

The CAG Project

**COMMUNITY
ACTION
GROUPS**

The Benefits of Land Management by
Community Action Groups in Oxfordshire

Oxford University Micro-Internship Research Report

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Executive Summary

The Community Action Group (CAG) Project consists of **over 60 groups across Oxfordshire**, at the forefront of community led climate change action, organising events and projects to take action on issues including waste, transport, food, energy, biodiversity and social justice.

This summary report reviews a longer research piece which analyses the **benefits of community-led land management** by Community Action Groups (CAGs) in Oxfordshire.

Key Findings

- There are **38 plots of land** across Oxfordshire being actively managed and maintained by **23 individual CAGs**.
- The total area managed is estimated to be approximately **122,500 m²** or 30 acres [[View map of locations here](#)].
- Community management of land appears to: enhance biodiversity; return economic and environmental benefit via produce; strengthen community engagement and cohesion; increase individual health and well-being and add value to local authorities.

Productivity

- **25 plots** (two thirds) are **productive land** used to grow food including community gardens, edible beds, orchards, allotments and farms.
- The total productivity of the plots in terms of food production could be valued at around **£170,000 over two years**.¹
- CAGs managing land productively means reduced food costs for communities, lower food miles and use of smaller-scale sustainable practices which encourage biodiversity and reduce soil degradation.

Biodiversity

- **12 plots are green spaces** such as wildflower meadows, community woodlands, footpaths, conservation areas and church yards, which are managed by CAGs to increase biodiversity of species and habitats.
- 11 CAGs are currently managing **16 green spaces in or nearby to a Conservation Target Area** as identified in the Oxfordshire County Council's Biodiversity Action Plan, where it has been highlighted that targeted conservation will have the most benefit on species and habitats.
- **4 CAGs manage land** which fall into areas with **high environmental quality deprivation scores** (greater than 7 where 10 is the 10% most deprived area) which may indicate high levels of pollution and poor air quality as well as access to green space. 3 of these are in Oxford City and one is in

¹ This calculation is based on a Sustain report (Reaping Rewards 2014) which estimated that the productivity of an urban food-growing project in London was on average £3.50 per square meter over two years.

Banbury. The value of community land management in these areas is particularly significant as it increases access to green space for local residents and improves air quality.

Social value

- In the last financial year (1st April 2016- 31st March 2017) there have been **1516 volunteer hours completed which is equal to a value of £19,665.76**. There have also been **17918 attendees** to gardening or conservation events or projects run by CAG volunteers (Figures from ResourceCIT, The CAG Project's online monitoring and evaluation tool).
- Anecdotal evidence from CAG volunteers indicated that community management of land strengthened and enhanced the life of Oxfordshire's communities by providing:
 - **Economic benefits** in terms of the value of produce, as well as the development of knowledge and skills.
 - **Social benefit** from aiding community cohesion, increasing pride in the local area and giving people the opportunity to make a positive contribution.
 - **Benefits to health & well-being** from giving people the opportunity to socialise and keep active. Many studies have shown the benefits to both physical and mental health of physical exercise in the outdoors.
 - **Educational benefit** as many groups collaborate with schools or children's groups to aid learning about the environment.

Value to local authorities

- The plots of land are both publicly and privately owned, with the **majority (27) being owned or leased by district or parish councils and the County Council**. It is possible that there is a cost saving to local councils through the management of public land by CAGs, although no data was available from local councils to measure this accurately.
- CAGs that actively manage land contribute to the Oxford City Council's objective in their Green Spaces Strategy (2013-2027) which encourages "**community involvement in the design and stewardship of green spaces**".
- Volunteer management of land which is funded by the local community also actively contributes to the South Oxfordshire Green Infrastructure Strategy objective to "provide green infrastructure that is **economically self sustaining**". That they are also managed for the benefit of their local community contributes to the objective to "provide a green space network that is accessible to local people, offers recreational opportunities, provides alternative means of transport and promotes healthy lifestyles".

