

Landworkers' Alliance Response to the Soil Association's '*AgroEcoTech*' Report



22nd December 2021

The Soil Association's ['AgroEcoTech: How can Technology Accelerate a Transition to Agroecology?'](#) report was intended to offer a starting point for discussion within the agroecological farming sector on new science and technologies for food production. The impact of technology is being felt by land workers and peasants across the globe, and for this reason the Landworkers' Alliance felt that it was important to be a part of this discussion.

LWA's Campaigns Coordinator, Jyoti Fernandes, was correctly listed as a contributor in this report, however the report failed to clarify that 'contributors' are not necessarily 'endorsers' of the report. Bearing in mind the consequences that new, powerful technologies - such as blockchain systems, robotics and biotechnology - can have on our sector, the LWA has some serious misgivings about this report; particularly in terms of a lack of social and political analysis.

In the case of GM (Genetically Modified) crops, the LWA remains resolutely in opposition to the genetic engineering of our food. Not only are there ecological risks associated with GM crops - such as their potential impacts on wider ecosystems - but the development and patenting of GM seeds also contributes to the consolidation of corporate control and industrialisation of our food and farming systems. This is inherently antithetical to agroecological values of social justice, food sovereignty and equity.

Aside from GM, many small-scale producers and land workers may recognise the potential benefits for some of the technologies discussed in the report, but this cautious appraisal is tempered by a concern about how they might compromise food sovereignty, labour rights, and farmers' autonomy. For example, the Landworkers' Alliance are acutely aware of the physical, mental and social impacts of brutally long hours spent working on smallholdings can have on workers. Could robotics have a role in tackling those problems? Quite possibly, yes. But not if the technology pushes us down a route that results in increased scale and reduced diversity; not if it puts control of growers' businesses in the hands of the companies that make and service the technology and not if it leads to the deskilling of labour in an area as fundamental to human survival as sustainable food production. Similar questions apply to all agricultural technologies.

In response to these concerns, the author of the report specifically stated that:

“The aim of this report is to review the technology and not the broader social context of agroecology. The reason these social aspects have been less prevalent in the report is due to how multifaceted they are, how intertwined with subjectivity they can be, and how they are not only related to technology but many larger issues such as economics, labour, land rights, and broader societal issues and policies. This report is not meant as an extensive review of agroecology and social alternatives to technology. It purely looks at the different roles technology may play in the variety of scales of agriculture present across the UK. It does not directly advocate and suggest that specific farmers should adopt technologies, but simply states ways that they could help and offers ways that governance could help nudge those technologies to being more beneficial than restrictive. I agree with the points you make, but many of them sit outside of the remit of this high-level, short time frame, technology focused report.”

The LWA feels that this approach is precisely where the problem lies. The question of technology in agroecological systems absolutely requires a nuanced and rigorous social impact analysis, through which we are able to anticipate and actively curb pitfalls. Most of the technologies analysed in the report are not intrinsically 'good' or 'bad' - but it's how they are used, who controls them, who benefits from them, who has access and who does not, and who bears risks which are cause for concern. Social justice is fundamental to agroecology; without a framework designed to anticipate and avoid inequity, we have no means to assert control.

The report rightly promotes regulations which could maximise the capacity for data-sharing, innovative programmes for technology rental, rights to adapt and repair, and rights to data access, but it fails to illustrate how these mechanisms for preventing tech-driven consolidation of the farming sector should be adopted. By not outlining a clear pathway for evaluation, regulation and control, the report only serves to 'greenwash' government investment in technologies that could have unintended negative and even dangerous consequences on society.

Social Impact Technology Assessment

These are six important considerations that society, scientists, engineers, innovation funds and individual producers should apply to their analysis of the adoption and implementation of new technologies in agroecological farming systems:

1) Consolidation of power

Does the technology increase or decrease corporate control and/or consolidation of land and power in the farming sector?

While agroecology is often narrowly defined as a set of farming practices that support ecological systems, diversity and resilience, it also has a strong social justice element which seeks to disrupt unjust power dynamics and unequal distribution of wealth and resources in the food system.

An assessment of any new technology should therefore consider whether or not they drive the consolidation of land, power, money and decision-making power in the farming and food production sectors. Although this is touched upon in the report, it is not considered in nearly enough depth and the proposed controls fall short of what is required. Furthermore, it is dangerous to propose control measures and regulations without clearly outlining robust enforcement mechanisms. Weakly enforced controls and regulations will only serve to falsely legitimise and greenwash the introduction of technologies which ultimately end up concentrating corporate power.

