

# case 08

## Productivity and resilience through a cooperative, agroecological, community-supported market garden in the United Kingdom

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Sustainable Development Goals:



ZERO HUNGER



DECENT WORK AND  
ECONOMIC GROWTH



CLIMATE ACTION



LIFE ON LAND

SOUTHERN ROOTS ORGANICS IS A COOPERATIVELY RUN MARKET GARDEN USING AGROECOLOGY TO ADDRESS CHRONIC ISSUES FACING SMALL-SCALE FARMERS IN THE UNITED KINGDOM (UK). IT IS AN ACTIVE PART OF THE LANDWORKERS' ALLIANCE, A GRASSROOTS UNION OF FARMERS, GROWERS AND LAND-BASED WORKERS IN THE UK WHO SHARE A VISION OF A FOOD SYSTEM BASED ON AGROECOLOGY AND FOOD SOVEREIGNTY.



Community farm day and squash harvest showing crop diversity in the field. (Photo credit Dee Butterly)

### THE LOSS OF THOUSANDS OF SMALL FARMS

In the UK, lack of support for small-scale farming is having a detrimental impact on the farming population, ecosystems, communities and local economies.<sup>1</sup> The UK has one of the highest levels of concentrated land ownership<sup>2</sup> and inflated land prices in the world.<sup>3</sup> Between 2005 and 2015, almost 30,000 English small to medium-sized farms closed down or were consolidated into larger holdings (Figure 2).<sup>4</sup> The average farmer's age is above 60.<sup>5</sup> Many farmers live in poverty or in precarious economic situations as the food market become increasingly concentrated.<sup>6</sup> Farmers receive less than ten per cent of the value of their produce sold in supermarkets<sup>7</sup> and eight supermarkets control over 95 per cent of the food retail markets.<sup>8</sup> Meanwhile, industrial agriculture continues to rely on unsustainable inputs of fossil fuels and chemicals that are contributing to climate chaos and jeopardising the future of food production. The UK already has low self-sufficiency in food, producing only 60 per cent of its needs.<sup>9</sup>

### MARKET GARDEN FARMING BASED ON AGROECOLOGY AND FOOD SOVEREIGNTY PRINCIPLES

Southern Roots Organics, located in in South West England, is a 2.5-acre organic market garden that uses the ecological, economic and social principles of agroecology and food sovereignty to address the problems faced by farmers across the UK. Southern Roots Organics aims to provide local communities with good, healthy and nutritious food that is produced sustainably and in harmony with the land and ecosystems.

Southern Roots Organics is based on a Community Supported Agriculture (CSA) scheme: the farm has a contract with local customers in which the responsibilities, risks and rewards of farming are shared. In practice this means that customers sign up and commit to a weekly box of fresh vegetables for the duration of the growing season. This provides the farmers with a guaranteed market and stable, regular income, while also supporting the local economy. In addition, throughout the growing season customers are invited to participate in open farm days and other events. Southern Roots Organics supplies 50 local households and over 20 independent, local greengrocers, cafes, farms shops, caterers and restaurants. The farm is structured as a co-operative and provides a living wage income for four new entrant farmers.

Southern Roots Organics uses knowledge and practices that have been developed by small-scale farmers and peasants around the world. The farm uses a mixed rotation system to grow over 50 types of vegetables and 200 varieties. It grows rare and heirloom seed and vegetable varieties, helping to preserve and strengthen threatened species. It also raises all its own seedlings and saves seeds from specific crops to improve their performance. A wide range of flowers and herbs are planted to attract bees, insects, birds and other pollinators and create equilibrium in the farm's ecosystem. Southern Roots Organics is minimising external inputs and working towards a 'closed loop farm system'. Compost is made from the farm's plant waste, animal manure and hay. Water comes from the farm's own spring. No chemical pest or disease control products are used.

The principles of social ecology are also an important feature of Southern Roots Organics' CSA model. The farm provides meaningful work opportunities and a living wage to new entrant farmers. By selling directly to households in the local area, the farm is supporting the local economy.