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1 Introduction

1.1 Area managed

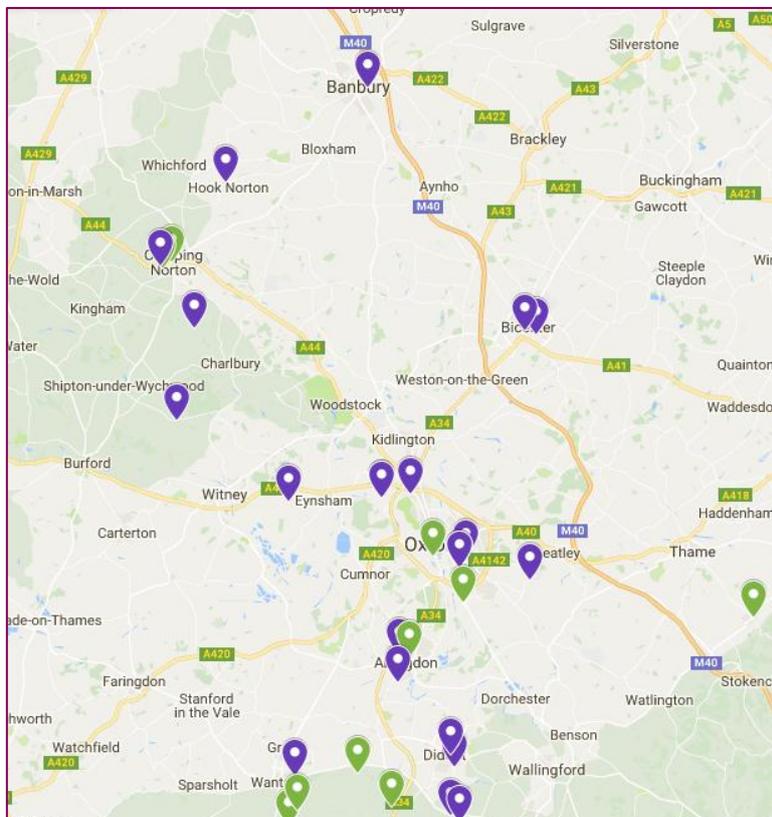
The Community Action Group Project manages and supports around 60 community groups in the Oxfordshire area. Many of these groups manage land, in the form of community gardens, allotments, orchards, wildflower meadows and more.

⇒ 38 plots managed
⇒ Approximately 122500m² of land managed
⇒ 25 plots producing food
⇒ Estimated £170,000 worth of food produced over two years

A total of 38 plots are managed by community groups in Oxfordshire, two thirds of them being productive i.e. they are used to grow food. The rest of the plots are categorized as green spaces or spaces that help improve biodiversity. As well as producing food, there are a huge range of other benefits to the land management by CAGs. These include improving community involvement and the well-being of volunteers, as well as helping to increase the biodiversity of areas, in line with the Oxfordshire County Council's Biodiversity Action Plan and South Oxfordshire District Council's Green Infrastructure Strategy.

The map below indicates the location of land that is managed by CAGs. This link is connected to the online version of this map, which has further details of the location of specific community groups and their plots:

https://drive.google.com/open?id=1vu5NSplm2Cy2H5szuez6i_eZl8M&usp=sharing



Map of land managed

Each marker represents a plot managed by a Community Action Group. The purple markers represent plots that are productive and the green markers indicate plots that are green-spaces.

The majority of the land managed by CAGs is productive, totalling 25 plots, therefore the communities that manage this land will be benefitting from the production of food. There are fewer green spaces.

The total area managed is estimated to be around 122,500 m², which is around 30 acres.

1.2 Land use

The plots of land are both publicly and privately owned, with the majority being publicly owned by district or parish councils. It is possible that there is a cost saving to local councils through the management of public land by CAGs, although no data was available from local councils to measure this accurately.

There are some cases where land is privately owned, but is leased by local councils. For example, the Hendreds Environment Group manages an area of woodland (approximately 100m²) that provides a safe route to a local school, as well as a space for a forest school. They manage the land by keeping the path clear and encouraging biodiversity in the plot. The land is owned by Hendreds Estate, who lease it to East Hendreds Parish Council, for use by the local community. Here, there is a benefit to both the community group and the owners of the land.

In addition, Sustainable Woodstock manages a Community Woodlands, which is also privately owned by Bleinham Estates but the Leaseholder is Woodstock Town Council. This is an 80-year lease free of all charges. Effectively, Sustainable Woodstock runs the woodland but as they have no permanent legal status, Blenheim required that the Town Council act as “guarantor of last resort”.

