent or buy and make sure that you have access to mains water. Access to mains electricity is also useful! Click on the following links to find out more about:

- Buildings and infrastructure
- Water supply
- Soil testing

Other issues to bear in mind include: accessibility (how easy is it to get to?); space for parking; aspect (is the site south-facing, will it attract volunteers?); any rights of way or restrictions (e.g. who owns access to your farm?), and; is the landlord friendly?

If you're thinking of changing the use of farm buildings (e.g. to accommodation), have a chat with your local planning authority first - to avoid running into problems later.

#### Where to look

Do you have a plot in mind or know someone with some spare land? Perhaps you could ask a local farmer, your council or a local landowner if they would be prepared to rent you a field? If you don't know who owns the land you can find out here - <u>Land Registry UK - Access Land Registry Title Documents Online</u> (there is a £20 fee).

You could also advertise what you are looking for on local social media, pin notices in your local shop or post office and put out a request by word of mouth.

Alternatively, you can browse the internet for 'farmland to rent' or similar search terms. Canadian urban farmer Curtis Stone (<u>Curtis' Bio | The Urban Farmer</u>) used to rent garden space to provide extra space for his farm. It's a win-win for you and the homeowner who may get a share of the produce.

Find back gardens and small plots to grow on in the UK, for example:

- This site has many plots available rent free AllotMe | Find an AllotMent | Grow Your Own Food | List Your Space or
- <a href="https://gardenandallotment.com/private-allotments-to-rent-uk/">https://gardenandallotment.com/private-allotments-to-rent-uk/</a>

Look for plots advertised for sale or from like-minded growers in, for example:

- <u>Smallholdings Smallholdings for Sale, Smallholdings for Rent, Smallholdings</u> Wanted, Smallholding Swap (greenshifters.co.uk) **and**
- Organic marketplace (soilassociation.org)

Commercial agencies will also post land for sale or rent, such as <u>Land for sale or rent | Land at auction - UKLandandFarms.co.uk</u>.

For general advice on accessing land for your community farm, visit <u>Accessing Land Process</u> (for Community Groups) | Social Farms & Gardens (farmgarden.org.uk). Social Farms & Gardens is a UK wide charity that hosts a Community Land Advisory Service that can help you to find land and provide planning advice - see <u>The Community Land Advisory Service</u> | Social Farms & Gardens (farmgarden.org.uk).

#### **Community land trusts (CLT)**

CLTs hold land for sustainable agriculture and horticulture, controlled by and for the benefit of local communities. The following trusts may have land to rent:

- The Soil Association Land Trust <a href="http://soilassociation.org/the-land-trust">http://soilassociation.org/the-land-trust</a>
- The biodynamic Land Trust <a href="http://biodynamiclandtrust.org.uk/">http://biodynamiclandtrust.org.uk/</a>
- The Ecological Land Co-operative <u>communications@ecologicalland.coop</u>
- The Scottish Farm Land Trust <a href="http://scottishfarmlandtrust.org/">http://scottishfarmlandtrust.org/</a>

#### Renting

If you are new to farming then it may be more sensible to rent land. There are advantages as well as some drawbacks to renting instead of buying. One disadvantage is that it is harder to make long term plans - 85% of farm tenancies are for five years or less [2]. Another disadvantage is that if you have to move from your site you can't take the improvements you've made (e.g. to soil fertility) with you!

But, you could find a friendly farmer who is willing to rent you a spare field who might also lend you their expertise and machinery too.

Look at the legal arrangements very carefully (for renting or buying). Some tenancy agreements prevent the involvement of third parties, such as investment by members. This could undermine your business plan. The most common forms of tenancy agreements are: full agricultural tenancies, farm business tenancies and seasonal agreements (e.g. for grazing or mowing only; usually for less than 12 months).

Farm tenancies are in short supply and competition can be strong. Applicants will generally need to show that they have practical farming experience (which may include agricultural training), a business plan and funding. If you are able to meet these criteria, you can find out more about farm tenancies from:

- Your local authority e.g. Applying for a county farm Dorset Council
- Farming publications e.g. <u>Farmers Weekly Farming & Agricultural news from</u> Farmers Weekly Interactive (fwi.co.uk)
- The Tenant Farmers Association Tenant Farmers Association (TFA)
- The National Trust Find a farm to let in England, Wales and NI | National Trust

#### What is a fair cost for renting?

Estimated average annual farm rents in England from March 2022 to February 2023 paid under Full Agricultural Tenancies, Farm Business Tenancies, seasonal agreements and informal agreements are given in the table below.

- The average annual rent for Full Agricultural Tenancy (FAT) agreements in 2022/23 had decreased by 7% from the previous year to £165 per hectare, the lowest it has been in the last 10 years. Of the different farm types, LFA grazing livestock farms saw the largest fall, decreasing by 27% to £52 per hectare.
- Farm Business Tenancy (FBT) agreements had marginally risen to £228 per hectare, a 1% increase. Other than cereals and general cropping farms, all farm types saw an increase in average annual rent per hectare.
- Seasonal agreements fell by 13% to an average annual rent of £158 per hectare, the lowest value across all agreement types. Cereal farms had the largest decrease of the different farm types, falling by 34% to £137 per hectare.
- Informal agreements saw a slight increase of 3% to £228 per hectare on average, its highest nominal value in the last decade. Amongst all farm types, dairy farms saw the largest rise of 29% to £334 per hectare.

Source: Farm rents in England 2022/23 - GOV.UK (www.gov.uk)

### **Buying land**

You will need to raise a lot of money if you are starting from nothing and choose to buy land outright. Land is cheaper without buildings on it so you may need to provide facilities (e.g. compost toilets). If your plot is close to an urban settlement it may be sold with an "overage agreement". This entitles the previous owner to a share in the increase in the land's value if planning permission is obtained on it within a specified number of years after the sale. Think about future plans and seek legal advice before signing this type of contract.

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- [1] https://communitysupportedagriculture.org.uk/wp-content/uploads/2018/06/A.pdf
- [2] Five farm tenancies up for tender across UK Farmers Weekly (fwi.co.uk)

#### 3.1 Buildings and Infrastructure

Your community farm will need different types of infrastructure, equipment and resources depending on what your community wants to grow. Think about what your farming operation will need before you decide to rent or buy. Evaluating what you need will help you to identify if you have some work to do and it will help you to keep track of the potential costs of necessary improvements. [1][2]

Here are some questions to consider:

- Will you have livestock that need housing? If so, are facilities correctly sized?
- Do you need storage facilities for livestock feed, equipment or products that you will produce?
- Do you need a barn or greenhouse or a structure for washing, grading and packing produce?
- Do you need refrigeration and/or specialised facilities for processing?
- Will someone be living on the farm?

#### **Creating an inventory**

Make an inventory of what is available to help you decide if the site you are looking at is the right one for you. Are buildings in good repair? Are they adequately sized for your enterprise? You may be able to rent facilities, so it's important to keep an open mind. You could also invest in more affordable, temporary structures that don't require planning permission, such as polytunnels.

#### **Power source**

Do you need a power source? The answer may be no, but power is always useful. You may wish to consult with a licensed electrician to make sure the electrical source and wiring is adequate for your needs. Perhaps consider having a back-up generator in case of power outages. Solar power can also be used, but you will need extensive (and expensive) battery storage for when there is no sun.

#### Livestock fencing

Livestock species vary in their fencing needs so it's important to research what type of fencing you will need. Most animals can be contained with a high tensile electric fence. Others, such as goats, are less likely to escape with a mesh style of fencing. There are many options available including permanent or moveable fencing. You could consider putting up a perimeter fence and using portable, temporary fencing to form smaller paddocks within the perimeter to graze livestock on rotation. The amount of grazing space will depend on the number of animals you want to keep, stocking densities and length of the growing season - see **Livestock and poultry**.

