SUSTAINABLE SOILS ALLIANCE

November 2021

Northern Ireland Food Strategy Framework Consultation
Consultation response by the Sustainable Soils Alliance

The Sustainable Soils Alliance (SSA) was launched in 2017 to address the current crisis in our soils. Its aim is to campaign to restore UK soils to health within one generation by seeing soil health elevated to where it belongs as a priority alongside clean air and clean water. The SSA is a non-profit organisation (CIC number 10802764).

QUESTION 12.

What are your views on the proposed guiding principles to be used to guide the development of future policy interventions?

The Sustainable Soils Alliance welcomes the principles and goals of the Northern Ireland Food Strategy Framework as there is a clear need to ensure coherence across food policies in order for such policies to improve economic, environmental, health and social outcomes for Northern Ireland. We are particularly encouraged to see the scope of the framework take "a soil to society approach".

We would like to highlight that healthy soil is critical for achieving many if not all of the priorities laid out in this framework. It is a prerequisite for safe and healthy food and a resilient agriculture sector. It is a key component of the natural environment as a home for plant and animal biodiversity, and through its ability to store carbon a critical tool for mitigating – and adapting to – the future shock of climate change. Finally, healthy soils deliver healthy river catchment systems that are critical for thriving urban and rural economies.

Despite this, soil's significance is often overlooked. While we may understand soil's impact on the quality of the food we eat, what is less well known is the reciprocal impact, namely the way in which we grow, harvest and consume our food impacts upon the health of our soil – and its ability to deliver the long-term productivity and environmental services we depend upon.

The following demonstrates the ways in which soil health should be considered in Priorities 1, 2, 4 and 5 of the framework.

- **Priority 1: Building connections between health / wellbeing and food.**

Healthy and good quality food can only be produced if our soils are healthy. Nowadays there is considerable scientific evidence connecting plant and human health, but very little research that factors in the third critical element - soil health.

Given that an estimated 95% of our food is directly or indirectly produced on our soils, this is a crucial, missing piece of the picture, especially given that several studies of fruits, vegetables and grains have suggested a decline in nutritional value over time, with speculation that intensive agricultural methods taking nutrients from the soil are to blame.

Whether true or false, the research is limited and, where available, piecemeal and inconclusive – and often focused on international (especially North American soils). Conclusions tend to be based on correlation rather than direct causation.

As a matter of urgency, greater research is needed into the link between soil, plant and human health with a view to informing future policy development and our post-Brexit agro-environment strategy. Where a clear connection can be proven between soil health and nutrient density the outcomes of this research should feed into consumer information, and in due course product labelling.

- **Priority 2: Building sustainable economic prosperity.**

Healthy soils not only have the ability to deliver public goods, but also bestows private benefits to the landowner through productivity increases. It can increase yield quantity and quality, but more importantly resilience from extreme climate events and other disruptors, underpinning farmers' livelihoods in the longer term. The majority of farmers are well-versed in the benefits that good soil health management brings but there are clear justifications for economic incentivisation when it comes to soil. To reverse legacy damage, to counter commercial pressures, to monetise otherwise 'invisible' public goods and to protect the country's most productive soils from conversion. This is needed to overcome any inconvenience and inertia to change practices and kickstart widespread, generational soil knowledge and understanding and to allow farmers and land managers to see the private goods benefits (e.g. increased yields and greater revenue) or improved financial margins (lower inputs) provided by their soil.

Thanks to the range of ecosystem services that soil carbon generates, land management practices that sequester carbon are increasingly being incentivised by market-based mechanisms (off-setting, ecosystem services etc.) that pay farms for the carbon they capture and store. However these schemes operate to separate legal, practical and measurement criteria and these divergence risks cause confusion for farmers, investors and policy-makers, market fragmentation, the undermining of stakeholder confidence and soil carbon sequestration's long-term economic and environmental potential. We see a clear role for the Northern Irish government here in addressing this market fragmentation by supporting the creation of a UK Farm and Soil Carbon Code, a neutral, open-access platform that would be accessible to all farmers and robust enough to be adopted by operators of carbon offset registries, carbon capture incentive schemes (offsets, payments for ecosystem services and environmental investment products).

- **Priority 4: Protecting and enhancing our natural resources**

Only 18% of soils in Northern Ireland are at optimal fertility. This threatens food security, biodiversity, flooding risk management and climate change mitigation. The Strategy's framework states that a successful outcome for Priority 4 is for Northern Ireland to "become a low carbon society where natural resources deployed in food production are responsibly managed and associated environmental costs/benefits are appropriately valued and reflected across the food supply chain".

To that end, we would like to see routine soil monitoring, and specifically Carbon/Soil Organic Matter included in agricultural baseline standards. Embedding soil carbon monitoring will be a critical step towards driving soil understanding and appreciation throughout land management. We were encouraged to see DAERA's recent announcement on the launch of a new Soil Nutrient Health Scheme for Northern Ireland aimed at putting an increasing emphasis on improved soil nutrient health and farm carbon following successful pilots. Regular, consistent soil testing is the critical gateway to understanding soil's role and functions. It generates a positive feedback mechanism whereby farmers see that their soils are changing and that their practices are having an effect – motivating them to make continued improvements.

Leveraging the supply change/industry to achieve environmental outcomes is also critical. Much of the worst soil damage (erosion, nutrient runoff, compaction etc.), takes place because farmers are bound by supply chain contracts that lead them to carry out soil management practices (e.g. sew/harvest on waterlogged soils) because they fear the repercussions of failing to deliver produce on deadlines. This

pressure is increased because climate change has made weather patterns increasingly unpredictable and the ‘window’ for low-impact crop management smaller than ever.

It should be emphasised that customers will in many instances be unaware of the impact their contractual expectations are having on farmer behaviours. This needs to be addressed: relevant supply chain players need to be educated about soil management as much as the farmers, and given their share of responsibility for minimising the impact of their purchasing. This will empower farmers to push back on any unrealistic demands. The principle of shared responsibility needs to be built into any supply chain schemes.

- **Priority 5: Building healthy lives through food education**

The recent examples of biodiversity loss and plastic pollution demonstrate how public concern is a driver of policy, investment and corporate behaviour change. A similar, watershed generational appreciation is needed for soil. A nationwide awareness campaign is needed to drive a sea-change in public understanding and appreciation of the importance of soil health - capitalising on the widespread concern about environmental breakdown and the role of our food system within it. Such a campaign should be government funded and driven to deliver results at scale, make use of the creative powers of broadcasters, social media and the arts to tell a compelling narrative, and harness the customer reach of the food supply chain.

Initiatives to educate about food should address food provenance and sourcing, nutrition and the connection between local soil types and crop varieties. To bring the issue to life, we should teach children about the UK's rich geological diversity which generates over 1,800 types of soil, which in turn defines the quality and type of regional produce grown.

The Department of Education should identify opportunities to incorporate soil health into the school curriculum, specifically in the science and geography curriculums as part of education around climate change and food production. Children should be taught that three times as much carbon is stored in our soils as in the atmosphere, but that this is released by soil-degrading practices, as well as the vital functions carried out by healthy soils, including water filtration, flood mitigation, biodiversity hotspots and food production.