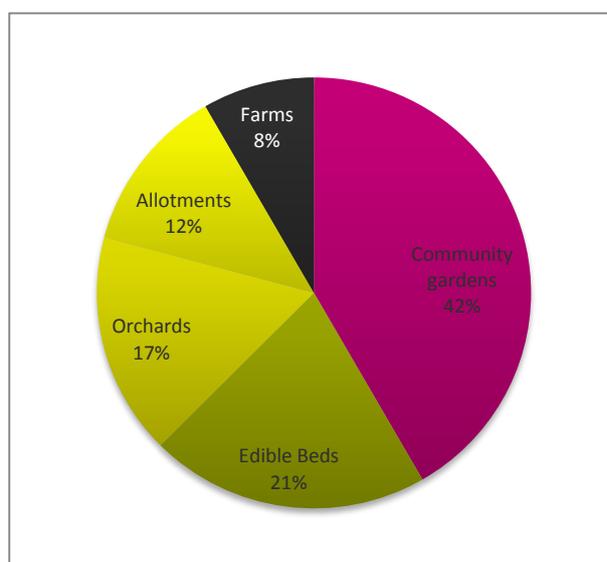
2 Productivity

2.1 Productivity of plots

25 out of 38 of the plots managed by CAGs in Oxfordshire are used to grow food. Out of these 25 plots:

- 10 are community gardens
- 6 are sets of edible beds
- 4 are orchards
- 3 are sets of allotments
- 2 are farms

Sustain published a report in 2014ⁱ on the productivity of their urban food-growing project in London, Capital Growth. They calculated that on



Pie Chart representing the distribution of different types of productive land management

average, the productivity of plots was £3.50 per square meter over two years (2013 and 2014).

If we assume that the productivity of the land managed by CAGS in Oxfordshire is similar to that of growing land in London, that gives us a **total productivity of ~£170,000 in two years**, through management of productive land.

However, this is a very rough estimate and further information about the volume and type of food produced on CAG managed plots would help to provide a more accurate estimate of the total productivity. A possible future strategy to measure this more accurately is outlined in section 6. Despite this, it still demonstrates a huge financial benefit, which would have significantly reduced food costs for communities and individuals that helped produce this food.

2.2 Other environmental benefits

By producing food locally, to be consumed by the local community, substantial food miles are saved. A report by Low Carbon Oxford found that less than 1% of Oxford City's food comes direct from local sources, with the rest is split between UK (51%), EU (33%), and rest of world (15%).ⁱⁱ For example, common apple varieties found in supermarkets are often imported from as far away as New Zealand. By instead picking apples from a community orchard, such as the Elmsfield Community Orchard, an individual would save 11690 food miles. Eating local and seasonal foods is a far more sustainable so encouraging the work of community groups, such as Incredible Edible, helps to encourage more sustainable food-buying (or growing) practices in communities. It also helps to reduce our overall environmental impact.

Furthermore, there is also evidence that small-scale farming, such as that in allotments, is more sustainable than mass-producing our food. For example, a study, conducted in 2014, found that urban cultivation in allotments occur without the soil degradation seen in common agricultural practices.ⁱⁱⁱ Maintenance of the quality of our soil resource is essential for sustainable food production and for regulating and supporting ecosystem services. This is further support for the benefits of land management by CAGs.

3 Biodiversity

3.1 Land management for biodiversity

Biodiversity is important for maintaining the ecosystems that we rely on, such as carbon storage, flood storage and clean water. Increased biodiversity provides Oxfordshire communities with a range of benefits such as increased health and well-being, higher property values and flood prevention. Many also enjoy the aesthetic value of wildlife in their area and some use it for recreation (bird watchers). Some also feel that we have a duty to maintain biodiversity in the areas that we manage.

- Out of the **35 plots managed, 12 of them are managed as green spaces**
- All of the green spaces are open for use by the local community
- These include woodlands, wildflower meadows and urban green spaces

Although we have no quantitative measure of the increase in biodiversity, there is lots of evidence in scientific literature and government organizations that the management and promotion of biodiversity in green spaces does significantly increase the biodiversity of the managed areas, as well as the surrounding areas.

For example, the Sustainable Wantage community group manages a wildflower meadow, situated in the town of Wantage. Forestry Research UK states that the provision of wildflower meadows (especially in urban areas) provides many benefits to biodiversity.^{iv} These include the increased diversity of invertebrates, such as pollinating insects, due to the increased diversity in native grasses and flowering plants. Studies have shown that sown wildflower strips support higher insect abundances and diversity than heavily managed or crop habitats.^v

As well as the management of their own land, there are also several groups that enhance the overall biodiversity of their area through other activities:

- **Oxford Conservation Volunteers** regularly work on authority-owned land. Their policy is to do work that otherwise wouldn't be done. The sites they work at are all managed for wildlife. They do the annual hay cut on Iffley Island and the flora has changed over the years they have been managing it.
- **Sustainable Blewbury** run many projects, such as the Downland Project, that aims to manage habitats in order to increase their biodiversity and enhance the natural beauty of the areas in and surrounding Blewbury. They also manage the churchyard of the St Michael's Church in Blewbury. There are four different habitats: hedgerow, wayside, woodland edge and ditch, and chalk meadow. The existing natural floral population has been augmented by other species and a sustainable mowing routine is established. Currently, the maintenance routine is continuing and new native species have been planted. They also have a new project to join up and restore former hedgerows on the downs by planting trees and bushes to make a wildlife corridor along the top of the North Wessex Downs escarpment.