- [1] 3: Infrastructure Considerations Cornell Small Farms
- [2] FactSheet 4 Farm Infrastructure.pdf (bfnmass.org)

#### 3.2 Water supply

Every farm needs a water supply. For example, plant crops may require water for irrigation. If you intend to raise livestock, then you must have a reliable and potable source of water for your animals to drink. Besides mains water, water resources include streams, rivers, lakes, ponds, wetlands, springs, wells and aquifers. Many farms pump their own water supply from underground aquifers (this is called abstraction).

Here are some questions for you to consider when choosing your land:

- Is there enough water for my operation?
- Is there a way to bring water from its source to where I need it?
- Will you need to install water lines, irrigation structures or animal watering facilities?

- Can you store water in water butts or storage tanks or create a large pond or dam?
- Do you have or need a borehole?

You may need planning permission for large water storage tanks. You will definitely need permission from the landowner (and possibly the Environment Agency) to build a large pond or a dam. You will need a huge amount of water if there is a drought.

If you are going to pump more than 20,000 litres (20 cubic metres) a day you will need an abstraction licence. If there is a river crossing the land, you may be allowed to abstract a controlled amount of water with the landowner's permission and buy a licence if necessary [1]. There are also rules you will need to follow to avoid causing water pollution (e.g. from storage of slurry near a river) or invasive species to grow.

For more information on water regulations for farmers visit:

- Water regulations for farmers | AHDB
- <u>Environmental permits and abstraction licences: tables of charges GOV.UK</u> (www.gov.uk)

Keep in mind that all water lines and structures will need to be appropriately sized and under enough pressure to fit their purpose. For example, if water lines are too small, you may not be able to deliver enough water to your livestock-watering trough to meet their needs. If you are not using a mains water supply, then you may need to use a pump and will need electricity to power the pumps. Water tanks can be lifted for gravity fed drip irrigation; this is not suitable for sprinkler systems.

[1] A.pdf (communitysupportedagriculture.org.uk)

#### 3.3 Soil testing

It makes sense to check the suitability of the soil before you rent or buy your plot. For example, good drainage increases the productivity of farmland. Most soils with poor drainage cannot be worked until later in the planting season which cuts into the growing season of a crop. However, good drainage and poor fertility increases reliance on water supplies and fertiliser.

Understanding soil health is essential to managing and optimising the productivity of your farm. A soil test will give you a good indication of the soil's acidity or alkalinity, fertility (nutrient levels), identify any mineral deficiencies and any problems (e.g. heavy metal contamination).

There are different types of soil tests to assess: physical condition, chemical composition and biological health. To find out more visit - Soil assessments | AHDB

Some assessments can be done by you (e.g. worm counts). More specialised analyses are available from commercial laboratories, for example, <a href="mailto:laverstokepark.co.uk/about[1]us/we-believe/analytical-chemistry-lab/">laverstoke laboratory laboratory laboratory that can assess the soil bacteria, fungi and microflora.</a>

There are many commercial laboratories out there so it may be worth shopping around, for example:

- mycolife.uk Soil Microbiology & Biostimulants
- Soil Testing | Soil Analysis | Yara UK
- Agricultural Soil Testing | Element | Element
- Cawood: Agriculture Cawood

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## (4) Planning what you want to grow and how much

Knowing where to start can seem overwhelming. The good news is that there are a lot of online resources to help you get started. Talk to people in your community and find out who has growing experience! Or find a good mentor and spend time learning from them. The resources on this page will help you to do your research, but nothing beats getting real world experience.

Every community farm is going to be different. Before you start, here are some questions you should consider:

- How many people do you plan to feed?
- Do you want to be fully self-sufficient? Or
- Will you be supplementing what you grow with shop bought necessities?

While advice on what counts as a healthy diet keeps changing, this should include a mix of fruits and vegetables, fibre, starch, fats and protein. Beans, for example, are low in saturated fat and a great source of protein and fibre. Animal proteins such as meat, fish, eggs and dairy provide essential vitamins and minerals. Find out more about balanced healthy diets here

https://www.nutrition.org.uk/creating-a-healthy-diet/a-healthy-balanced-diet/

You may already be thinking of keeping a few chickens. Have you thought about keeping ducks, rabbits, bees or fish? Click here to find out more about:

- Aquaponics
- Keeping bees
- Livestock
- **Poultry**

Plant growing choices will be influenced by your local climate, soil and topography. For example, potatoes, spinach, kale, carrots, raspberries and strawberries do well in acidic soil (typically below pH7). Vegetables and fruit crops that like slightly acidic soils can also thrive in alkaline soils, such as asparagus, brussel sprouts, kale, garlic, apple, plum, cherries, raspberries and strawberries.

Alkaline soils may lack available iron and other important nutrients so you may need to add 'soil amendments', such as sulphur, iron sulphate and gypsum to increase acidity - and the availability of nutrients[1]. This is why it is important to really understand your soil and how you can improve it. Click here to find out more about:

- Soil testing
- Improving your soil

Weather and the layout of your land will also affect how well your plants grow. Are your fields susceptible to flooding? Is your farm in an area of low rainfall? A south-facing slope will receive more sun and have better drainage - what would you plant there?

Productivity is also impacted by pests and diseases. Remember that you are likely to need more space, not less, to deal with crop losses. It's better to make mistakes on a small scale and learn from your mistakes early on. To find out more about how to build-in resilience (e.g. through the plant varieties you choose and how you grow them) click here:

#### Sowing and growing

You can estimate the space needed by the number of people you want to feed or by the crop yield - for example:

- By the number of people <u>Vegetable Crop Yields</u>, <u>Plants Per Person Estimator</u> (<u>harvesttotable.com</u>)
- By crop <u>Vegetable Yield Calculator Find Plant Yield (omnicalculator.com)</u>
- Utilising garden planners <u>Vegetable Garden Planner and Garden Design</u> <u>Software (growveg.co.uk)</u>
- Homesteading and 'offgrid' videos and websites also provide a lot of useful advice (e.g. <u>How Much To Plant Per Person: Growing Your Own Food - An Off</u> <u>Grid Life</u>).

You may already have decided what you want to grow and how much. The next step is to consider how the food you produce will travel from your farm to the fork. Here are some questions to think about:

- Will you be harvesting crops by hand or using machines?
- Where will you store your produce?
- Where will you slaughter your animals?
- Will you be 'adding value' to it (e.g. making beer, cheese, jam or sausages)?
- How will you be distributing or selling what you grow or make?

Click on the links below to find out more about:

- Harvesting, storing and processing, and
- Marketing your produce

Please send your recommendations (e.g. for the best sites and videos) on how to improve this page to: <a href="mailto:info@the-pffa.org">info@the-pffa.org</a>

- [1] <u>agrolearner.com/crops-suitable-for-alkaline-soils/</u>
- [2] Know How Farmers Weekly (fwi.co.uk)

**FOLLOW ON PAGES** 

#### 4.1 Aquaponics

Aquaponics is the combination of aquaculture and hydroponics to grow fish and feed plants in water basins. The concept itself is not new - there is a very long history of combined rice and fish farming in China.

What is new is how the idea can be applied almost anywhere and at any scale, for example, with two small tanks and a pump on a city balcony. The fish wastes feed the plants and the plants clean the water for the fish. Your role is to feed the fish and keep the water at the right temperature for them.

Some of the key advantages of aquaponics are that it is:

- Fast plants grow well because of the nutrition they receive from the fish
- Flexible you can grow many types of fish and plants in almost any space
- Light work there is less physical work required compared to other forms of farming, and
- Efficient water consumption is controlled and nutrients are recycled.
- Self-sufficient you are growing protein and plants with one system.

#### **Plants**

Green leafy vegetables such as lettuce and kale grow very well, as do strawberries. Peppers, tomatoes and sweet potatoes grow very fast. Find out more here <u>Best Plants for Aquaponics - The good, the Bad, and the Ugly - HowtoAquaponic</u>

#### Fish

Different species of fish require different water temperatures and produce different amounts of waste. For example, trout and perch are cold water fish and produce moderate amounts of waste making them suitable for smaller operations. Tilapia grow fast and produce a lot of waste so are better suited to larger set ups, but they are warm water fish needing temperatures of 28-30 celsius.

