

END OF AWARD REPORT

Please complete and return this form by 31st March or within 2 months of project completion.

Please note this information may be made available to the public.

Receipts (or good quality scans of receipts) should also be submitted with the report.

PROJECT DETAILS	
Name of Group: Rhyze Mushrooms	
Main Contact person: Marco Tenconi	
Postal Address (if relevant): Click or tap here to enter text.	
E-mail address: marco@rhyzemushrooms.org	
Date of Grant Award: March 2023	
Amount of Grant Award: £9,900	
Additional funding received: None	
Source of additional funding:	
Briefly describe your project aims (please refer to your original application and also note any later changes/developments to the project):	
<p>The aim of our project was to build three miniature mushroom farms for three community cafes in Edinburgh. The aim was to train volunteers from the community spaces to autonomously manage the miniature farms and grow fresh mushrooms using waste from the cafe, creating a circular loop whereby food can be produced sustainably year round indoors.</p>	
PROJECT DELIVERY	
Did your project achieve its aims? (please tick all that apply)	
<p>Fully <input type="checkbox"/></p> <p>Partially <input checked="" type="checkbox"/></p> <p>Not Really <input type="checkbox"/></p> <p>Still Working on it <input type="checkbox"/></p> <p>Achieved other unanticipated outcomes <input type="checkbox"/></p>	
SPENDING YOUR GRANT AWARD	
Please give details of all the items funded by the grant. Copies of receipts for all expenditures must be supplied.	
Item	Cost
90 x 3kg bags of oyster mushroom spawn produced by Rhyze	2,430.00
Staff hours: Consultation and design hours (40)	600
Staff hours: Farm build, installation and maintenance 140 hours	1,8750
Staff hours: Workshop facilitation (21 sessions)	2,100
Acrylic for windows	172.08

Amazon lights and other fixings	47.87
B&Q Varnish	24.29
Buckets	56.10
Buckets	109.32
Inkbird Sensors	121.68
Fogger/humidifier	31.32
Extension lead and fixings	28.9
Humidifier	86.85
Humidifiers 2	86.9
Information Boards	55.31
CO2 monitor	89.99
Larch board cladding	161.39
Mitre saw	64.98
Timber MKM	133.74
OSB	41.08
Tools and fixings Screwfix	317.1
Fan and fixings screwfix	90.97
Fixings	14.62
Fiings	64.59
Straw pellets	287.68
Timber	139.72
Timers	68.97
Ventilation parts	389.03
Webbing	24.3
Wickes plywood	27
Total grant amount spent by your group	£9,990

How many people were involved in delivering the project?	
Paid Staff:	4
Volunteers:	50
Volunteer hours:	200+ and ongoing
IMPACT	
Criterion 1: Create opportunities for community leadership and learning on climate change	
If relevant, please tell us how your project met criteria 1 of the fund (300 words max):	
<p>Through this project we were able to educate over 50 people in different parts of Edinburgh on issues of climate change and sustainable food production. The project involved running a series of workshops at the three community cafes we collaborated with. The workshops were focused on mushroom cultivation as a means of creating more sustainable food systems but also included discussion on wider issues of sustainability and food.</p> <p>By empowering people to grow their own food in their communities, and by encouraging volunteers to manage the micro farms we believe we create significant opportunities for both leadership and</p>	

learning. The aim of the project was to empower people to take action by giving the skills, resources and materials to grow their own food from local waste. We succeeded in this aim because the mini farms are now being run autonomously by local people.

Criterion 2: Reduce greenhouse gas emissions within communities and contribute to the net-zero agenda for Edinburgh

- **Qualitative assessment: If relevant, please tell us how your project met criteria 2 of the fund (300 words max):**

Food production is a major driver of global greenhouse gas emissions due to transport emissions, land use change and high levels of methane emission from food waste. Because of our northern latitude, the Scottish food system is particularly dependent on carbon intensive imports through the winter. Mushroom cultivation can be produced all year round, and harvested very regularly allowing communities to grow and harvest their own food at a time when very few vegetable crops can grow.

Moreover, Because mushrooms can be grown vertically in marginal spaces, they do not compete for land use with trees or plants, moreover they can be grown on waste and reduce methane emissions from landfill or composting sites.

Beyond the mushrooms grown at the farms we built for the three community spaces, we shared mushroom cultivation skills with a wide range of volunteers in those spaces, some of whom have gone on to also grow mushrooms in their own gardens or with other community groups, creating more year round sustainable food opportunities.

Click or tap here to enter text.

