

# The Edible Education Project

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## Executive summary

Shetland is a remote, rural community made up of 100 islands in the far north of Britain. An rising interest in 'growing your own' produce across the isles has seen individuals, families, communities and schools all seeking to increase and improve their own food production.

Transition Turriemfield is a community growing project based on the far west mainland of Shetland. Since 2009 the project has experimented with ways to increase the success of growing fruit and vegetables in Shetland's challenging environment, and now produces over 10 tonnes of fresh vegetables each year. Learning from the project is used to help encourage more individuals and groups to start growing their own.

Schools in Shetland are increasingly erecting polytunnels for their pupils to experience local food production in an onsite growing space, protected from the weather. However, teachers and parents responsible for the use and care of the growing spaces indicated a lack of knowledge and confidence and expressed concern that the polytunnels were under-utilised.

Awards for All funding was secured in January 2019 to work with four schools in rural communities across Shetland. The funding enabled Transition Turriemfield to support the schools to increase and improve year round growing in their polytunnels.

The year-long Edible Education project worked to: increase knowledge and confidence in growing and an understanding of food production for parents, community members and teachers and increase knowledge of cultivation for children. It also encouraged opportunities for: community participation and the sharing of food; involvement of families on low income; addressing food poverty at an early stage; provide a wider range of life experience for children from deprived households.

Edible Education set out to work with 4 rural community schools across Shetland however, ultimately, five schools participated. It delivered 8 x3 hour theory workshops for adults; 5x2 hour workshops for children; 5x troubleshooting sessions and ongoing support for concerns or queries.

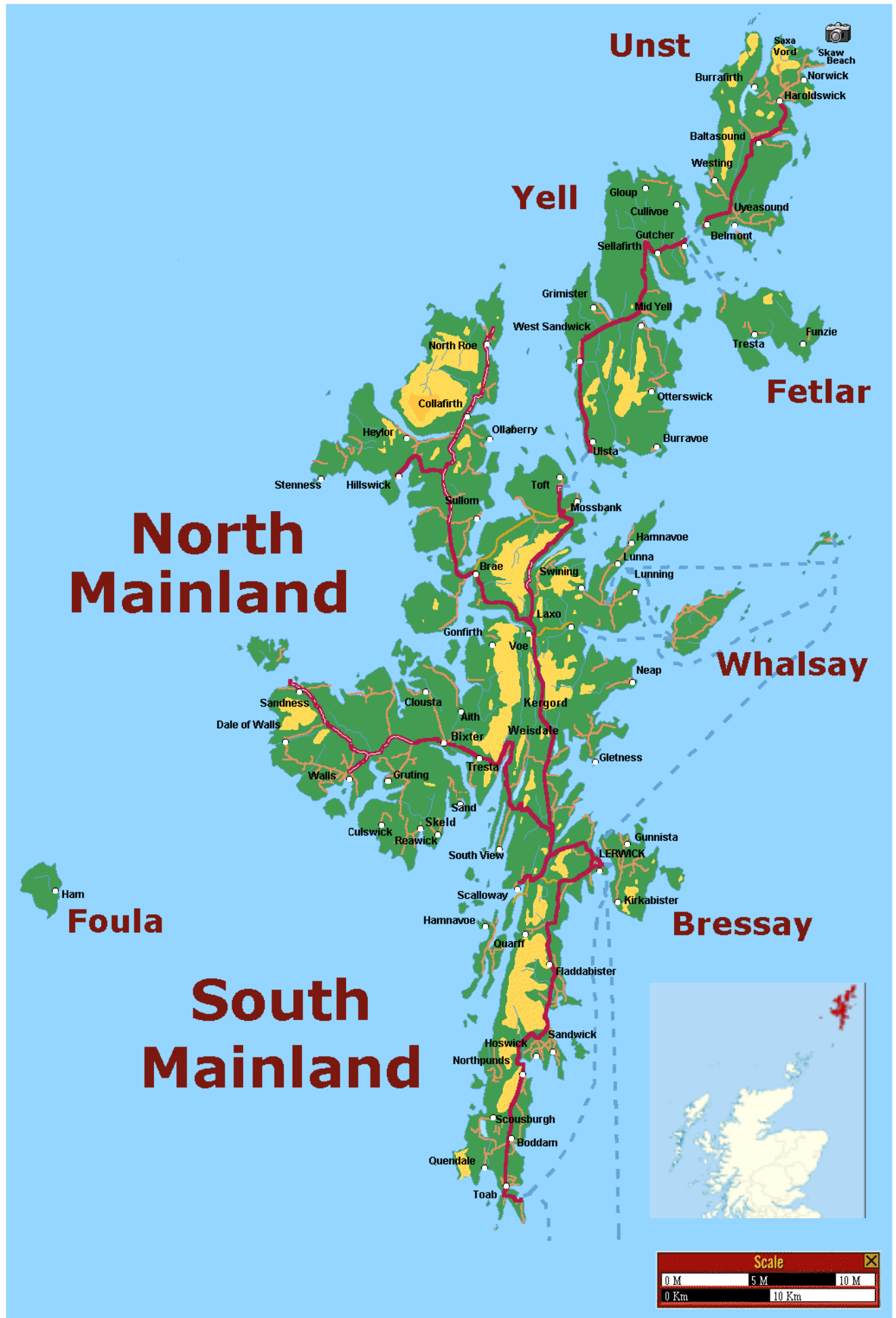
Schools participating in the project were located across a wide geographical area. Included were three schools in remote island locations who have less opportunity to access training held in mainland Shetland. Schools involved were: Whiteness and Weisdale Primary, Aith Junior High School, Mid-Yell Junior High School, Whalsay Junior High School. Cullivoe Primary in Yell participated in the Mid-Yell adult workshops and received its own pupil focused workshop. In total, 36 adults took part and 68 children. Ages of pupils ranged from 8 to 14 years old. Teachers, parents and other community members attended workshops in all communities.