### PROTECTING AND INCREASING SMALL-SCALE AGROECOLOGICAL FARMING CONTRIBUTES IS KEY TO SDGS

Protecting and increasing small-scale agroecological farming, creating meaningful farm livelihoods, re-distributing land, reinvigorating short supply chains and supporting industrial farms to transition to agroecological practice are key to achieving many Sustainable Development Goals (SDGs).

Southern Roots Organics' agroecological farming is contributing to SDG 2 Target 2.4 of ensuring sustainable food production systems. The farm makes use of on-farm fertility by composting plant and animal wastes and applying it to the soil. Leguminous 'green manure' crops and cover crops are grown to provide a sustainable source of minerals and nutrients for the soil so that vegetable production requires no external inputs of nitrogen, fertilisers or nutrients. Nitrogen fertilizer production uses large amounts of natural gas and some coal, and can account for more than 50 per cent of total energy use in commercial agriculture.<sup>10</sup> Crop rotation is also key for increasing the resilience of the production system, biodiversity, ecosystem habitats and soil health, and reducing the energy requirements of the farm. Over 200 varieties of 50 crops are grown in a rotation each season. Crops are

grouped by their biological family, pest and disease pressures, fertility needs and harvesting schedule, and then rotated around the field. The combination of diversity and rotation significantly reduces pest and disease, so that chemical controls are not necessary. And given that nearly 15 per cent of overall total energy used in agriculture is attributed to pesticides, the method not only increases productivity but also significant energy savings.<sup>11</sup> Research carried out by the Landworkers' Alliance on 69 farms has shown that small-scale agroecological farming using these techniques can achieve higher yields than conventional and large-scale organic production for a number of crops.<sup>12</sup>

As a result of climate change, UK agriculture is facing both extreme droughts during the summer and unpredictably wet and cold weather during the early spring. Southern Roots Organics' agroecological practices contribute to SDG 13 Target 13.1 as they strengthen resilience and adaptive capacity to these challenges. Applying compost builds soil organic matter, thus increasing the capacity of the soil to retain moisture and support crop growth. Growing a very wide range of crops allows the farm to spread the risk of crop failure due to a volatile climate. Moreover, growing lots of crops in a relatively small area makes use of different plants' rooting depths and moisture needs, thus allowing better plant growth than would be possible in a monoculture. Plants are also inoculated with mycorrhizal fungi, creating a symbiotic relationship with plant roots which allows the plants to access water from much greater depths, which is essential in summer droughts. In the 2018 drought, for example, conventional growers lost around 20 per cent of their yields on crops, including potatoes, onions and carrots.<sup>13</sup> Southern Roots Organics, however, suffered no perceptible yield decreases of these three crops, nor of the majority of other crops grown.

Southern Roots Organics also uses a combination of measures to reduce the impact of unpredictable weather in early spring. While conventional growers who buy all of their plants on contract cannot adjust

their planning time, Southern Roots Organics can time its sowings according to the weather by growing all seedlings in the farm. The farm also uses polytunnels for under cover cropping and overwinter mulching systems so that some areas of the field are ready to plant in spring without needing to plough, which causes severe soil damage in wet conditions.

Taking urgent and significant action to reduce the degradation of natural habitats and halt the loss of biodiversity (SDG 15 Target 15.5) is crucial. The UK has lost more than 44 million breeding birds in the last 50 years<sup>14</sup>, including a 95 per cent reduction in populations of tree sparrow, 40 per cent decline

in lapwing, 52 per cent decline in skylark and a 54 per cent decline in linnet numbers since the 1970s.<sup>15</sup> The causes include a loss of habitat – over 200,000 miles of hedgerow have been removed between 1947 and 1990<sup>16</sup> – and an increase in monocultures, pesticides and herbicides that disrupt the food chain. Meanwhile, soil damage from erosion, degradation and compaction seriously damages soil habitats and is estimated to cost £1.2 billion a year.<sup>17</sup>