Find out more here Best Fish for Aquaponics UK - Gardening Inside

Introductory videos can provide you with information on the basics of 'how-to' set up aquaponics systems e.g. What is Aquaponics? How it Works & Why an Aquaponic Setup Can Fail - YouTube. There are books about it and training is also available e.g. Aquaponics Course | Home | Bioaqua Farm Somerset

If starting a community aquaponics farm is what you want to do, you could also visit one that is already running - see <u>A Community Owned Aquaponic Regenerative</u>

Farm - a Food and Drink

Please send your recommendations (e.g. for the best sites and videos) on how to improve this page to: <a href="mailto:info@the-pffa.org">info@the-pffa.org</a>

#### 4.2 Keeping bees

Growing food is next to impossible without the help of pollinators. Keeping bees will not only help you to pollinate your crops, but can provide valuable honey too.

Although you don't need a licence to keep bees in the UK, you may need permission from the local authority for example if you are in a built up area or thinking of putting a hive on an allotment. You should also ask permission from private landowners (e.g. if you are renting land to grow on).

It is advisable to have public liability insurance which you can have by being a member of British Beekeepers Association see - <u>Find Beekeeping Near You | British Beekeepers Association (bbka.org.uk)</u>. The BBA can help you to find a beekeeping course near you too.

There is a lot of information online to help your community choose whether beekeeping is for you, such as:

- The Ultimate Guide to Beekeeping For Beginners Bee Life and
- Bees and Beekeeping FAQ The Bee Centre

It is also possible to rent beehives, although you will need to consider the costs versus the benefits of having a third party looking after bees on your farm[1]. You can find out more here - <u>Farming for bees - Bee Farmers Association</u>

Please send your recommendations (e.g. for the best sites and videos) on how to improve this page to: info@the-pffa.org

[1] How Britain's bee farmers can help raise crop yields - Farmers Weekly (fwi.co.uk)

#### 4.3 Livestock

There are many good reasons for choosing to raise animals on your community farm, for example for:

- food (meat and dairy),
- fertiliser (manure).
- draught animals (traditional farm operations e.g. ploughing) and
- pest and weed control.

This section provides an overview of some of the issues you should consider before keeping cattle, goats, pigs or sheep. **Keeping poultry** is discussed separately.

#### Do you have any experience of animal husbandry?

When you raise animals you are responsible for their welfare. Ideally you or someone in your community will have some practical experience. If not, what training might you need? Agricultural colleges may provide short courses or you could volunteer at a local farm in exchange for experience.

There are also many online guides and videos available, for example, on how to keep sheep <a href="https://savvyfarmlife.com/how-to-care-for-sheep/">https://savvyfarmlife.com/how-to-care-for-sheep/</a> or providing in-depth information on raising pigs <a href="https://www.youtube.com/watch?v=PJzb1tn-Bv0">https://www.youtube.com/watch?v=PJzb1tn-Bv0</a>

Keeping animals not only requires knowledge, it can also be a major investment to pay for animal feed, housing, water and veterinary expenses. The bigger the animal, the more expensive it can be.

Find out more about cattle handling here:

https://ahdb.org.uk/knowledge-library/improving-cattle-handling-for-better-returns

In contrast, keeping rabbits is much easier, more affordable and uses a lot less space! Find out how to set up a rabbit farm here: https://www.roysfarm.com/rabbit-farming/

#### Can you provide suitable accommodation?

Cattle, goats, pigs and sheep all have different housing needs. For example, goats need a dry, draught free building to shelter from the elements and sufficient headroom for the goat to stand upright on its hind legs with neck outstretched [1]. As well as:

- somewhere dry to store straw, hay and other goat feed.
- a nearby fresh water supply
- a clean area for milking if you have a dairy goat.
- Somewhere to dispose of soiled bedding in accordance with local bylaws.
- mains electricity for lighting.

If you are thinking of building suitable accommodation for your animals, you may need to get planning permission first.

Healthy and happy animals need room to roam too. Goats will not thrive unless half of their diet is fibre and they do not graze as well as sheep, preferring to browse selectively. This means they need more outdoor space or a carefully managed diet. They also need a high stock fence or electric fence to prevent escapes! You may want to consider growing your own fodder

Understanding livestock needs and the differences between individual breeds will help you to choose the right animals for your farm.

You may be interested in selecting from heritage breeds - these can be healthier and hardier (although less productive) than modern livestock breeds. Find out more about rare farm breeds and their breeders here:

https://britishbreedsrevivaltrust.co.uk/

#### Legislation

You will need a County Parish Holding (CPH) number for land and buildings used to keep livestock for any purpose (including as pets). Livestock include: cattle, bison and buffalo (bovine animals), pigs, goats, sheep, deer and poultry (if you are keeping more than 50 birds). See how to Apply for a county parish holding (CPH) number - GOV.UK (www.gov.uk)

All aspects of livestock farming are regulated. Find out more from the following links:

- This provides An overview of the <u>Rules for farmers and land managers</u> -<u>GOV.UK (www.gov.uk)</u>
- Keeping cattle, bison and buffalo in England and Wales GOV.UK (www.gov.uk)
- Keeping sheep and goats in England GOV.UK (www.gov.uk)
- Keeping pigs in England GOV.UK (www.gov.uk)

- Health and safety when moving animals e.g. to the abattoir <u>Agriculture:</u> <u>livestock (hse.gov.uk)</u>
- Permits and inspections for adding medicines to animal feeds <u>Veterinary</u> <u>Medicines Regulations inspection GOV.UK (www.gov.uk)</u>

#### Where will you buy your animals?

You can buy directly from breeders/farms or from livestock auctions. Livestock auctions can also be attended online - but only do this if you are confident and know what you are buying. Why not attend an auction before you buy?

The following links provide some information what look out for from the auctioneers' and farmers' perspectives:

- https://www.alanboswell.com/news/the-livestock-market-experience/
- https://morningchores.com/livestock-auctions/

The advantage of buying direct from the farm is that you can build a relationship with the farmer. You see for yourself the conditions in which the animals have been kept and have the opportunity to ask the farmer for advice.

Please send your recommendations (e.g. for the best sites and videos) on how to improve this page to: info@the-pffa.org

[1] <a href="https://www.britishgoatsociety.com/about-us/housing/">https://www.britishgoatsociety.com/about-us/housing/</a>

#### 4.4 Poultry

Keeping domestic fowl, such as chickens, ducks, geese and turkeys is great for eggs, meat, fertiliser, pest control and security! This page provides an overview of what you need to know for each species.

For a complete set of resources, including information on birds not discussed here (e.g. quail and partridge) visit: https://poultrykeeper.com/

You should be aware that all bird keepers (of one bird or more) are expected to register their birds and to update records annually. These changes came into effect across the UK in 2024. This is to manage potential outbreaks of diseases (e.g. bird flu) and prevent their spread (e.g. by culling of flocks).

"...The information on the register will also be used to identify all bird keepers in disease control zones, allowing for more effective surveillance..."

New measures to help protect poultry industry from bird flu - GOV.UK (www.gov.uk)

Think about how to accommodate your birds to offer them the best protection - from disease, predators and vermin - while also enabling them to express their natural behaviours e.g. dust bathing, grazing, scratching or swimming. If you are considering mixed flocks, be sure to have sufficient space to meet their different needs.

You can build or buy suitable housing - this can include coops, nesting boxes, roosts, ponds (for ducks) and fencing - and install necessary equipment, such as feeders,

waterers, heating lamps (if needed) and ventilation systems (if needed). It needs to be easy to clean - this will help to reduce risk of pests (e.g. scaly leg mites) and disease.

Keep detailed records of your flock(s), including breeding information, health records, egg production data, and expenses. Use this information to monitor the performance of each breed to identify the most productive and profitable ones for your community farm.