Evaluation clearly demonstrated that Transition Turriemfield's input and support had been appreciated by the schools. Teaching staff felt that it had increased the variety of crops grown; extended the growing year through the winter; increased confidence of staff to work in the growing space; reinvigorated interest in growing food in the school; increased the number of pupils involved and the extent of their activity in the school's growing curriculum.

Overall expenditure of the project was £5855, slightly over the original £5571 budget and due to the increased staff time in working with the fifth school. This was absorbed as part of Transition Turriemfield's general running costs.

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# Introduction

This report outlines the work undertaken by Transition Turriefield's Edible Education project which supported Shetland schools to use their undercover growing spaces more effectively. The document describes the Shetland context and the problems associated with growing produce as perceived by school teaching staff. Project aims, objectives and methodology are detailed along with the evaluation process. Participant's own words are used to describe their views of the workshops and the outcomes and impacts on school growing and pupil involvement.

An overview of project costs is also provided.

# Background

Shetland is a remote, rural community made up of 100 islands in the far north of Britain. The majority of Shetland's fruit and vegetables are imported and the population of 23,000 relies heavily on the lifeline ferry service to bring fresh produce to the isles on a daily basis. An increasing interest in the local food movement; a wish to reduce individual and community carbon footprints and concerns about food security, in the light of both climate change and Brexit, have prompted a rise in interest in 'growing your own' produce across the isles. Individuals, families, communities and schools are all seeking to increase and improve their own food production. However, the local climate, poor soils and a very short growing season create a difficult environment for food production.

Transition Turriefield is a community growing project based on the far west mainland of Shetland. Since 2009 the project has experimented with ways to increase the success of growing fruit and vegetables year round, in Shetland's challenging environment. People of all ages, from all parts of Shetland are involved in the work and by bringing individuals together and encouraging them to engage with local food production, the project now provides the Shetland community with over 10 tonnes of fresh vegetables each year.

Through sharing learning with families, individuals, schools and community groups; providing education, training, support and advice, along with hands on experience through volunteering opportunities and site visits, confidence has increased and many more people are growing across the isles.

Schools often form the heart of small rural communities, bringing children, parents and other community members together. Schools in Shetland are increasingly erecting polytunnels to provide a suitable onsite growing space, protected from the weather, for their pupils to experience local food production. Along with teachers, Parent Council groups and other community members are frequently asked to help in the running of the growing space. Transition Turriefield has received many requests from teachers and parents seeking advice on how to use the polytunnels to the best advantage. Concerns have been raised about the growing space being wasted through under use; poor planning and cultivation; their own lack of knowledge and the incompatibility of growing seasons with the school year.