3.2 Local authority strategy

The South Oxfordshire District Council has put forward a 'Green Infrastructure Strategy'. This serves as a precedent for the pending Oxfordshire County Council Green Infrastructure Strategy. The South Oxfordshire District Council define green infrastructure as 'a collective term for open green spaces which can include amongst other things parks and gardens, woodlands, commons, playing fields, outdoor sports facilities, recreation spaces, rights of way and bridleways and river corridors'. The strategy helps to ensure that proposals for new development take account of existing and proposed green spaces within the district. It recognizes the importance of green spaces, such as those managed by CAGs.

There are several aims of the strategy:

- Preserve and enhance the condition, extent and connectivity of wildlife habitats
- Protect and enhance existing natural and historic assets and provide new green infrastructure assets to meet identified needs
- Reflect and enhance the area's locally distinctive character, including local landscapes and habitat
- Provide a varied, widely distributed, strategically planned, interconnected and multi-functional

green space network

- Provide a green space network that is accessible to local people, offers recreational opportunities, provides alternative means of transport and promotes healthy lifestyles
- Provide green infrastructure that is economically self sustaining
- To recognise the importance of private parks, gardens and areas of sensitive habitat, which may not be accessible, but can contribute to conserving and enhancing biodiversity.

There are many ways in which the management of land by Community Action Groups falls in line with the aims of the Green Infrastructure strategy:

- Groups that manage 'wild' habitats such as woodlands and wildflower meadows actively enhance the existing natural environment and biodiversity (aim 2 & 3).
- All green spaces managed by CAGs are economically self-sustaining, as they are managed by volunteers (aim 6)
- The land managed by CAGs helps to promote the connectivity of wildlife habitats. For example, allotments and community gardens provide 'green corridors' which helps to support biodiversity (aim 1).
- All green spaces managed by CAGs are completely accessible to the local community. Taking part in volunteer activities such as growing fruit and vegetables helps to encourage healthy lifestyles in the community, as volunteers get physical exercise and are able to eat fresh and local produce (aim 5).

Oxfordshire County Council have also created a Biodiversity Action Plan. This recognises the importance of biodiversity and green spaces. CAGs the manage land help to contribute to this wider aim of protecting and maintaining natural spaces in Oxfordshire.

As part of the Biodiversity Action Plan put forward by the Oxfordshire County Council, Conservation Target Areas (CTAs) have been identified These are areas in which have been picked out as the most important areas for wildlife in Oxfordshire, where targeted conservation action will have the greatest benefit.

11 CAGs are currently managing 16 green spaces in or nearby to a Conservation Target Area are:

- Abingdon Carbon Cutters (Thames Radley to Abingdon CTA) – 2 plots
- Farmability (Wytham CTA) – 1 plot
- Greening Chinnor (Chilterns Escarpment South CTA) – 2 plots
- Incredible Edible Hook Norton (Swere Valley & Upper Stour CTA) – 1 plot
- Langford Community Orchard (Ray CTA) – 1 plot
- Stonehill Community Garden (Thames Radley to Abingdon CTA) – 1 plot
- Sustainable Blewbury (Blewbury to Streatley Downs CTA) – 2 plots
- Sustainable Leafield (Wychwood & Lower Evenlode CTA) – 1 plot
- Sustainable Woodstock (Blenheim & Ditchley Parks CTA) – 1 plot
- Sustainable Kirtlington (Lower Cherwell Valley CTA) – 1 plot
- Transition Chipping Norton (Glyme & Dorn CTA) – 3 plots

By enhancing the biodiversity and contributing to conservation of these areas of land that they manage, these CAGs are contributing to OCCs Biodiversity Action Plan.

Some of the CAGs manage land where there are high environmental quality deprivation scores (greater than 7). These plots include: Florence Park, Bridge Street Garden, Barracks Lane Community Garden, Oxford City Farm. Environmental deprivation may include high levels of pollution, poor air quality and high frequency of road traffic accidents. In these areas, the community value of land management by CAGs is particularly high. Having access to green space is likely to be especially important to residents in these areas. Urban green spaces and trees also actually helps to improve air quality.

4 Community Involvement

One of the main benefits of land management by CAGs is the involvement of volunteers and participation of the wider local communities.