- **Quantitative assessment: If relevant, please provide an estimation of carbon savings or any relevant data that could inform the estimation of carbon savings (e.g. Avoided emissions from purchasing new mushrooms: 1 kg of UK mushrooms (within 300 miles) generates an average of 4.68 kg of CO₂e (assuming self-grown mushrooms have negligible emissions). See [TUCO GHG calculator](#) (cafes can specify what type of mushrooms they would have purchased otherwise – which origin)**

Carbon savings from this project are created by displacing other less local and less sustainable food sources. The oyster mushrooms grown would not necessarily be displacing regular button mushrooms. Oyster mushrooms have quite a different texture and are more versatile and can therefore be used more effectively than button mushrooms as meat substitutes. In this instance they would have significantly higher greenhouse gas reductions.

The current average harvests from the three farms are as follows:

Bridgend: 10 kg a month → 46.8kg of CO₂ saved

Scran: 4kg a month → 18.72 kg of Co₂ saved

ONC: 6 kg a month → 28.08 kg of Co₂ saved

Total average CO₂ saved: 93.6 kg / month

The current levels of harvest are steadily increasing as the volunteers become more confident in mushroom cultivation, which suggests this number could increase. This monthly output will fluctuate but I have every hope and confidence the farms we built will last many years and produce these carbon benefits for a long time to come.

Criterion 3: Generate sustainable projects for the benefit of local people to build resilience or adapt to climate change within communities.

If relevant, please tell us how your project met criteria 3 of the fund (300 words max):

As noted above, indoor controlled mushroom cultivation is a very accessible, sustainable and resilient form of food production. Growing food from local waste is much more resilient than using imported substrates and much more sustainable in general than consuming imported foods. Mushrooms have a very short cropping cycle and someone can harvest their own food only a matter of weeks after having learnt how to grow them. Moreover, because they are grown in sheltered structures they are much more resilient to increasingly common extreme weather events like droughts or hail storms.

The farms we have built are a community resource where people can come together and learn how to grow mushrooms. The volunteers managing the farms at Bridgend and Oxfangs Neighborhood Centre have started running regular 'mushroom clubs' where they share the skills they've learnt with new people, proving that the model is also socially resilient.

Criterion 4: Build relationships between neighbourhoods of different socio-economic and ethnic backgrounds to work together on just, equitable and accessible climate and resilience activities contributing to the city's net zero agenda, also ensuring that activities work towards reducing or removing barriers for disabled people in the transition to net zero.

An initial aim of this project was to connect the three community groups involved and create a network in three neighborhoods of Edinburgh who could share their experiences of mushroom cultivation and learn from each other. Unfortunately with the funds allocated we were unable to achieve this objective. However we do feel that this project did help to reduce barrier for disabled people in the transition to net zero.

Mushroom cultivation is a very accessible form of food growing, it can be carried out indoors or in sheltered spaces and on tables, without the need to work outdoors in difficult weather and without the need to bend over or navigate narrow spaces. As well as being physically accessible, the relative simplicity and fast growth cycle of mushrooms can make their cultivation appealing to people with different kind of learning difficulties or disabilities. A lot of the young people working at SCRAN have ADHD and have short attention spans. The fast growth of oyster mushrooms, immediately in front of them inside their cafes caught their attention and helped to engage them in a food growing activity.

Tell us about the people who benefitted from your project. Please provide quantified metrics where possible e.g. Overall numbers of groups/people, Number of events/workshops organised, Number of charities/groups engaged in the project, etc.

This project engaged with three separate community projects in Edinburgh. Bridgend Farmhouse is a community centre, cafe and garden in Craigmillar, they run a variety of activities for local people including gardening volunteering, crafts activities, art projects, a bike workshop and a wood working space. The Cafe, garden and activities are run by both volunteers and staff. Their cafe is open 4 days a week.

We organised seven workshops with Bridgend, including a visit to our farm that was attended by 13 regular volunteers and staff from the garden and the woodwork teams. Attendance at the workshops organised at the farmhouse varied, with the initial two being attended by 20 people, and the final workshops focused on a smaller core of regular volunteers who would go on to manage the mini farm. The volunteers there are now organising their own drop-in sessions teaching new people how to get involved in the project, so further events are taking place and more people are being reached. Because Bridgend Farmhouse also has a woodworking project and woodworking volunteers, they were also involved in the building of their farm.

Oxgangs Neighbourhood Centre (ONC) is a community centre in Oxgangs. It hosts and organises a variety of classes and activities for the local community and runs an important local food bank. Their cafe is open four days a week and offers affordable healthy food to local people. We organised seven workshops with ONC, covering a wide range of mushroom cultivation topics relevant to the management of the mini farm. These were attended by an average of 8 people. The chef of the cafe at Oxgangs has been very involved in the project which creates an excellent closed, short loop between the growing of the food and its use as well as the use of waste coffee from the cafe.