There are 24 schools in Shetland, 14 currently have polytunnels; 2 more plan to erect one in the next year. All involved want to see the community space better used and the children growing food

successfully, but lack knowledge and skills to make it work. In consultation with five schools, 8 teachers and 2 parent councils, Transition Turriemfield developed the Edible Education project.

Transition Turriemfield was awarded funding from the Awards for All fund in January 2019 to work with four schools in rural communities across Shetland, to support them to increase and improve the year round growing in their polytunnels.

## Edible Education Project

### Aims and Objectives

The project aim was to: support parents, pupils, teachers and the wider community to come together to build strong relationships and improve a growing space that matters to them; developing it to be successful and productive.

To achieve this the project would:

- Increase knowledge and confidence in growing for parents, community members and teachers
- Increase knowledge of cultivation for children
- Increase understanding of the process of food production from seed to harvest to cooking and eating

The project also provided the opportunity to:

- Encourage community participation and the sharing of food
- Highlight the benefits of involving families on low income
- opportunities to address food poverty at an early stage
- provide a wider range of life experience for children from deprived households.

### Project Overview

Edible Education project set out to:

- work with 4 rural community schools across Shetland

and deliver:

- 2x3 hour theory workshops at each school for adults focusing on undercover growing techniques & planning a growing programme, focusing on sowing, planting and harvest times appropriate to the school year and a plan tailored to their growing space
- 1x2 hour workshop for children and adults in each school in their polytunnel learning how to sow seeds, and look after plants
- 1x2 hour site visit for troubleshooting growing problems for each school
- Ongoing support via social media, telephone or email for concerns or queries

The timeline for the project was devised to fit around the school year:

Stage:

1. Late January 2019: planning and preparation, contacting schools and parent council groups
2. February, March, April: workshop delivery to fit school term dates,
3. August to November: input with pupils and help to implement growing plans
4. Ongoing support and troubleshooting available as required
5. October to January evaluation and report writing

## Method

### Planning

During the first stage of the project schools were contacted and offered the opportunity to participate. Three schools were part of the original consultation exercise, two others decided that not enough staff or community support would be in place during the timeframe of the project to allow them to make use of the input.

The three original schools demonstrated a natural geographical spread of north, central and west (Yell, Whiteness, Aith). Schools in the south of the isles, (Sandwick and Dunrossness) were sought. However, despite acknowledging a lack of skills and underused polytunnels, neither Head Teachers felt able to give their staff time to participate.

Two schools approached in Lerwick were developing growing projects specifically to engage with families on low income and were keen to participate, but the timescale of their development did not fit with the shorter Edible Education project. Further consideration of other schools with polytunnels and an awareness of the isolated nature of island communities led to offering workshops to the Whalsay School. It was felt appropriate that communities who were less likely to travel to participate in training courses in mainland Shetland should be deemed a priority.

Aith, Mid-Yell and Whalsay were organised through teaching staff, who then put out information and invitations to the community. At Whiteness and Weisdale the Parent Council organised the intervention as part of establishing a growing group for pupils. They liaised with teaching staff and the community.

### Workshops

Two workshops for each school were organised for:

- Whiteness and Weisdale Primary
- Aith Junior High School
- Mid-Yell Junior High School
- Whalsay Junior High School

All Junior High Schools also operate a primary department and staff from both primary and secondary were offered the opportunity to attend the workshops, along with parents and other community members.

A second school in Yell, Cullivoe Primary, attended the adult workshops. This was organised by the Mid-Yell staff. The North Isles (Unst, Yell and Fetlar) have a strong community ethos and often work

together to make the best use of outside resources. North Isles schools also share some teaching staff.

Theory workshops were delivered during the period March to mid-May, slightly later than anticipated; it took some schools longer to organise the events within the community. Workshops covered information on:

- how plants grow
- the impact of growing undercover
- the influence of the changing season on growth
- planning and preparation, rotation and soil improvement
- developing a seasonal growing plan specific to each polytunnel
- problem solving

Sessions were offered to be run one weekday evening or Saturday morning for two consecutive weeks, or both run back to back over a whole day. Aith and Mid-Yell chose weekday evenings, Whiteness and Weisdale Saturday mornings and Whalsay back to back on a Saturday.

Running two workshops gave good opportunity to build relationships and for participants to go away, digest and come back with questions at the second session.