#### Chickens

Eggs are a high protein nutritious food (rich in vitamin D) with very little waste. In a year ten hens may produce:

- 2000 eggs per year / 40 eggs per week
- More than 100 kg of quality fertiliser [1]

It's helpful to start by researching the different chicken breeds to understand their characteristics, such as egg-laying ability, meat quality, and climate suitability. Consider how many chickens you want to raise and for what purpose (e.g. egg production, meat production or dual-purpose).

Make sure that you source your hens from reputable hatcheries, breeders or local farmers - you can incubate and hatch fertile eggs or buy pullet hens (less than a year old). If you hatch from eggs there is no knowing how many will be female.

Think about breed characteristics, health status and availability. For example, farmers in the UK use Rhode Island Reds, Light Sussex, White Wyandottes, and White Leghorn breeds for egg production and Indian Game crossed with Light Sussex for meat [2]. There are 93 registered breeds to choose from, as well as hybrids sold for egg laying.

Find out more at https://poultrykeeper.com/chicken-breeds/

You should have a suitable space to quarantine new birds to prevent the spread of diseases to your existing flock (this applies to all birds). Allow a minimum 30cm square per large bird.

Cockerels can help to maintain peace among your hens and prevent bullying behaviour. It's suggested that you have one to every 8-10 hens.

You will need to provide a balanced diet for your chickens, including commercial feeds appropriate for their life stage (e.g. pullet, layer, etc.). They will love it if you supplement their diet with fresh greens, grains and occasional treats (e.g. access to your compost heap) to promote good health and egg production.

Traditional remedies, such as apple cider vinegar and crushed garlic, can be also added to their water to support good immune health.

#### **Ducks**

Domesticated duck breeds are descended from Mallards (with the exception of Muscovy ducks) and are classed as heavy weights, lights, runners or bantams.

Heavy weights, such as Aylsbury and Pekin, were bred as meat birds, are not good layers and can no longer fly. Silver Appleyards are good for meat and eggs. Light ducks such as Campbells can lay over 300 eggs per year [3].

Indian Runner ducks are very low maintenance and excellent foragers. They will eat any sort of worms or grubs they find - which is excellent pest control for your vegetable patch.. Ducks are much less destructive than chickens [4].

Find out more here - <u>How Ducks Act As Natural Pest Control And Replace</u>
<u>Pesticides In Organic Farming - Farms Daily</u>

Muscovy ducks are also great foragers (and eat mice!). They are large birds producing lean meat, are hardy, quiet (quackless) and make good mothers - they can clutch out up to 30 eggs at a time 2-3 times a year [4].

You should avoid giving ducklings chicken feeds containing coccidiostats - these are antimicrobials used to treat an intestinal parasitic disease called Coccidiosis. Ducklings eat more than chicks and can overdose.

Ducks need a bit more space than chickens because they don't perch at night. Their housing should be lower to the ground with a wider door or access. Ducks are also very mucky, so they will need good ventilation and access to water so that they can keep clean. Unlike hens, they will lay their eggs anywhere.

If your ducks are kept in a paddock with a large pond they will probably float together at night. Otherwise you may need to herd them into their accommodation at night. Electric fence netting is not recommended, although it could be used outside the fence to keep predators out.

#### Geese

You may want to keep one or two geese for grass control or to remove broadleaf weeds and perennial grasses from fields. Geese are also watchful and will keep guard throughout the day - although they still need a suitably fenced enclosure to keep them safe from predators (e.g. badgers and foxes).

A 8 x 6ft (1.8 x 2.4m) shed is big enough to keep 4-5 medium or large-sized geese in. Domestic geese don't need a pond, but will still need a substantial size tub of water that is kept fresh and clean.

#### Find out more here:

https://poultrykeeper.com/keeping-geese/beginners-guide-keeping-geese/

#### **Turkeys**

Turkeys are usually farmed for their meat. Different breeds such as, Broad Breasted White and Bourbon Red (a heritage breed) have distinct characteristics (e.g. meat texture, flavour and growth rates). Selecting a good breed for your farm will depend on your goals and resources. What is your production purpose - do you want turkeys for meat, eggs or both?

Find out more about turkey breeds here - https://www.roysfarm.com/turkey-breeds/

You also should think about your available space. Turkeys are big birds and need larger accommodation than chickens. They need ground-level nesting boxes, roosting bars and a secure coop and run to protect them from predators.

Find out lots of interesting facts about turkeys and a UK perspective on how to keep them at:

- https://farmhouseguide.com/ultimate-guide-to-raising-turkeys/ and
- https://poultrykeeper.com/keeping-turkeys/

Please send your recommendations (e.g. for the best sites and videos) on how to improve this page to: info@the-pffa.org

- [1] thepoultrysite.com/articles/poultry-keeping-on-a-small-scale
- [2] https://poultrykeeper.com/chicken-breeds/
- [3] https://www.flytesofancy.co.uk/blogs/information-centre/a-guide-to-keeping-ducks
- [4] https://www.chickensandmore.com/indian-runner-duck/
- [5] <a href="https://www.growingwildroots.com/benefits-keeping-muscovy-ducks/">https://www.growingwildroots.com/benefits-keeping-muscovy-ducks/</a>

#### 4.5 Improving your soil

Plant health - and our health - depends on the supply of nutrients in the soil. Once crops are harvested, nutrients must be replaced so that you can continue to grow healthy and nutritious food. Soil can be fertilised with natural organic matter (e.g. rotted animal wastes or blood and bone), by growing legumes to 'fix' nitrogen in the soil ('green manures') and by using man-made chemicals.

Synthetic fertilisers contain three main ingredients: nitrogen, phosphorus and potassium. Natural gas is used as both a raw material (for the extraction of nitrogen) and energy source in the production process.

#### **Natural or synthetic?**

The cost of synthetic fertilisers has risen sharply, a trend that is likely to continue. In the 12 months to May 2022, the price of UK-produced ammonia nitrate fertiliser in Great Britain increased by 152% and imported prices increased by 171%. The price of potassium chloride fertiliser (potash) increased by 165% and phosphate fertilisers increased by between 120% and 128% depending on the type.[1]

Equivalent natural sources include:

- Nitrogen: blood meal, alfalfa meal, soybean meal.
- Phosphorus: rock phosphate, bone meal (use sparingly due to high potency).
- Potassium: wood ash (be sure the wood is untreated), kelp meal [2]

Synthetic fertilisers can harm plants and the environment if not used correctly - e.g. if too much is added excess nutrients can pollute streams and groundwater. A soil test will identify which nutrients are deficient and how much to apply.

Click here to find out more about **Soil testing**.

#### Types of natural fertilisers

While synthetic fertilisers provide a quick burst of nutrients, they can deplete essential elements over time. In contrast, natural fertilisers provide a slow and steady release of nutrients, promoting long-term soil health.

Natural fertilisers support the growth of beneficial microbes that help to break down organic matter and make nutrients more readily available to plants. This leads to healthier soils that retain moisture more effectively. They are less likely to cause pollution and are safer for people and animals.

There are different types for different purposes. The following list is from the Farmers' Almanac [2]:

**Compost** - improves plant nutrition, growth and disease resistance because it contains beneficial microorganisms and microbes. It can also improve soil structure leading to better drainage, aeration, and moisture retention. Find out how to make your own compost here - <u>Make your own compost | Soil Association</u>

**Grass clippings** - these are a good source of nitrogen (e.g. good for leafy green vegetables). Let them dry for a day or two before use because fresh clippings can mat down and prevent air circulation. Make sure you avoid using clippings from lawns treated with herbicides!

**Manure** - different types of manure have varying nutrient profiles based on the diet of the animal producing it:

- Cow Manure: rich in nitrogen, phosphorus, and potassium. Aged cow manure is best to avoid burning tender plants.
- Chicken Manure: very high in nitrogen and best composted before use.
- Horse Manure: a good source of nitrogen and potassium, it heats up as it decomposes, making it ideal for raised beds.