2) Loss of skills and knowledge

Does the technology serve to support or erode the knowledge and skills of producers in understanding and working alongside natural ecological systems?

It has recently become a popular assumption in innovation funding streams that innovation must involve 'high-tech' inputs and engineering solutions, and pays little attention to ways in which we can nurture a deeper understanding of our natural systems and how to work alongside them.

Science and innovation shouldn't have to be just about satellite data, robotics and glitzy technologies. For centuries peasant and indigenous farmers have possessed a highly developed and detailed scientific understanding of methods such as multi-cropping, seed breeding, nutrient cycling and sustainable livestock keeping. It is time we moved away from the counterproductive false assumption that these knowledge systems are somehow 'unscientific' and are in need of developing or replacing with new technologies.

Agroecological farming systems should actively support the building of skills and knowledge about how to grow food. It is this intimate connection with natural systems and food production which should be encouraged and supported, but new technologies risk widening the disconnect between humans and a deeper understanding of the natural world.

3) Loss of Jobs

Does the technology respect the dignity of manual labour and retain jobs in the sector?

Some small-scale producers may support technology that assists with tasks such as weeding, and in very limited and controlled circumstances the introduction of 'robot milkers'. But the adoption of these labour saving technologies should be tempered with an approach that recognises that farming jobs are indeed valuable, that manual labour should be dignified and can be rewarding, and that good animal husbandry benefits from the development of a closer relationship between animals and the stock keeper.

Not only can increased employment in the farming sector offer meaningful and rewarding livelihoods to an increasingly precarious workforce, but outdoor manual farm labour is also hugely beneficial in terms of promoting both physical and mental health.

Sadly, much of the advocacy for robotics stems from an assumption that labour is inherently undesirable. Of course that labour must be dignified, well respected, well paid and varied, but it is dangerous to imply that in order to relieve the symptoms of manual labour we must remove it altogether, as this could lead the farming sector down a slippery slope of unemployment and de-skilling of the workforce.

As a union, the potential loss of jobs presents a fundamental concern for the Landworkers' Alliance and our members. Although the report does make the argument that people would retain jobs - but that robots would merely make these jobs more pleasant - it doesn't illustrate the ways in which jobs will remain secure as tasks are increasingly delegated to machines. Analysis is therefore needed which details the clear parameters of how many jobs the farming sector should be aiming to create, and how robotics and other labour saving technologies can enhance, rather than replace, employment in the sector.

4) Xenophobia

Does the technology legitimize racism?

The debates surrounding the replacement of farm labour can easily be interpreted as bolstering xenophobic immigration policy in the UK. In 2019, LWA participated in a meeting with the Home Office about the Seasonal Agricultural Workers Scheme (SAWS) in which they proposed to create a Research and Development budget for robotics as a way to compensate for lowering the quota of migrant agricultural workers allowed into the country post-Brexit. Home Office officials were very clear that the reason they lowered the number of seasonal agricultural workers allowed into the country from 70,000 to 2,500 (a threshold later raised to 10,000 under the Seasonal Workers Pilot Scheme) was because the political climate leading to the Brexit vote provided them with a mandate to limit the number foreign workers coming to the UK.

The Landworkers' Alliance works closely with organisations representing the migrant workers who benefit from seasonal labour opportunities presented by UK farms. Many seasonal workers strive for better working conditions and are clear that they want respectable jobs in the sector.

It is therefore important to acknowledge and address the impact on migrant workers in any analysis of technology in our farming systems. If labour-replacing robotics are being used to replace the need for migrant labour, this can then lead to a huge negative knock-on effect on labour not only in the UK, but internationally too. Because agroecology places an analysis of power dynamics at its core, we believe that those who advocate for agroecology should therefore strive to create an equitable global economic system, where **everyone** can benefit from decent work.

Addressing the racism against agricultural workers goes beyond just ensuring provision of jobs. It is also about ensuring that farm owners benefit from fair contracts and pricing so that they in turn are in a position to provide safe and well paid jobs for their employees. The UK horticulture sector in particular struggles with unrealistic supermarket contracts as well as competition from countries that have low labour standards and poor workers' rights. As ever, systemic thinking is needed to create a better, fairer, food system for all.