Workshops were delivered in a relaxed informal way, using high levels of interactive participation. Information was put across using presentations and groupwork, where participants used and shared their own experience. Everyone was encouraged to contribute to the discussion and every effort was made to personalise the information to individual needs.

#### Pupil workshops

In response to Cullivoe Primary's inclusion in the Mid-Yell adult workshops Transition Turrieffield arranged a fifth workshop with pupils at the school. Both Mid-Yell and Cullivoe sessions were delivered on the same day, saving travel and ferry crossings. Cullivoe was visited in the morning and Mid-Yell after lunch.

Practical workshops with pupils were quickly organised for mid-August to mid-September. Transition Turrieffield were grateful for the schools' support in this, taking into consideration the limited time available to sow and plant winter crops before daylight hours became too short for growth.

Seasonal growing plan development in the adult workshops included identifying class time to sow autumn harvesting crops with the children as soon as schools came back after the summer break. Additional module trays were also sown by Transition Turrieffield as part of the autumn sowing programme to ensure plants were available for the pupils to plant out as part of their workshop. This was especially useful if school crops weren't successful, or the sowing had been later than planned.

Pupil workshops took place in the schools' polytunnels with small groups of children. Pupils were chosen by teaching staff and included those from existing growing groups; individuals who had



shown an active interest; older pupils who would become peer mentors to support and educate younger children, or those who would specifically benefit from widening life experiences.

Workshop content looked at:

- how plants grow
- the importance of healthy soil,
- what makes soil healthy
- how plants take food from the soil
- how to sow seeds
- how to plant out into the polytunnel
- how to care for plants

Pupils learnt about, and participated, in science experiments demonstrating soil pH testing; moisture and temperature measurements; learning about the best conditions for successful plant growth. All the pupils filled and sowed their own recycled cardboard plant pot with organic compost and quick growing salad varieties. Labelling and dating the items and learning about the importance of keeping records. Once grown, the plants could either be harvested and eaten from the pot, or planted out to increase overwintering polytunnel crops.

The children explained what crops they had been growing through the summer and described how the plants were harvested and used in school canteens, or sold to the community. They asked questions about growing vegetables and fruit, and also learnt about reducing food miles and carbon footprints through local growing and improving food choices when buying from shops.

### Troubleshooting sessions

Although offered as a separate session, most schools chose to hold their troubleshooting visits after the pupil workshops. All schools had at least one troubleshooting visit. Whiteness had an additional specific troubleshooting visit in July, following concerns that produce was not ripening correctly, and Aith a further two. One at their polytunnel, and another where the staff responsible for overseeing the polytunnel made a visit to the Transition Turriemfield growing site, to understand more clearly how crops are grown through the winter.

Additional troubleshooting took place via email and Facebook Messenger, answering questions on the need to feed plants, time to harvest and delayed fruit production.

## Evaluation

Evaluation was built into the project from the beginning. Records were kept of workshop attendees, both adults and pupils, to collect quantitative data. Qualitative data was collected through gathering comments and observations from participants. Recognising time constraints on teaching staff the methods used were chosen for ease of engagement and minimum completion time.

After each input adults were asked to comment on the usefulness of the workshop and identify something they'd learnt or the difference the information would make to the use of their growing space. This gathered immediate responses to the workshop.

Observations were made of the pupil engagement and responses to the workshops with children to assess the success of the interaction. These were discussed with staff in attendance.

Following the completion of all school inputs, an online survey was created to gather information teaching staff on the longer term impact on their growing. The survey was sent out to schools in mid-November, once winter growing was established. Forms were completed and submitted between late November and mid-December.

## Evaluation findings

The eight adult workshops, at four different schools, were attended by a total of 36 participants. At two schools, two new attendees replaced others who were not able to come along to the second session.