As well as solid wastes, farms collect liquid wastes (e.g. from cleaning out animal pens). There are rules that need to be followed on the storage of liquid to avoid polluting rivers and groundwater sources.

For more information and guidance see <u>How to use, store or move manure, guano</u> and digestive tract content - GOV.UK (www.gov.uk).

This tool can help you to understand how much slurry a herd can produce, its nitrogen value and the costs / impacts of changes to infrastructure such as redirecting rainwater, roofing dirty yards and increasing storage capacity <a href="Slurry wizard | AHDB">Slurry wizard | AHDB</a>

**Coffee Grounds** - these are a good source of nitrogen and can add a slight acidity to your soil, making them ideal for acid-loving plants (e.g. blueberries). Use them in moderation as too much coffee can impede germination.

**Eggshells** - are a natural source of calcium and can help improve cell wall strength in plants and deter some pests like snails and slugs. Crush eggshells before adding them to your vegetable beds or compost pile.

**Fish Emulsion** - this is made from pressed fish scraps. It is an effective liquid fertiliser rich in nitrogen and phosphorus - but it smells bad! Dilute it heavily before applying it to your plants.

**Seaweed Extract** - is full of micronutrients and can stimulate plant growth and improve overall plant health. Seaweed extract is available in liquid or powder form.

**Cover Crops** - planting cover crops like clover or phacelia during the off-season adds organic matter to the soil, fixes nitrogen, and suppresses weeds. Till the cover crops under before planting your main crops.

**Wormery -** worm composting is an easy, convenient, environmentally-friendly and efficient way to turn food scraps into high quality super-rich compost all year round. The bi-products produced - worm castings (vermicompost) and Leachate (liquid fertilizer) - are excellent feeds for indoor and outdoor plants. Find out more here - Setting Up a Wormery | BBC Gardeners World Magazine

#### Other soil amendments

Soil amendments are products added to the soil to improve its condition, such as texture and structure, nutrient content, improve drainage or water retention, and adjust the pH level. For example:

- Clay soils add perlite, sawdust, straw, wood bark and chips to help improve drainage
- Sandy soils add coconut coir or vermiculite to add organic matter in increase water retention
- Acidic soils add lime to increase the ph and help plants to extract nutrients more easily
- Rock minerals replace a broad spectrum of trace minerals to build soil health and plant nutrition [3]
- Mycorrhizal fungi fungal networks pass water and nutrients to the plant (boosting growth and resilience), and the plant in turn supplies the fungi with some of the food that it generates by photosynthesis. Best used as a one-off aid when planting (e.g. bare rooted trees, shrubs, hedging, fruit, and perennials)[4]

Please send your recommendations (e.g. for the best sites and videos) on how to improve this page to: info@the-pffa.org

- [1] Rising cost of agricultural fertiliser and feed: Causes, impacts and government policy House of Lords Library (parliament.uk)
- [2] <u>Natural Garden Fertilizers: The Ultimate Guide Farmers' Almanac Plan Your</u> Day. Grow Your Life. (farmersalmanac.com)
- [3] https://www.growingagreenerworld.com/rock-minerals-as-soil-amendments/
- [4] https://www.gardenersworld.com/how-to/maintain-the-garden/mycorrhizal-fungi/

#### 4.6 Sowing and growing

Knowing what to plant, and where, can help you to get the most from your farm (or garden!). The UK ranges from US hardiness Zone 6b to Zone 10b <u>United Kingdom</u>

<u>Interactive Plant Hardiness Zone Map (plantmaps.com)</u>. For an overview of the plant hardiness of fruits and vegetables visit <u>RHS hardiness ratings / RHS Gardening</u>.

However, farmers are having to contend with more challenging weather conditions, more often. This affects not only the plants, but also the health of the soil they are growing in - for example, a heavy downpour can wash soil away. That's why it makes sense to choose (where possible) plants that can cope with extremes of wet, dry or windy conditions.

<u>Plants for a Future</u> is a free-to-use UK database of 8000+ plants, with detailed information on preferred growing conditions, such as soil type, shade tolerance and frost hardiness. It also provides information on edible, medicinal and other uses. It also allows the user to search for plants by keywords - e.g soil type, pH, flowering time or ability to tolerate wind.

#### Annual or perennial?

Perennial plants are slower to grow, but once established can produce food year after year. Typical examples include fruit trees and bushes, but there are perennial vegetables too - such as asparagus, Jerusalem artichoke and purple tree collards. Find out more here <u>Incredible Vegetables</u> - <u>We grow perennial vegetables</u>.

Vegetables such as onions, cabbage, carrots and cauliflower are biennials. They produce foliage in their first year, then flower and set seed in their second year before dying. Annual vegetables complete their life cycle in one growing season.

Gardeners can save growing time, for example, by buying onion sets. But this convenience costs more. It is much cheaper (and mother nature is generous) to grow and save your own seeds.

#### Seed saving and exchange

For an introduction to seed saving visit: <u>Introduction to Seed Saving – Seed Sovereignty</u>. The Real Seed Company also provide seed saving tips for all seeds in their catalogue <u>How To Save Your Own Seed at Home (realseeds.co.uk)</u>. These include many heritage varieties not available elsewhere.

Heritage or heirloom seeds are worth growing for their superior flavour and in some cases their increased resistance to pests - and their history. In contrast F1 plants (first generation hybrids), bred for special traits such as disease resistance or yield, are sterile.

Think about how much seed you need to save for next year? Which seeds are easiest to save (e.g. by volume per fruit)? Seed swaps take place all over the country. You could also organise your own! Find out more from: <a href="mailto:Garden Organic">Garden Organic</a> <a href="Mailto:Seed Swap Events 2024">Seed Swap Events 2024</a> and learn from others: <a href="Mailto:Seedy Sunday">Seedy Sunday</a> — <a href="The UK's biggest">The UK's biggest</a> and longest-running community seed swap event

#### Dig or no-dig?

Many approaches to growing food are inspired by nature. Agroforestry involves growing trees or shrubs around or among crops in pasture land. 'No-dig' approaches

mimic natural soil creation observed in forests and grasslands - fruits and vegetables are planted in mulches heaped on the soil's surface.

Permaculture takes this a step further by conserving soil, water and genetic material (plants are allowed to set seed). It uses a set of principles to create a 'closed loop' of resource inputs and outputs in a given location. For example, eliminating waste (e.g. no excess nitrogen released, composting etc.) working with water catchments by building swales, planting windbreaks to deflect wind and shelter stock).

Find out more about no-dig growing here <a href="Charles Dowding: Home">Charles Dowding: Home</a>

A biodynamic farm or garden is seen as an individual, integrated, whole, living organism - 'made up of fields, forests, plants, animals, soils, compost, people, and the spirit of the place'. Biodynamic practitioners try to 'listen to the land'; observations (e.g. of how the rhythms and cycles of the earth, sun and moon influence the growth and development of plants and animals) inform practice.

Find out more about biodynamic farming here <u>Biodynamic Principles and Practices</u> <u>Biodynamic Association</u>

The advantage of all these systems is that when regularly mulched and left undisturbed, soils develop a healthy balanced ecosystem of micro-fauna and mycorrhizal fungi (increasing the uptake of nutrients). For example, worms and beetles carry the mulch down into the soil beneath, improving drainage and aeration. Increasing soil biomass (e.g. by adding well rotted manure, leaves or compost) also helps with moisture retention - an advantage in periods of drought.

Cereal and see crops, such as wheat, barley, oats or rape typically involve the soil being ploughed and/or tilled - but, not always. For example, 'Mellow yellow' rapeseed oil is farmed and produced in Northamptonshire without any ploughing to prevent soil erosion; read more about it here <a href="Why we no longer plough our fields... - Farrington Oils">Why we no longer plough our fields... - Farrington Oils</a>.

Even if you do decide to plough, there are still measures that can be taken to protect the soil from erosion. For example, by cultivating across slopes to reduce soil run-off - read more here <u>Cultivate and drill across slopes - Farming</u>. Remember, it's always worth speaking to or working with a farmer too!