4.1 Key statistics on volunteer participation

Through land-management, in the last financial year (1st April 2016- 31st March 2017) there have been **1516 volunteer hours completed which is equal to a value of £19,665.76***.

There are many benefits to the community of this high rate of participation. In addition, there have been a huge number of attendees to events and projects run by volunteers. There have been **17918 attendees** to gardening or conservation events or projects run by CAG volunteers*.

**Figures from ResourceCIT, the CAG Project's online monitoring and evaluation tool.*

Urban Green-Spaces (Hogacre eco-park, Barracks Lane, Florence Park) are shown to have many benefits to the local community, including:

- Economic value
- Positive impact on physical and mental health
- Benefits for children and young people
- Contribution towards reducing crime and antisocial behaviour
- Role in encouraging cultural, social and community cohesion
- Significant environmental benefits (biodiversity)

Active involvement of the local community in managing a site, such as a wildflower meadow, encourages ownership values to be fostered. There are significant opportunities for education and recreation abound (ranging from nature studies to art lessons). For example, the Barracks Lane Community Garden runs a social gardening group and hosts events such as bird-box making workshops. Activities like these help foster a sense of community.

4.2 Anecdotal evidence from CAGs

- **Incredible Edible Hook Norton:** “The public are encouraged to ‘scrumpt’ the fruit (mainly apples). The project is long term, to cope with the anticipated shortage of fossil fuels for transportation of food.”
- **Farmability:** “We believe that adults with autism and learning disabilities should have access to meaningful activities that improve their well-being and increase their independence, enabling them to participate actively in their communities.”
- **Sustainable Blewbury:** “All of our projects have groups of volunteers many of whom turn up regularly for working parties. The volunteers enjoy doing something that will improve the environment in a visible way. Permaculture volunteers benefit from being able to take some of the produce; although the fruit trees aren’t producing much yet, we have soft fruit and vegetables. This promotes a feeling that we are indeed a community. Some volunteers do things completely new to them: gardening, how to manage an orchard, to use the hand and machine tools used in laying hedges, etc.”
- **Sustainable Wantage Top Leak Meadow:** “We manage Top Lock Meadow as a wild flower nature reserve open to the public. It has allowed members of the public, including Beavers/Cubs to get involved. It has been planted with the aim of supporting plant pollinators and providing food for other small wildlife. It includes an 'insect hotel', bird and bat boxes and piles of cuttings to provide homes for small mammals”
- **Sustainable Wantage Market Garden:** We have brought a derelict garden back to life and it now produces a big range of fruit, flowers and vegetables. It is looked after by the service users (from The Charlton Centre & Style Acre), their carers, and volunteers from SW. We have improved the soil and have seen more invertebrate life, we encourage birds by feeding them and growing insect loving flowers, and have a pond which has frogs. The SW volunteers who attend find it helps with stress relief and companionship. They also can take home fresh veg, salad and flowers. We have workshops and open days to encourage the local community to visit and we hold the Charlton Spring Festival (now into 3rd year) to bring all the community together. The partnership works very well as each partner contributes something different but they compliment each other. Encouraging new volunteers to join is difficult but once they have started they tend to be loyal. We are working to make it a valuable asset to the local area.
- **Sustainable Didcot:** As a result of managing the park, “the community feels empowered by be able to change the town for the better and influence the environment”
- **Abingdon Carbon Cutters:** “The beds [in Abingdon town centre] are more interesting and attractive and invite public comment and appreciation. The beds are significantly more pleasing than before. Demonstrating veg beds encourages others to realise they can grow veg in small places and it

shows children how veg grows. The pollinator friendly plants provoke interest and are educational.”