Breakdown of attendance by school:

School	Workshop 1	Workshop 2	Attendees
Aith Junior High	8	8	3 teaching staff 1 teacher trainee 1 non-teaching school staff who works with the polytunnel 6 community members
Whiteness Primary	8	8	5 parent council members 2 community members helping with the polytunnel 1 non-teaching school staff who helps in the polytunnel
Mid-Yell Junior High	7	7	5 teaching staff from two schools 4 community members
Whalsay Junior High	9	7	1 teaching staff 1 non-teaching support staff 7 community members

Workshops were well received with participants commenting that they thought the input to be:

*“Very informative and helpful” “Really useful” “Very interesting” “Excellent” “Inspiring”  
“Worthwhile, time well spent giving positive encouragement.”*

(Aith, Whiteness, Mid-Yell, Whalsay)

They also appreciated the interactive style of training:

*“Enjoyed the session & informal conversational style. Really varied & informative”*

(Aith)

*“content was at appropriate level, lot of information fitted into time available,  
but all manageable and relevant”*

(Whalsay)

and commented that the workshop:

*“..pace was good, loads of information” and “good handouts” with “a lot of relevant information”*  
(Mid-Yell)

It was specifically helpful with information on how to grow through the winter:

*“Really useful for Shetland planting times”*  
(Cullivoe)

*“I really like the season specific management information”*  
(Aith)

Participants indicated they had gained a wide variety of facts to help them in their growing and support them in changing the way they grew throughout the school year. Many learnt that with better planning, management and an understanding of the effect of changing season on plants, their polytunnels could be more productive year round:

*“I’ve learned that I should be making better use of the polycrub, especially using it across as much of the year as possible”*  
(Cullivoe)

*“...we should be making better use of the polytunnel!”*  
(Mid-Yell)

*“Planning is key! It’s possible to grow things all year round Shetland”*  
(Whalsay)

At the end of the second workshop participants identified when to sow for both spring and autumn planting. They set out a plan for organising it as part of the school year involving the children which a number of schools saw as a springboard for other things:

*“Will prepare and use a diary. Prepare events for the gardening club to tie in with our plan”*  
(Whiteness)

*“We are going to have a new project starting from scratch, plan out what to grow”*  
(Whalsay)

*“Grow lots, feed many!”*  
(Aith)

They also commented it was *“Good to have a follow-up session later on in the year”* planned for the pupils.

The five pupil workshops saw a total of 68 pupils taking part supported by a total of 18 adults. Fifty percent of the adults attending pupil session were teachers who had already participated in theory workshops. The additional 9 adults were other teachers, or support workers, keen to be involved with the growing work in the future.

## Breakdown of pupil participation by school

School	Pupils attending	Supporting staff	Pupil age
Aith Junior High	12	5	11-13
Whiteness Primary	23	6	8-11
Mid-Yell Junior High	13	3	11-13
Whalsay Junior High	10	1	12-14
Cullivoe Primary	10	3	8-11

Both in Mid-Yell and Whalsay pupils were there to learn skills with the intention of sharing information with younger children as part of a peer support programme.

At all sessions pupils were keen to get involved with filling pots and seed sowing. The older pupils at Whalsay were less keen to openly engage in conversation throughout the workshop. This might have been due to their age and a reluctance to appear enthusiastic in front of peers. However, participation in soil pH experiments, linked to their chemistry studies saw them open up more to questions and offer opinions. Discussions in all schools focusing on climate change, carbon footprints and the reduction of food miles seemed to indicate that this was the first time it had been considered by pupils. Further analysis with teachers following the session highlighted that little had been done to explore this topic. Two schools indicated that the polytunnel growing work would help them bring climate change issues into the curriculum.

Follow-up evaluation with all five schools on the success of the growing through the year and involvement with pupils saw a 100% response.

All schools had grown produce between April and September and felt the workshops had increased their ability to grow and improved their approach to working in the polytunnel:

*"It's been extremely helpful as we are all new to growing inside"*  
(Whiteness)

*"Turriefield's input has been good to discuss  
different approaches to using the polycrub. Given confidence to experiment with crops."*  
(Aith)

*"A system for improving nutrient levels in raised beds, and for rotation of crops has been planned  
and started"*  
(Whalsay)

The workshops also helped improve the quantity and quality of produce:

*“Transition Turrieffield has given their expertise to allow the school to get 2 and sometimes 3 crops out of every tub in the polycrub.”*

(Aith)

*“we have had an excellent crop”*

(Cullivoe)

The wider variety of produce grown included:

*“Lettuce, beans, peas, mange tout, beetroot, cauliflower, broccoli, courgettes, marrows, pumpkins, cucumber, celery, spinach, chard, carrots, beetroot, potato, onions, neeps, turnip, chillies, sweet pepper, tomatoes, aubergine; strawberries apples (used to make chutney for school funds), grapes, pears, cherries, raspberries; some edible flowers and other flowers. A selection of herbs”*