#### Crop rotation

If you are disturbing the soil, crop rotation can help to maintain soil and plant health. Some vegetables (e.g. the cabbage family) are nutrient hungry and can deplete soils of nitrogen. Planting peas or beans (legumes) in the same spot can help to 'fix' nitrogen and make it available in the soil.

Three family groups that benefit most from rotation are:

- Solanaceae e.g. potatoes, peppers, tomatoes, aubergines
- Brassicaceae (Cabbage family) e.g. cabbage, cauliflower, broccoli, kale
- Alliums (Onion family) e.g. onions, garlic, leeks

There are some great resources out there to read or watch to help get you started and plan your rotations:

- Quick facts on Crop rotation / RHS Gardening
- More in-depth focus, including year-round growing <u>A Beginner's Guide To</u>
   <u>Crop Rotation With Garden Presenter Ade Sellars | Horticulture Magazine</u>
- Video on the 'rainbow' crop rotation explaining how each crop benefits from what was grown before it <u>The Step By Step Guide to Crop Rotation</u> (youtube.com)

#### Achieving year round growth

There are a number of ways to achieve year round growth - such as growing perennial vegetables, overwintering vegetables, early planting and planting in succession (e.g.Charles Dowding's <u>Sowing Timeline</u>). For a good overview visit <u>6</u> Proven Strategies for Year-round Harvests.

By changing growing conditions (e.g. by using a polytunnel) you can widen your choice of produce and extend your growing season. Find out more here <u>A Guide To Plant Hardiness In The UK | Polytunnel Gardening (firsttunnels.co.uk)</u>

#### Pest control

Pests can cause significant damage to plant crops. These can include insects (e.g. aphids, caterpillars etc.) eating foliage, bacteria or fungi causing plant diseases, weeds interfering with plant growth and damage caused by slugs, snails, pigeons, moles, rodents, rabbits or even deer!

PFFA supports natural approaches to pest control. This means we recommend avoiding the use of man-made pesticides such as, insecticides, herbicides and fungicides that can damage the natural environment (e.g. harming bees).

Healthy soils form the foundation to this approach leading to healthier and stronger plants. An organic approach to farming employs the following methods of pest management:

- Choose crop species that are resistant to pests and diseases (these can be developed using standard breeding techniques) and make sure that you give them enough space to grow.
- Companion planting makes the habitat less suitable for the pest for example marigolds and daffodils repel rodents and moles.
- Boosting or introducing populations of natural predators for example nematodes used to control slugs or vine weevils, or ducks - read about keeping poultry.
- Using natural pesticides for example, based on pyrethrum a chemical extract from species of plant related to the daisy (synthetic equivalents are not the same).
- Physical barriers to keep the critters out! This can include nets, fences, raised beds, vertical planting whatever works for you!

Growing healthy hedgerows and areas of semi-natural habitat can make a big difference for wildlife and provide free pest control because it provides a home for lots of beneficial insects [1].

Find out more, for example, at Regenerative Food and Farming

#### **Equipment and vehicles**

As you plan what it is you want to grow, you will need to think about equipment and vehicles. Assess what you have and what you need - will you use machines or rely on people power (e.g. volunteers) to dig and plant? Be aware that farmers have struggled to recruit seasonal workers to pick harvests [2].

If you choose to use machinery, make sure that equipment you use is sized correctly for the job you want it for (e.g. having a tractor strong enough to pull a plough).

Click here to find out more about working with volunteers.

Before you buy, ask:

- Do you really need it? It may be cheaper to hire an operator to assist you or to lease equipment (there are many companies that hire out farm equipment across the UK).
- Is new or used better? There are obvious advantages to each. Consider your needs and financial resources carefully to make the best purchase.

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[1]

https://www.thenakedscientists.com/articles/interviews/biodynamic-pest-control-organic-farms

[2] bbc.co.uk/news/uk-wales-6676721

#### 4.7 Harvesting, storing and processing

Getting your crops out of the ground, off the branch or from the field to the consumer must happen at optimum time to yield the best returns. Delays can lead to damage by pests and diseases.

Plan ahead of your harvest - where will you store your produce and how will you process it? Each step (harvesting, storing and processing) follows naturally one after the other, each one is useless without the other.

Remember three 'golden rules'[1]:

- Don't harvest more than you can process or store
- Be very careful not to damage your crop when you pick or dig it
- Never try to store substandard or damaged produce.

Will you be harvesting by hand or with machines or a mix of both? If you are harvesting by hand, you could invite the community to 'pick their own'. Otherwise, you will need **volunteers** or hired help - in recent years seasonal workers have been difficult to recruit.

Combine harvesters can harvest a wide range of crops, such as cereals, legumes (e.g. peas and beans) and oil seeds (e.g. sunflowers). They combine previously separate activities of harvesting - cut, thresh, separate and clean [2]

#### Where will you store your vegetables?

Special handling is needed during harvesting, handling and packaging to maintain the quality of your produce - for example, harvesting salads in the coolest part of hte day [3]. Freshly harvested vegetables are made up of 90-95% water. They naturally lose their moisture after harvest. Leafy greens are the most perishable and have a relatively short shelf life.

Will you need cooling and/or storage facilities? Do you need planning permission for a barn? Find out more here <u>Planning permission: When you need it - GOV.UK</u> (this includes planning links for Scotland, Wales and Northern Ireland).

Beans and peas can be dried and stored for winter in mouse proof containers. Burlap and strong paper bags are useful for storing roots in a rat proof storehouse or cellar. Root cellars or 'clamps' are a traditional way of storing crops, such as potatoes outdoors where diseases do not build up.

Prepare a clamp by putting a layer of straw on the ground, then heap the root crop on top of the straw in the shape of a pyramid. Cover with a layer of straw or bracken and then cover with a layer of earth - making sure that some bits of straw poke out from the earth to admit some air to the crop inside. But - a clamp will not keep out a hard frost. Roots must be stored indoors during very cold winters[1].

Other ways of storing vegetables include, for example:

- Keeping squashes and pumpkins on shelves or hanging them in nets
- Storing roots in dry sand so that they don't touch and are safe from frost
- Heeling in leeks or celery to prevent their exposure to frost

#### Storing fruits

Late ripening apples and pears should be left on the branch as long as possible. Early ripening fruit will not store well and should be eaten as it is picked. Pick your fruit as carefully as possible and lay it out in an airy place to dry out overnight. Store in a dark, cool and well ventilated place - 2-4°C for apples; pears slightly warmer. Each fruit should be wrapped individually in paper to isolate molds or bacteria.

How will you distribute harvested products? To find out more click on **Marketing** your produce

#### Processing and preserving

Almost all fruits and vegetables can be stored by freezing, but some store better than others. Freezing also takes a lot of space. You can preserve and enhance the flavour of your produce, for example, by fermenting, canning or pickling. Making something from your produce (e.g. jams, chutneys or sauerkraut) can also add value to it.

#### Harvesting animals for meat

Before you kill an animal for its meat, plan where and how you will store all of its meat. A small bullock or heifer weighing less than half a ton will fill an average chest freezer!

You can use the internet to find the nearest slaughterhouse, but ideally it should be one that comes recommended to you. How will you transport your animals to ensure the least distress? What will you get back from the abattoir (e.g. tallow for soap, bones for bone broth or innards)?

The Food Standards Agency estimates that small, local abattoirs are shutting at a rate of 10% a year[4]. This leaves farms dependent on remaining businesses. Nevertheless, there are options out there, for example

- Specialists catering to rare breeds <u>Pig Abattoirs and Butchers In The UK | Pork Slaughterhouse Map</u>
- Mobile slaughter services which reduce the stress of moving animals e.g.
   Mobile Slaughter Unit (MSU) -
- Small animals can be slaughtered on the farm <u>Slaughtering poultry, rabbits</u> and hares on farms for small-scale suppliers <u>GOV.UK</u>

Make sure that you have all your documentation ready in advance. Operators will provide you with standard forms to fill in (these vary according to the animal). They will not accept animals unless they have been provided with the required food chain information[5].