- **Incredible Edible Abingdon:** “Benefits of community managed land are demonstration of how to grow a variety of edible plants in an attractive way, which are easy for anyone to grow, in any size of garden or in containers. Council maintained areas are under increasing financial restrictions, therefore not so adaptable in their ability to plant creatively/diversely. Volunteers are mainly retired women. Most enjoy gardening, working as a group with a shared goal, exercise, fresh air & a sociable atmosphere. There is inclusion of students from Larkmead School in sowing & raising a number of plants for planting out in the beds. Residents at OSH have benefitted from picking & eating the produce from the containers. Members of the public have picked the produce from the Kiosk beds. All areas maintained have received positive comments/feedback from members of the public.”
- **Sustainable Kirtlington:** “The wildflowers have been very much enjoyed by all who use the Village Hall and are full of insects all summer long. Under our guidance, the toddler group is also going to sow their own strip of insect-friendly herbs along the other end of the Hall this spring. The idea is that by starting early, and involving the children themselves, we will encourage youngsters to be aware of wildlife and respecting native habitats.”
- **Hogacre Ecopark:** “Hogacre is a much loved local space. Though it is still privately owned, the management arrangement has opened up this magical place to the wider community in a way that I think is fairly unprecedented. I believe the community-led management enables the fine balance between human intervention and *laissez-faire* to be considered and maintained at all times. The college is supportive of the community’s plans for the site. There is always an excellent turnout from the local and wider community for one-off events (Wassail, Harvest Festival etc.). The venue is also very popular for private family and communal gatherings, with sympathetic national organisations gathering here annually. It has also been used as a venue for community service, and is extremely popular with the participants. We are beginning to see the site used more for the teaching of sustainable skills such as food-growing etc. I believe the community-led nature of the management is what enables the space to be used by such a wide range of people and organisations. The biggest challenge is to tap into the local resources and engage the community in the ongoing (day-to-day) use and maintenance of the space. And to generate the more communal activities that bring larger numbers in.”

4.3 Summary of anecdotal evidence

- All of the quotes from community groups serve to illustrate the value to their communities of managing land.
- In the case of groups such as FarmAbility, helping contribute to the management of land (or farm) and the production of fruit and vegetables helps individuals to gain experience as well as allowing them to make a positive contribution to their community.
- Many volunteers (especially those that are retired) use their volunteering time as a way to socialize and meet people

- Volunteers can also gain valuable knowledge and skills through managing a garden or allotment. They may also gain by being able to acquire some of the food they have helped to produce.
- Many of the groups collaborate with schools, to educate local children about growing food and wildlife.
- Local residents appreciate the beauty of the spaces managed by CAGs
- Overall, land management by CAGs helps to strengthen and enhance the life of communities

4.4 Other social benefits

Although there are huge benefits to communities of management of areas such as community gardens, volunteers and participants may also gain on an individual level.

University of Exeter in 2013 ('Green spaces may boost wellbeing for city dwellers') found that people living in urban areas with more green space tend to have greater wellbeing than those that don't have parks, gardens or other green space nearby.

In addition, Oxford City Council stated in their 2013-2027 Green Spaces Strategy that evidence shows a walk in green spaces can significantly reduce risks of heart attacks, strokes, diabetes, and other health problems. Stress and mental health are less measurable but certainly alleviated by green space access. They then put forward an objective to support community involvement: 'To support [...] community involvement in the design and stewardship of green spaces'. CAGs actively contribute to this objective.

There is further evidence from a study conducted in 2016, that there are health and well-being benefits to allotment gardening. Their findings indicate that one session of allotment gardening can result in significant improvements in self-esteem and mood via reductions in tension, depression, anger and confusion^{vi}. This suggests that allotment gardening might play an important role in promoting mental wellbeing in people residing in urban areas, in addition to the benefits of physical activity. This further emphasises the importance of land management by CAGs for communities and volunteers.

5 Recommendations

Through compiling the evidence for this report, several downfalls in the amount of data available were identified.

5.1 Productivity calculations

An estimate of the productivity of land managed by CAGs was calculated. However, this was calculated using a figure for productivity (£3.50 per square meter) taken from a report by Sustain on the productivity of urban growing spaces in London. This may not be a good reflection on the amount of food produced by CAGs in Oxfordshire.

In order to obtain this figure for productivity, Sustain set up a 'Harvest-ometer'. Volunteers recorded the type and weight of fruit or vegetables they produced after every harvest. They then created a harvest log

and at the end of the month, year etc. they were able to calculate the total value of food produced. They then calculated the productivity by dividing this value by the total area of the growing space

This is really simple model that could easily be introduced to the CAG network. Through ResourceCIT, CAGs members are already able to log the number of hours or volunteers involved in their events. It may be possible to extend this tool to be able to log the amount of food they are producing. If this is not possible, another strategy may be to encourage groups to keep a log of all of their produce, which could then be shared at the end of each month and the total value of produce could be calculated.

Here is an example of how a spreadsheet or Google-doc may be arranged to record the productivity of plots managed by CAGs:

	A	B	C	D	E	F	G
1	Plot:	Area Covered:					
2	Stone Hil Community Garden	4046					
3							
4							
5	DATE:	Food Item	Weight (kg)		Total for the Month (kgs)		
6	12/03/14	Apples	10		20		
7	15/02/14	Potatoes	2.5				
8							
9							
10							
11							
12							
13							
14							
15							

Example productivity record

Sustain has a list of the average value of produce- this would be used to calculate a measure of productivity.