SCRAN Cafe is a cafe run by SCRAN an organisation that create job and live opportunities in catering and food industry for young people struggling with mainstream education. Their Cafe is set in an NHS training centre and is managed by a combination of staff and young people. We had 15 people from SCRAN come to our farm for a tour and initial workshop but the ongoing work has focused with the people staffing the cafe which is a smaller team.

This project has benefited all the volunteers and staff who took part across the three sites and who developed mushroom cultivation skills. It also benefited customers of the three cafes who have been able to see the mushrooms grow and eat healthy hyperlocal mushrooms sold on the cafe menu.

A number of our own (Rhyze Mushroom) volunteers were also involved in the delivery of this project, assisting with the building of the three miniature farms. In particular we held a series of 5 volunteer sessions in the summer of 2023 to help build the Bridgend mini farm as this was the largest structure. We used these volunteer sessions as opportunities to teach volunteers basic tool competency. All the volunteers involved were women with limited DIY or carpentry experience who gratefully appreciated and benefited from the opportunity to receive training to use basic tools like hand saws.

Tell us about any other outcomes achieved. e.g. What changes and/or benefit(s) did your project bring? What did people feel was the most important or valuable aspect of your project?

Following the initial workshop we delivered, wherein participants were given materials to grow mushrooms at home, a number of participants in the project noted how special and important it was to them that they were able to grow food within their own homes using mushroom cultivation, particularly people who do not have gardens or private access to green space.

An unexpected outcome of the project is the number of people involved in the project who quickly began not only cultivating mushrooms in their own homes, but also developed their own experimental techniques, going beyond the training provided. For example one participant designed a special system allowing him to use his daily coffee for cultivation without freezing or pasteurising them.

Another outcome that was very significant to participants and that numerous people noted was the ability to grow food year-round. Many of the people involved in the project especially at Bridgend, are involved in community food growing projects which significantly slow down in winter when very little can be sown or harvested, being able to grow and harvest mushrooms every week felt incredibly valuable in this context.

A further indirect outcome from the project was the new relationships it helped develop and the people it drew into different spaces. A number of people involved at Bridgend and ONC who are local to those spaces had never engaged with the community centres until they saw our project advertised. Because the spaces are being managed collaboratively by groups of volunteers it has also created opportunities for new friendships and working relationships in these communities.

LESSONS LEARNED

What worked well and what could have been improved?

Although the programme went very well we did encounter some significant challenges. These challenges were all rooted in a common issue which was poor communication between ourselves and our partners.

When we first put together the bid for this project we had 30 minute long phone calls with the three partner organisations during which we explained the parameters of the proposed project and received positive feedback and an eagerness to be involved. However at the point of implementation we found that the partner organisations had either underestimated the input necessary from their end or had not communicated well within themselves to ensure what we had originally proposed would work.

Once we began implementing the project it became clear that the communication had not been thorough enough. For example, in our original proposal and costing we had envisaged creating three similar if not identical structures for the three projects, allowing us to significantly reduce material and labour costs. In reality however we had to build 3 distinct and bespoke structures. We thought all three structures would go indoors, but one structure had to be designed to work outdoors which significantly increased costs and design time.

Similar difficulties were encountered with other aspects of the partnerships including promotion of the project. The relationship with Scrان Academy in particular has been challenging as the partner organisation has struggled to find capacity to maintain their mini farm, meaning we have had to come and do a lot of maintenance beyond the hours we were funded for.

There is a risk when you call a potential partner organisation offering to facilitate a free series of workshops that people will agree to it and sound enthusiastic because

We had considered doing an open call for community spaces who wanted to partner with us, which would have helped to select for more enthusiastic and prepared partners however we felt this would discriminate towards community spaces that were more organised and more 'online'. We wanted to also work with community spaces that maybe would benefit more from increased activity and more things to do.

More generally these challenges along with other ways in which we underestimated the work needed to carry out this project, have meant that we have had to put many more hours into the project than originally projected. As we could not find any further funding to cover these hours we have effectively had to put many hours of unpaid work in to see it through.

A lot of our challenges were also caused by the relatively tight time frame to deliver the project, 12 months was realistically not enough to design the farms, train the volunteers to use them and then see them in use and the ongoing support needed to do that. We inevitably will now continue to support these projects with advice and in person maintenance that is not funded and therefore unpaid work.