Who will butcher the animal for you; what are their skills? Will they be available when you need them to process your carcasses? What cuts of meat or products (e.g. bacon and sausages) do you want? You need to know what your customers will buy. Would you like to partner up with other local food producers? Taking the time to do your homework will pay dividends later.

#### **Dairy produce**

Milk (from cows, goats and sheep) can be sold raw or pasteurised and made into butter, cream, yoghurt, cheese and ice cream.

Almost all milk nowadays is pasteurised - heated to 63°C for 30 minutes or 72°C for 15 seconds to kill pathogens, such as salmonella, campylobacter, and E.coli. Raw milk advocates argue that pasteurisation removes many of the health benefits found in dairy.

Raw milk must be sold directly from licensed farms to the customer - find out more here Raw drinking milk guidance | Food Standards Agency. Most raw milk is sold in England and Wales. It is legal to sell raw it in Northern Ireland, but there are no licensed producers there. It is banned in Scotland, but some English and Welsh farms do offer deliveries[6].

Setting up a cow dairy is a very expensive business, requiring up-front investment in land, infrastructure (e.g. barns, milking parlours, storage), equipment (e.g. milking machines) and livestock, before considering the operational costs (e.g. utilities, food, veterinary bills or waste management)[7].

The following links provide more information about keeping cows, goats or sheep for milk:

- For an idea of comparative costs (US prices) read <u>How Much Does It Cost To Start A Dairy Farm</u>
- A dairy approach keeping calf and cow together <u>Welcome to The Ethical Dairy</u>
   <u>The Ethical Dairy</u>
- For information on community supported dairies in the UK <u>Community</u>
  <u>Supported Dairies Using the CSA model for your milk business</u> for example
  <u>Stroud micro dairy: A community-supported co-operative dairy | Sustainable</u>
  Food Trust
- For an example of a UK community based goat dairies see <u>Norsworthy Goats</u>
   <u>Harvest Workers Co-op</u> or <u>Horham Dairy & Care Farm | Home</u>
- Showcasing a collective approach to dairy production without the overheads of producing milk see <u>The Estate Dairy</u>
- To find out more about sheep dairying see <u>The Sheep Milk Company</u> or <u>Love Ewe Dairy Cheese</u>, <u>Dairy</u>, <u>Sheep Milk</u>

If you are considering making your own cheese and dairy products, then you will need to consider training courses, such as <a href="https://example.com/Theese.making-workshop--making--making-workshop--making-workshop--making-workshop--making-workshop--making-workshop--making-workshop--making-workshop--making-wo

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[1] John Seymour, 'The Self-Sufficient Life and How to Live It' (2018 edition), DK Penguin Random House.

[2]

https://www.proagrimedia.com/crops/the-final-step-in-successful-crop-farming-harves t-and-storage/

- [3] Reducing losses during harvest and storage: a practical guide Horticulture Wales
- [4] Loss of local abattoirs threatening livestock farms, survey confirms Farmers Guide
- [5] Food chain information | Food Standards Agency
- [6] Where to Buy Raw & Unpasteurised Milk in the UK
- [7] <u>Dairy-Manual-Section2.pdf</u>

#### 4.8 Marketing your produce

Anyone wanting to sell food to the public must register their business with the local authority at least 28 days before you begin trading. A food business is one that prepares, cooks, stores, handles, distributes, supplies or sells food [1]. You will need to meet standard legal requirements (e.g. on hygiene, labelling and traceability)[2].

Read about starting your food business here - <u>Getting ready to start your food business | Food Standards Agency</u>

#### Why marketing is important

Marketing can help to raise people's awareness of your community farm - who you are, what you do and *why*. Engaging with your community in this way opens the door to more community involvement (e.g. volunteering or sales) and provides you with a better understanding of what they want. This allows you to satisfy the needs of your community and keep their custom.

#### 9 steps to success!

**Step 1:** get involved in and contribute to community events. Aim to attend at least one community event per month to promote your produce - what makes it local, why is it unique? How is what you do rooted in your community?

**Step 2:** join forces with other local businesses and professionals. This will help to cement your place in the community and will increase the number of people who hear about you.

**Step 3:** emphasise the health benefits of the food you're producing. It's better for farm animals and the environment too. This is what sets it apart from cheap, mass produced supermarket alternatives.

**Step 4:** reward loyal customers. It takes ten times the effort to recruit new customers, so look after the ones who come back!

**Step 5:** keep your online profile up to date (e.g. on <u>Google Business Profile - Get Listed on Google</u>). Include your contact numbers, address, food business category, food and store photos, operating hours, and business name so that you are easy to find.

**Step 6:** share suggestions and recipes on how to use your products. Answer questions and educate your community about the food you produce, through blogs, social media posts, blogs or paper pamphlets included with every purchase.

**Step 7:** take part in large external events, such as festival markets, food festivals and pop up stores. Think of giveaways, free samples, and contests to make your offer exciting and sign potential customers to your mailing list.

**Step 8:** consider giving discounts for online orders. People tend to opt for the convenience of online ordering; discounts and promotions can optimise online sales.

**Step 9:** celebrate important local milestones and make your customers feel part of your community. Share information about what you've been up to, special ingredients, local events and opportunities to meet up.

Source: <u>How do you promote local food?</u> (9 easy ways) < Your Strategic Marketing <u>Partner</u>

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- [1] https://www.gov.uk/find-licences/food-business-registration [2] https://www.food.gov.uk/business-guidance/general-food-law

### (5) Raising funds

How much money do you need to raise? This is a big question and it's why you need a business plan. A business plan will outline your goals, budget, marketing strategy and operational plan. This will help you to put your vision in focus and set out steps for how you will achieve it.

For tips on how to write a farm business plan see

- How to Write a Business Plan for Community Support Agriculture (CSA)
  Projects (tyfu cymru.co.uk) or
- <a href="https://www.researchgate.net/publication/347357424">https://www.researchgate.net/publication/347357424</a> Farm Business Plan H andbook this particular resource was written as a practical guide to help the recovery of small farm businesses in post war Iraq.

There are many different ways to raise funds for your community farm. These include private and government grants, loans, mortgages and crowdfunding. The table below provides a good overview of the options available for different types of organisation.

#### Legal structure

Funds and income are important considerations when choosing a legal structure. For example, agricultural cooperatives distribute the earnings generated from the cooperative's activities back to its members. A members' share is typically based on their level of participation or contribution to the cooperative, such as the volume of products supplied or the amount of services used [1].

In contrast, social enterprises are 'not for profit' organisations not able to earn a taxable profit - although founders and people running the organisation can earn a salary!

Find out more about different types of 'not for profit' organisations here: <u>Legal</u> <u>structures for community groups and not-for-profit organisations | Resource</u> <u>Centre</u>

#### **Table: Funding options for different organisations**

	Trusts and foundations	Corporate grants or public funding	Crowdfunding	loans	Community shares
Sole-trader or business partnership	no	yes	yes	yes	no
Limited company	no	yes	yes	yes	no
Charity	yes	yes	yes	yes	no
Community interest	rarely	yes	yes	yes	no

company					
Charitable community benefit society	yes	yes	yes	yes	yes
Community benefit society	sometimes	yes	yes	yes	yes
cooperative	rarely	yes	yes	yes	yes

#### Source:

https://staging.landworkersalliance.org.uk/wp-content/uploads/2020/10/Landworkers-Alliance-Guide-to-Fundraising.pdf

#### **Trusts and foundations**

Grants and funds can be very useful, but have their drawbacks. Any funds will be 'restricted' to the project that they are allocated to and can't be spent freely on other things (you need permission from the funder first). Applying for grants and funds can also be a full time job in itself.