5.2 Biodiversity Calculations

13 of the plots managed by CAGs are maintained as green spaces. The volunteers work to increase the biodiversity of these plots, for example, by growing wild flowers or installing 'bug hotels'. However, at the moment we don't measure precisely how these actions have had an impact on local biodiversity

There are several ways in which data on biodiversity outputs could be collated. There are many tools/ surveys that can be used to calculate biodiversity. These include:

- Biodiversity Index Calculator: <http://www.biodiversityindex.org>. This is an online tool that allows groups to calculate the biodiversity index of their plot of land. The input of information required is habitat size and type, vegetation structure count and leaf shape count. This tool is easy to use and the survey required are simple to carry out.
- OPAL Biodiversity Survey: <https://www.opalexplornature.org/biodiversitysurvey>. This is also an online tool used to calculate the biodiversity of hedgerows. This may be particularly relevant to

groups, such as Sustainable Blewbury, that manage hedgerows. Again, it is designed to be easy to use.

Species surveys are also an effective way of seeing whether land management has improved the biodiversity and encouraged wildlife in their areas. There are several citizen science projects running in the UK that aim to track the abundance of particular animals or trees. Here are just a few examples:

- Ancient Tree Spotting (The Woodland Trust): <http://www.ancient-tree-hunt.org.uk>
- BeeWatch (Bumblebee Conservation Trust): <http://bumblebeeconservation.org/get-involved/surveys/beewatch/>
- Big Butterfly Count: <http://www.bigbutterflycount.org>
- British Dragonfly Society: <http://www.british-dragonflies.org.uk/content/submit-records>
- Bugs Count: <http://www.opalexplorenature.org/bugscount#english>

As well as being able to provide groups with a measure of their success in enhancing biodiversity on the land that they manage, conducting biodiversity is also an activity that can engage and strengthen the local community. They can be carried out by local CAGs, or could be used as a way to educate local children about wildlife.

It would be useful for groups to keep a log of the species present in their plots, the habitat types and any details of surveys completed. The most effective way of quantifying the total biodiversity output of all the plots managed by CAGs would be for them all to carry out a general biodiversity survey - The Biodiversity Index tool. This survey could be carried out once a year. This would allow CAGs to track the progress they make over the long term.

The Oxfordshire County Council's Biodiversity Action plan identifies priority species and habitat types. CAGs may also wish to record whether the land they managed contains any priority species, or is a priority habitat for the BAP.

6 Conclusions

To summarize, there are many ways in which the management of land by Community Action Groups benefits communities, individuals and the environment throughout the county of Oxfordshire. These are presented in the figure below:

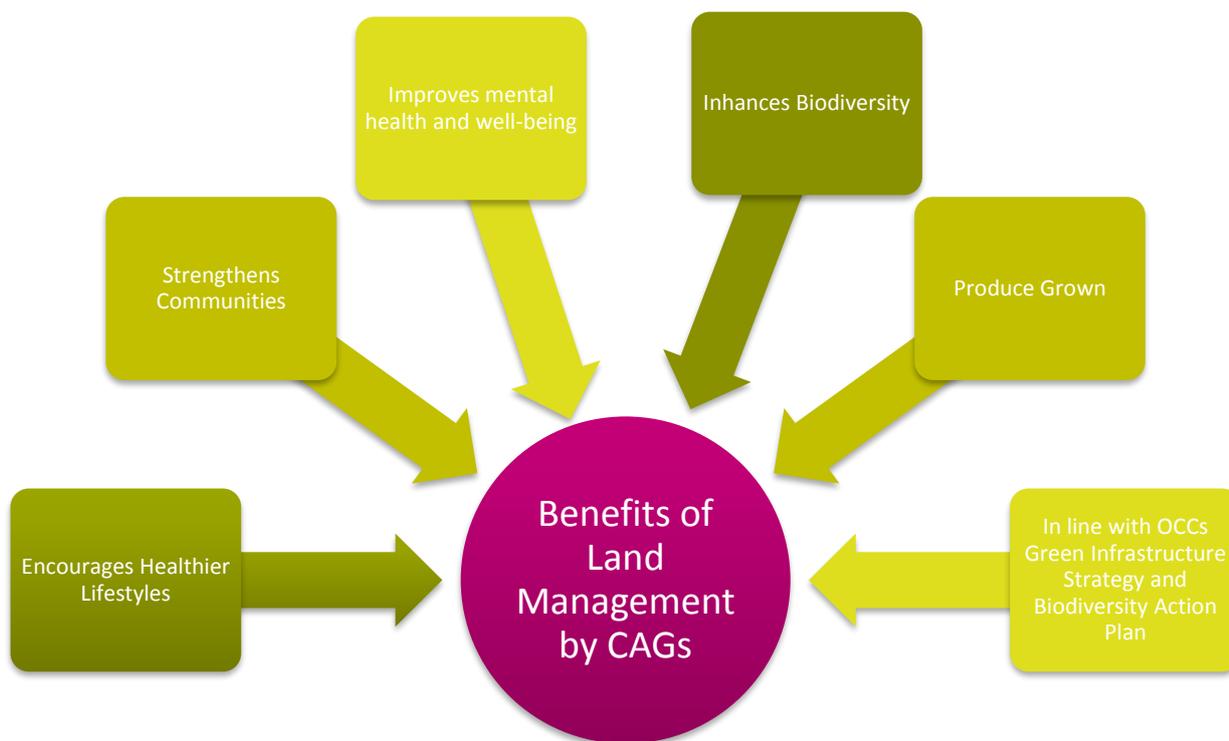


Diagram showing benefits

The majority of the plots managed are productive so are used to grow fruit and vegetables. It is estimated that in the last two years, £170,000 worth of produce was grown on plots managed by CAGs in Oxfordshire. This is a significant financial saving. There are also other benefits to local food production, including reducing food miles and encouraging healthier lifestyles for those that consume the produce. In the future, it would be useful to be able to get a more accurate measure of the amount and value of produce growth by CAGs.

Many of the plots managed by CAGs are managed as green spaces. In these areas, biodiversity is encouraged. There are many examples of CAGs that fall in line with South Oxfordshire District Council's Green Infrastructure Strategy, as well as the Oxfordshire County Council Biodiversity Action Plan. The maintenance of natural habitats enhances the local area and encourages wildlife to inhabit the green spaces. Some of the plots are located in or very close to Conservation Target Areas. By improving biodiversity in these areas, the CAGs are directly contributing to the aims of the Biodiversity Action Plan. The management of land for biodiversity also provides a great opportunity for education, through citizen science projects that aim to assess the biodiversity of the site. Some of the groups, such as Oxford Conservation volunteers, manage land owned by local councils, which would otherwise not be actively maintained for biodiversity. Here, activities by CAGs are significantly improving the biodiversity of these sites, although at the moment this impact has not been quantified.

The main benefits identified were to the community. In many cases, the management of land has been used for recreation or educating local children about growing food. In addition, coming together to manage a plot of land builds a sense of group responsibility and ownership, which strengthens the local community. The community also benefits from the aesthetic value of the land managed, as illustrated by the quote from Abingdon Carbon Cutters: 'The beds are more interesting and attractive and invite public comment and appreciation. The beds are significantly more pleasing than before.'

Taking part in activities such as gardening has been shown to improve both physical and mental health. In addition, it is thought that stress and mental health are alleviated with access to green space. This may be particularly important for areas that have a high environmental deprivation score- many of the community gardens etc. are located within these areas.

In conclusion, this report identifies **six principle benefits of land management** by Community action groups:

- Enhances Biodiversity
- In line with OCCs Green Infrastructure Strategy and Biodiversity Action Plan
- Produce Grown
- Strengthens Communities
- Encourages Healthier Lifestyles
- Improves mental health and well-being

ⁱ Reaping Rewards II, Sustain (2014) <https://www.sustainweb.org/secure/ReapingRewardsII.pdf>

ⁱⁱ Curtis, T. (2013) FoodPrinting Oxford: How to Feed a City. Oxford: Oxford City Council on Behalf of Low Carbon Oxford. <http://goodfoodoxford.org/wp-content/uploads/2014/02/Food-Printing-Oxford-Report-2013.pdf>

ⁱⁱⁱ Edmondson et al. (2014) Urban cultivation in allotments maintains soil qualities adversely affected by conventional agriculture, *Journal of Applied Ecology*, 51, 880–889

^{iv} Forestry Research UK, Benefits of Green Space, Wildflower Meadows (Accessed 14/03/17) <https://www.forestry.gov.uk/fr/urgc-7edjrg>

^v Haaland et al. (2011), Sown wildflower strips for insect conservation: a review. *Insect Conservation and Diversity*, 4: 60–80

^{vi} Carly J. Wood, Jules Pretty, Murray Griffin; A case-control study of the health and well-being benefits of allotment gardening. *J Public Health (Oxf)* 2016; 38 (3): e336-e344. doi: 10.1093/pubmed/fdv146