5) Improving workers' rights

Could labour conditions be improved by better social conditions rather than replacing jobs?

This letter, sent to Defra from a Landworkers' Alliance member, outlines the steps that the UK government could take to improve working and living conditions for seasonal farm workers. It provides some insight into how a reform of working conditions could alleviate drudgery in farm work, rather than replacing this work with robotics.

"Other pickers and I find picking a rewarding job that gives physical work and time outside, but we need to make the farm working environment safe and appealing to a new wave of farm workers. The chemicals involved in fruit production are by far the worst and most dangerous part of the job. The farms now are also growing too many of the same crops that need to be harvested at one time for supermarket contracts which puts everyone under pressure. The farmers also need government grants and support to provide the workers with the following:

- *A proper wage, travel costs and access to government sick pay*
- *A grant for proper water-proof clothing, work shoes, gloves, eye protection etc*
- *A grant for any equipment they are required to have secateurs, pruning saw etc*
- *Enough hours of work*
- *Land available for travellers and seasonal workers to stay on during the working season*
- *Opportunities to work part time because many people have part time jobs/ care responsibilities or studying they need honor.*
- *Smaller and or Mixed Farms - This would mean a more personal relationship with the workers, a change of task which would reduce repetitive strain injuries and will be a way to train the workers how they too could move into food production and help Britain become Great. Mixed farms provide varied and interesting jobs."*

6) Full resource analysis

Are there less resource-intensive alternatives?

The adoption of new technologies should take into account the resources required to make, maintain and power them. Vertical farms and robots use a variety of resources which need to be accounted for; not only in terms of electricity use and associated infrastructure (e.g. ultra fast broadband), but also in terms of the embodied labour and energy required to source the raw materials in the first place. A full life-cycle analysis of technologies should also compare the technology to alternatives which may be equally useful in addressing the issues, but are less resource-intensive.

Three examples are:

1. The use, promotion and development of agrobiodiverse seeds - as opposed to gene-edited seed - as a way of building resilience on farms.
2. Feeding waste food to pigs and poultry - as opposed to vertical farms - as a way of reducing the amount of land needed for the production of food so that other areas of land can be set aside for nature.
3. Vertical farms, which use a substantial amount of metal and electricity to provide fresh greens, should be compared to city farms which create greater social impact by creating access to outdoor green space for the community.

Why the UK Government should adopt a statutory framework for assessing the social impacts of technologies

UK policy makers are convinced that private sector-led technological innovation is key to a more sustainable world, and dedicate substantial amounts of public money to accelerate technological deployment. This agenda has become so commonplace that technologies are adopted with only the slightest nod towards potential social impacts, and often there are no frameworks or regulations implemented to curb or prevent the unfettered corporate capture of the agricultural sector.

In this context, UK public spending on agri-tech R&D is around £300 million per annum. While very little of this funding is dedicated to agroecology, more money may flow towards agroecology in the coming years now that agroecology is mentioned in the National Food Strategy and Climate Action Plans. Despite these commitments, we predict that the funding for agroecology will remain hyper competitive. The concern is that if high-tech solutions are branded as agroecological, it is likely to result in more financial support being channeled into hi-tech solutions; money which would otherwise go towards supporting low-tech agro ecological solutions, like Integrated Pest Management for example, which are desperately in need of R&D funding.

This competition is compounded by the fact that [UKRI Farming Innovation Funding](#) requires match funding from private sources. Funding criteria prioritises the development of products that can be sold on the market - whether it be seed, data or equipment. It is particularly difficult to apply funding for open source freely available tech or knowledge-intensive approaches which cost farmers nothing.

To protect the democratic accountability of our public R &D budget is imperative that that Government enacts:

- 1) Mandatory, transparent and participatory social impact assessments to enable wise choices about technology.
- 2) Governance tools, including competition law, to regulate the adoption of new technologies, based on the precautionary principle and public debate
- 3) Funding frameworks which enable the development of innovation without the pressure for profitability

"As long as a society is unjust and large corporations pressure for profit, the introduction of a platform technology will almost inevitably strengthen the wealthy and weaken the (already) marginalized. 'Objective science' is replaced by political opportunism that privileges – even weaponizes – some technologies over others."

Quote from ["Blocking the Chain"](#), Pat Mooney of the ETC Group

True agroecology faces the stark political reality of our unjust economic system, yet it still holds hope that together we have the ability to build a better world; one which has equity and social justice at its heart.