Southern Roots Organics takes a proactive approach to habitat restoration on the land we manage. These techniques include managing soil to maintain its health and prevent damage of soil habitats; maintaining and planting hedges and shelter-belts to provide habitat for wildlife; and leaving crop residues standing to provide winter feed for wildlife. In addition, the farm maximises diversity in the field. Southern Roots Organics also focuses on SDG 15 Target 15.6 of promoting fair and equitable sharing of the benefits arising from the utilisation of genetic resources and promote appropriate access to such resources, as internationally agreed through being part of the South West Seed Savers Co-operative (SWSSC) – a seed production group in the South West of England, supported by the Gaia Foundation's Seed Sovereignty programme.<sup>18</sup> The SWSSC trains farmers on how to produce and save seed, and integrate seed saving into crop plans to improve the availability and range of open pollinated and heirloom seed varieties and seed adaptation to the UK climate. It is one of several initiatives to retrain farmers in the vital but dying

***“The practices and principles we use on our farm are some of the most ancient and traditional ways of producing food in harmony with the earth and our communities.”***

knowledge of seed production and seed saving in the UK. A national network of small-scale seed producers is being built to counter the loss of seed varieties and the increased control, concentration of ownership and patenting of seed by multinational corporations.

Finally, the co-operative CSA market garden business models, like that of Southern Roots Organics, can provide collectively managed, part-time income and meaningful work for farmers, thereby contributing to productive activities, decent job creation, entrepreneurship, creativity and innovation (SDG 8 Target 8.3). The farm is increasing productivity and income by creating secure and reliable local markets based on community involvement and direct sales. This helps the farm avoid the fluctuations of price and demand that characterise national and international commodity markets and is a common strategy used by small-scale agroecological producers.

Producers selling directly to local markets gain a higher share of the retail price, thus making smaller enterprises more profitable. Locally-owned and operated businesses are also more likely to circulate and return money spent in their operations back into the local economy, which creates a multiplier effect.<sup>19</sup> Additionally, local food systems encourage enterprise development and diversification, creating new jobs and teaching people new skills. It is estimated that spending in local food and farming businesses generates ten times the local economic wealth<sup>20</sup> and three times the number of people in employment compared with spending in supermarkets.<sup>21</sup>

### OPPORTUNITIES

Southern Roots Organics is actively involved with the Landworkers' Alliance (LWA), a union of small-scale farmers.<sup>22</sup> LWA was established in 2012 and already has a membership of over 1,000 small-scale



Polytunnel with companion plants to attract pollinators. (Photo credit Dee Butterfly)

farmers who are committed to agroecological and food sovereignty principles. Many members are new entrant farmers and the majority of organiser roles are held by women. To spread agroecological and food sovereignty principles, LWA members are developing a training programme and exchange network. This includes farmer-to-farmer exchange groups, best practice guidelines for traineeships and on-farm apprenticeships, farm-start incubator farms, mentoring schemes and accredited agroecology training schemes. These efforts are in response

to the chronic lack of formal learning and training opportunities in agroecological practices for farmers. LWA also campaigns and lobbies at a national level for government recognition and support of agroecology. The Alliance advocates for state support of farmer-led education programmes and capital grants to support new entrants and local food systems. Institutional support is essential to ensure food sovereignty and an agroecological food farming system that is resilient to climate chaos and sustainable for generations to come.

Figure 2: Numbers of commercial holdings by size of farmed land in England (in size groups), June Survey.<sup>4</sup>

Size band	Number of holdings/hectares (thousand)				Change (+/-%)	
	2005		2015		2005-15	2005-15
	Holdings	Hectares	Holdings	Hectares	No of holdings change	Aerea of holdings change
Under 20 hectares	57.9	426.9	38.5	318.4	-33.5%	-25%
20 to under 50 hectares	26.3	869.5	20.5	685.0	-22%	-21.2%
50 to under 100 hectares	21.5	1,544.8	19,0	1,372.3	-11.6%	-11.1%
100 to under 200 hectares	16.4	2,284.2	15.2	2,131.2	-7.3%	-6.7%
200 hectares and over	10.4	4,043.	11.0	4,485.0	+5.7%	+10.9%
<b>Total</b>	<b>132.4</b>	<b>9,168.4</b>	<b>104.2</b>	<b>8,991.8</b>	<b>-21.3%</b>	<b>-1.9%</b>



## NOTES

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Mixed Brassicas in rotation block showing crop diversity. (Photo credit Dee Butterly)