(Aith, Whiteness, Mid-Yell, Cullivoe, Whalsay)

All the schools had organised autumn sowings to enable them to grow produce through the winter. They felt that participating in workshops and support from Transition Turrieffield had given them confidence and knowledge about growing and starting to grow over the winter:

*“We haven't really been managing winter growing before, and their advice has given us the confidence and knowledge to give it a go”*

(Mid-Yell)

*“..with support from Turrieffield it's given us the confidence to grow during the winter this year”*

(Whiteness)

*“Opened the possibilities for all year growing”.*

(Aith)

*“Now using polytunnel for autumn and winter growing which extends its use”*

(Whalsay)

Transition Turrieffield's involvement with the five schools also had an impact on the involvement of young people in growing:

*“A different group were "trained" in planting skills, and hopefully they will share this knowledge with the younger ones”*

(Mid-Yell)

*“We now have a small committee of children keen to spend more time in the polycrub”*

(Whiteness)

*“Pupils interest increased due to visits from Transition Turrieffield, and input increased pupil knowledge and understanding of soil structure and suitable growing conditions”*

(Whalsay)

*“Young people appreciated the comments from Turriefield which were very positive. This boosted their confidence and enthusiasm for continued participation in the polycrub growing cycle. 2 pupils in particular were much more engaged with the polycrub after Turriefield's visits”*  
(Aith)

Teaching staff also spoke about the extended benefits of the workshops in their schools:

*“Input reinvigorated staff motivation”*  
(Whalsay)

*“More staff became involved as confidence was developed”*  
(Mid-Yell)

*“Very positive experience for us. Their knowledge and suggestions for growth opened the schools mind to the possibilities of polycrub growing”*  
(Aith)

*“It has been very helpful for us, I just wish more staff had gotten involved”*  
(Whiteness)

Overall participation in the Edible Education project was considered worthwhile because it was seen to be helpful to both pupils and staff. Schools felt it was:

*“Excellent support with a great wealth of knowledge that gives you the confidence to grow indoors”*  
(Aith)

*“Presented in an interesting and practical way that fired up interest and made growing feel entirely possible!”*  
(Whalsay)

## Conclusion

The Edible Education project has worked with 5 schools across a wide geographical spread in Shetland, including three located in very remote rural island communities. The project has engaged teaching staff, parent council members and individuals from the wider communities in which the schools are based. Evaluation suggests that workshop inputs have been appreciated and useful to participants. The learning and support have enabled the schools to increase and improve their growing of fresh produce. All schools involved have created and implemented a year round growing plan, with some success being had in the production of overwintering produce. Pupil's involvement has been increased and staff motivation and confidence in working with undercover growing spaces has improved. All schools felt their involvement with the project was worthwhile.

## Future development

At the outset it was intended that the Edible Education project would be rolled out to other schools and communities across Shetland from 2020, if the initial round of workshops and support proved beneficial. Although the project has achieved its aims and objectives and successfully delivered outcomes in response to the identified needs of the schools and communities originally asking for support, less interest was shown by schools other schools across Shetland. Despite having under used polytunnels, Head Teachers did not show interest particularly where no staff had special interest in, or responsibility for the running of the growing space. It was suspected that a roll out of the project would be unsuccessful at this point.

Other opportunities to promote and support local food growing have been sought. This includes discussions with Shetland Islands Council, exploring ways to take forward and support their Local Food strategy and address poverty and inequality issues. Exploration and planning are still taking place, however, it is expected that Transition Turriefield be a lead partner and will use the methodology and learning from the Edible Education project to develop community based growing initiatives across the isles. Schools and individuals will have the opportunity to access knowledge, skills and support to improve their own growing, or access to healthy produce grown in their own communities. It is intended that this will be a long term initiative.

## Expenditure

### Staff time

Planning preparation, delivery of workshops, travel time, evaluation, report writing

341 hours @£15/hour £5115

### Travel costs

Mileage and ferry fares to Yell and Whalsay

766 miles @0.45p/mile £345

4x ferry journeys @£19.50 each £78

### Materials & resources

Compost, trays, seeds, labels, paper and printer ink £317

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**Total cost of project** £5855

**Awards for All grant** £5571

Additional funding for staff time was met as part of Transition Turriefield's general running costs and the income generation through the sale of produce.

