Report from Regenerative Landscape Design course and Polyculture Project research study

In April and May this year (2019), I was very lucky to be able to participate in a four day course in Regenerative Landscape Design with the Balkan Ecology Project in Shipka, Bulgaria thanks to a very generous offer of funding from the Merlin Trust. After the course, I then stayed on for three weeks to participate and assist with the Polyculture Project, an agro-ecological research project being run by the same organisation. Here I will briefly outline and summarise my experience during my time on the project and how I hope to implement the practical, theoretical and design skills I have learnt in my own landscape design and food-growing projects in the UK.

The central principle of regenerative landscape design – as well as related practices and design systems such as agroecology and permaculture – is that by working with natural systems and ecological processes we can produce food-growing systems that are not only more productive than chemical-intensive industrial agriculture, but also regenerative of soils, ecosystems and biodiversity. This is achieved through a careful and thorough planning process that examines the various factors and forces that impact and shape any given piece of land and the ecosystem it exists in. On the Regenerative Landscape Design course we worked through the various planning and design stages before actually implementing our design on a plot of land where we planted a 'food forest garden'.

The key stages of the design process were:

1. Climate Survey – studying the climate classification, annual rainfall, maximum and minimum temperatures, wind patterns, USDA hardiness zone, latitude and elevation to determine which plant species were viable and productive crops for the land we were working with.

2. Botanical Survey – studying the layers of native and naturalised vegetation already existing on the site. This offers many insights into how we might protect and utilise existing plant species as sources of mulch; fertiliser; wind shelter; ground cover; habitat for beneficial birds, insects, reptiles and other animals; pest deterrents and productive crops for food, fuel, timber or building materials. In designing a perennial polyculture, the intention is to retain all of the existing plant species and to introduce edible and productive plants with fertility and 'support' plants to assist them and preserve and advance all of the ecosystem services mentioned above. In doing this survey, we discovered that many of the existing plant species were either edible, medicinal, important for sustaining wildlife or useful and beneficial for other reasons. My key takeaway from this process was that instead of looking at a piece of land and seeing what can be extracted from it as industrial chemical-based farming tends to, we should try to work with existing ecosystems and advance their biodiversity and productivity by introducing perennial crops that are suited to the growing conditions there.
3. Soil Survey – determining the quality of the soil structure, diversity of macro and micro soil life, water retention, compaction, ground cover plants, aggregate stability in the soil, quantity of earthworms and the mineral/nutrient content of the soil.
4. Topographical Survey – understanding the shape of the ground on the site – where it slopes, high points and low points. We used a surveying tool to accurately determine the contours of the land, which will later determine where we plant trees and other crops, as well as where we dig swales and irrigation channels. In regenerative landscape design, plants are generally planted on contour lines with irrigation channels and a low swale dug out in front of them. This ensures effective movement and use of water as it travels through the landscape, decreasing likelihood of rainwater run off, flooding and ensuring sufficient saturation of soil to maximise health of all plants on the site. Using this information, we later dug out a reservoir pond at the bottom of the slope for the irrigation channels to run into to ensure preserve water during Bulgaria's hot, dry summers and create an aquatic habitat, which is great for animals like frogs and lizards who are very effective at controlling slug and snail numbers.
5. Planting – collating all of the data gathered during the surveying stage we then went on to devise a planting plan. We chose plant species that were suited to the climate and growing conditions and took into account the need to ensure fertility, pest control, water retention and increased biodiversity in order to create a stable, regenerative food-growing system modelled on the existing ecosystem of the local area. We also learnt how to use landscape design software in order to create useful visualisations of planting plans.

All of these design, landscaping, botanical and other skills I learnt and developed during my time studying and working with the Balkan Ecology Project will enable me to implement regenerative and productive food-growing systems and ecology gardens in my work back in the UK working across a range of community gardens and public and private planting and landscaping projects. Participation in the course and Polyculture Study gave me the opportunity to observe and experiment with numerous sustainable practices that provide nutritious, affordable food whilst enhancing biodiversity, regenerating soil and eco-systems and building resilience to the effects of climate change and extreme weather events.

In the near future, I plan to use these skills to develop a set of 'public landscape design planting blueprints' with my community gardening group. These would communicate in a simple way how to create low-maintenance, edible and regenerative polyculture planting schemes in public and community spaces. The aim of the blueprints is to disseminate information on resilient, low maintenance, productive plant combinations that fulfil ecosystem functions, provide a communal food source for people and improve wellbeing and aesthetics in public spaces. We plan to devise different blueprints for different conditions aiming to build resilience to flood, drought and other consequences of climate change, depending on the site location, aspect, soil, risk of flooding and drought and other factors. Alongside these blueprints, we hope to produce educational and informational materials that can be distributed to community gardening groups and projects to be incorporated into gardens and planting schemes.

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