

RAINWATER CAPTURE STORAGE AND SOLAR IRRIGATION AT STRATHKINNESS COMMUNITY GARDEN

Rainwater has benefits compared to mains water for watering plants and we capture, store and use it as much as possible. Rainwater hasn't been treated, doesn't contain chlorine that may slightly hinder plant growth, and is an ideal pH for growing veg and fruit being very slightly acidic and containing some nitrogen.

In our Community Garden we collect rainwater from the following roofs: polytunnels, glasshouses, Iain's shed, and the Bothy.

Rainwater harvesting from the polytunnel



Rainwater syphons from one barrel to the next



The following data summarises our ability to collect store and use rainwater as of the Summer of 2024:

STORAGE

Polytunnel 23 barrels 4038 litres

2 glasshouses plus school tunnel 378 litres

12 IBC tanks 12000 litres

TOTAL STORAGE 16416 litres

Not all the IBC tanks are capable of collecting rainwater making the potential total storage of rainwater 10290 litres.

COLLECTION from each roof area

Iain's Shed.	21 sq.m
Polytunnel.	31.5 sq. m
Bothy.	18 sq.m
Glasshouses.	23.5 sq.m
TOTAL.	94 sq.m total available

With a total average annual rainfall for Strathkinness of approximately 700 mm or 0.7 litres, this leads to a total of 66 cubic metres or 66000 litres of rainwater that could be collected over a year which meets our needs for watering in the garden.

IRRIGATION IN THE GARDEN

Irrigation using the collected rainwater is preferable as it provides a uniform supply of untreated water to the plants which is greatly beneficial and also removes the need to water by hand. We are gradually introducing solar irrigation to many parts of the garden as described below:



Solar Unit



Drippers



Eco Smart



Ladies Solar



Rain Harvest



School Poly Solar

We have three 'Flopro Irrigatia Solar Watering Systems' in use on site including the School Polytunnel.

The Solar Irrigation System has an ingenious solar powered pump which automatically regulates the amount of water it pumps *i.e* the unit measures the strength of the suns rays and alters the period of watering accordingly which is exactly what plants, especially tomatoes, need most. The system consists of a solar panel, rechargeable batteries and pump, which distributes rainwater from the butt to the plants through drippers just like a traditional irrigation system.

All three units use rainwater captured from their respective greenhouse roofs and which is stored in an adjoining water barrel.