EQUALITIES AND DIVERSITY

Were people with [protected characteristics](#) involved in your project? Please detail groups, numbers and the nature of the involvement. Please describe outreach efforts made to include people with protected characteristics.

This question is unclear, there were people of a wide range of races, sexes, and ages involved in this project so of course there were people with protected characteristics involved. With regards to outreach, we chose to work with SCRAN Academy because they work with young people and we thought it would be good for one of the three projects to work with a specific demographic. Similarly Many of the volunteers from Bridgend Farmhouse that were involved in the project are adults with learning disabilities.

PROMOTION

Please attach or send (in electronic format if possible) photographic evidence of delivery of your project - this must be suitable for publication, so not showing faces.

- Yes, photos attached**
- Photos coming separately**
- No Photos**

Do you have any quotes from participants we could use or any feedback around participant satisfaction?

Quote from a volunteer at Oxfangs Neighbourhood Centre:

"I participated in some of the workshops hosted by Mim and Marco of Rhyze at The Oxfangs Neighbourhood Centre in 2024/25 and am now involved with the Oxfangs Neighbourhood Centre Mushroom Club. I got involved after seeing a poster on the ONC noticeboard when attending another class in the centre.

The workshops were enjoyable and had a perfect mix of information and practical work. They gave a good grounding in understanding the requirements and processes of mycelial growth and fruiting. As well as participating in the Mushroom Club at ONC it has inspired me to use left over cardboard and used coffee grains at home to create mushroom beds in my garden. In the ONC it is great to see the Oyster mushrooms growing on waste from the cafe and the mushrooms used in the menu. Another step towards cutting down on waste and growing our own food locally!"

Quote from a volunteer at Bridgend Farmhouse

" The mushroom project has been a very popular focus of volunteer activity at Bridgend. We have been able to introduce visitors and volunteers to the basics of Mushroom propagation and supply interested parties with starter kits when we do inoculation workshops. The Project has engaged people across the whole of Bridgend from the café, to the gardening groups and volunteers. Its also created a lot of interest in spin off applications and people investigating other techniques. The café feedback seems to be that the mushrooms are a big hit - partly as an in house grown speciality."

Quote from Scran Academy staff member:

"I am delighted to share my incredibly positive experience of working with Rhyze. I would like to highlight the excellent work of Marco and his team, who have been a pleasure to collaborate with. They have been consistently professional, friendly, and informative, making the entire process smooth and enjoyable.

What sets them apart from other organisations is their willingness to work within our boundaries and cater to the educational needs of our young people and staff. Their expertise has been valuable in creating a mushroom farm in our cafe, which has provided an excellent opportunity to engage our young people in various activities.

The entire experience was well-organised, and the team made sure to keep us informed at every step of the way. Their guidance and support have left a positive impact on everyone involved, and we are grateful for their commitment to making the mushroom farm project a success.

The Mushroom Farm in Scran Cafe is a fantastic addition to our employability cafe, providing another level of education and engagement for our young people. We look forward to continuing our collaboration with Rhyze and exploring new opportunities in the future."

FUTURE

Will you be able to sustain the initiative started with this project grant beyond this year?

Yes No Unclear as yet Not relevant (a one off activity)

If yes, please give details of how the project will be continued:

Click or tap here to enter text.

The three farms we built now belong to the three organisations we partnered with and will be long term resources for the people in those communities. We have committed to supply all three community groups with one year's worth of cultivation supplies to allow them to continue the project at no cost. After that point we will supply the cafes with cultivation supplies at cost price to help them keep the project going with minimally low costs. At Bridgend Farmhouse and Oxfords Neighbourhood Centre we have a very resilient group managing the mini farms, made up of a mix of staff and volunteers, which we feel confident can maintain momentum and ensure the project is sustainable. We are continuing to support these groups through a WhatsApp chat and If necessary we have offered to come down and offer further training or onboarding sessions but we do not think that will be necessary.

SIGN OFF

Your consent

By signing this form, I declare that I am a competent person to give consent to the City of Edinburgh Council to publish, republish or otherwise transmit still and moving images that have been submitted.

I understand that:

- **my information (including still or moving images and/or audio files will be stored electronically following with data protection guidelines**
- **information will be kept for seven years. We will not use your information/images/files after this time without asking you first**
- **I have the right to withdraw this consent at any time by contacting communityplanning@edinburgh.gov.uk**

Completed by: Marco Tenconi

Position in group: Director and Project lead

Date: 23/05/23

Please return attaching copies of receipts

Return Address communityplanning@edinburgh.gov.uk