For hints and tips on how to find grants see - How to find grants | NCVO

Trusts and foundations come in all shapes and sizes, for example:

- Home The Royal Countryside Fund founded in 2010 covers the whole of the UK. Grant applications will reopen in autumn 2024
- Community Services Fund Pub is The Hub provides grants of up to £3,000 to enable rural pub owners, licensees, and local communities to work together to help support and sustain local services in England, Scotland and Wales.
- Plunkett UK provides business support and training.

### Corporate grants or public funding

Funding can come from corporate grants - see for example, <u>Greggs Foundation |</u> <u>Community funding</u>. The same limitations apply regarding 'restricted' funds and time spent preparing funding bids.

If you are thinking of applying for public funds, it is important to remember that your bid will need to address Government policy objectives, such as achieving net zero. For England, see <u>Grants available in 2024 – Farming (blog.gov.uk)</u>. Of course, information about your farm will be held by the funding body.

For more information on funding sources go to <u>Funding – The People's Food and Farming Alliance (the-pffa.org)</u>

### Crowdfunding

There are different approaches to crowdfunding - based on rewards, equity, debt or donations. The Financial Conduct Authority provides an overview here - Crowdfunding | FCA.

A donation based approach is likely to be your best approach. Examples of donation based platforms include Crowdfunder.co.uk and https://www.justgiving.com/.

Some advantages of choosing crowdfunding are that:

- It is a quick way to raise finance with no upfront fees
- It can advertise your project
- There are minimal upfront fees or costs
- There is little financial risk with almost no start up debt

#### Loans

A guide to different finance options for community enterprises is provided here - Simply Finance | Co-operatives UK. Examples include:

- Cooperative and Community Finance loans to social enterprises: <a href="https://coopfinance.coop">https://coopfinance.coop</a>
- Mortgages to smallholdings and community groups that support the environment: www.ecology.co.uk
- Loans to farming projects which "regenerate soil and ecosystems by integrating trees": <a href="https://www.ecosia-regenerativeagriculture.com/about-2">https://www.ecosia-regenerativeagriculture.com/about-2</a>
- Loans to organisations unable to obtain mainstream finance: https://www.fredericksfoundation.org/

Community benefit society and co-operative organisations are allowed to issue 'loanstock' (a loan from a supporter). The rate of interest and repayment schedule is agreed with your supporter who is provided with a loanstock agreement. A model agreement can be found in the Simply Finance guide: https://www.uk.coop/resources/simplyfinance

#### **Community shares**

The Community shares handbook <u>The Community Shares Handbook</u> <u>Co-operatives UK</u> defines these as non-transferable, withdrawable shares in an independent society that is owned and democratically controlled by the community it serves.

This form of finance is only available to co-operative and community benefit societies that have at least 20 members, who together hold at least £10,000 in share capital in the society. Shareholders cannot sell or transfer their shares or liquidate the business in order to achieve a capital gain - assets are protected by a legal clause called an 'asset lock'.

- "Since 2012, over £200m has been raised by more than 126,000 people in community shares across the UK.
- Community shares have been invested into over 500 co-operative and community businesses including shops, pubs, renewable energy schemes, housing projects, community hubs and much more.
- Community shares are a flexible and effective way to raise finance: an incredible 92% of all businesses who have used community shares are still trading." [2]

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Click on the following links to find out more about:

- Managing and mitigating risk
- [1] Profit Sharing Models in Agricultural Cooperatives HusFarm
- [2] About community shares | Co-operatives UK

#### **FOLLOW ON PAGE**

#### 5.1 Managing and mitigating risk

Farming is a risky business, it's unavoidable. Some risks (e.g. drought or floods) are beyond farmers' control and others are more predictable.

Insurance cover is advisable to protect your farm from expensive liability claims if something goes wrong. There are many providers out there. To find out more, see for example:

- General advice <u>Farm Insurance 101: What You Need to Know</u> (co-opinsurance.com)
- Bespoke community farm insurance <u>Insurance for members | Social Farms & Gardens (farmgarden.org.uk)</u>

A risk management strategy is another way to help you to anticipate and mitigate potential problems.

Even with a strategy in place, there may be unintended consequences - a solution to one risk may inadvertently increase another. For example, if a decision is made to grow a wider selection of crops in case one crop fails, this could increase marketing risks because of price fluctuations across one or more of those crops.

This section outlines the most common forms of risk. These fall into five broad categories [1]:

- production
- marketing
- financial
- Institutional and
- Human

#### **Production risks**

The success or failure to produce food on your farm will be influenced by the weather, pests and diseases. Heavy rains and hail can wipe out crops, late frosts can damage fruit blossoms, too little rainfall and drought can stunt growth. Pests and diseases (e.g. pigeons or potato blight) can also cause major losses to crops and livestock. Equipment failure (e.g. your tractor won't start) is something else to consider.

Examples of how to mitigate production risks:

- grow more than one crop, so if one crop fails, you have another crop

- grow crops and rear chickens, so if the crops do not provide a good harvest, you have chickens
- Keep ducks to eat slugs and snails
- Grow crops under cover of a polytunnel; create a sunken Walipini greenhouse [2] (make sure it captures enough sunlight) to grow undercover with protection from strong winds!
- Harvest rainwater and install an irrigation system
- agreeing to sell your crop before it is harvested to get a fixed price from a buyer

#### **Marketing risks**

The price of your farm's products will be affected by how much you can supply, customers' demand for what you produce and your production costs. Production is influenced by the decisions you make as a community farm as well as by external factors, such as the weather. Demand for your produce will depend on consumer preferences, how much they can afford to spend and whether they can buy similar products more cheaply somewhere else.

Production costs depend on what you spend on materials to grow your produce as well as the yield - the more you produce the lower the cost per unit of product. If yields are poor, your production costs increase. All of this is highly variable and shows why farming is a risk filled business!

Examples of how to mitigate marketing risks:

- Members pay for produce in advance
- Join a farming cooperative and benefit from economies of scale bulk buying of materials needed to grow your produce.
- Calculate production costs and estimate yield needed to determine the break-even price

#### Financial risks

If you borrow money to finance your community farm, then there is a financial risk that you will be unable to repay the loan. Will your farm be able to generate enough income to cover your loan costs if the price for your products and/or your product yields are lower than expected? There is also uncertainty over future rates of interest and over the lender's willingness (and ability) to continue lending. Borrowing money at high rates of interest can be difficult for small farms.

Examples of how to mitigate financial risks:

- Apply for grants
- Organise a loan with a financial institution that specialises in third sector borrowing.
- Crowdsource for specific needs
- Raise community shares

#### Institutional risks

This is caused by unexpected changes in the availability of services used to support farming, such as price support and subsidies. Exiting the European Union and the Common Agricultural Policy has left many UK farmers in limbo waiting for the UK

Government to decide where it will or won't fill the gap. Regulations govern every aspect of farming and can have a big impact on a farm business, for example:

- Animal welfare inspections, prescribed veterinary medicines and waste disposal requirements
- Permitted fertilisers and pesticides or organic accreditation
- Food processing, marketing and quality standards (e.g. egg marketing inspections <a href="https://www.gov.uk/guidance/egg-marketing-inspection">https://www.gov.uk/guidance/egg-marketing-inspection</a>)

PFFA encourages communities to gain their food sovereignty. One way to do this is to avoid accreditation schemes and reliance on government subsidies. This does not prevent you from farming organically. We encourage you to grow the most nutritious healthy food possible and help to regenerate soils and biodiversity.

#### **Human factors**

On family farms accidents, illness and death of the farmer can disrupt the farm's performance. With a community farm the benefits and risks are shared, minimising the impact of human risks. But it's still worth having a back-up plan in place in case volunteers with key skills or tasks are suddenly unavailable!

#### Using a risk register

A risk register or risk log is a management tool used to identify, log and track all the potential risks to a project. It should be created during the project planning phase. For more information and free templates visit <a href="Managing risk in farm businesses">Managing risk in farm businesses</a> | AHDB

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- [1] 3-ManagingRiskInternLores.pdf (fao.org)
- [2] How to Build a Walipini Greenhouse for Growing Year-Round