“SOCIAL LICENCE” AND OTHER PUBLIC LEGITIMACY FRAMEWORKS FOR CELLULAR AGRICULTURE

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Our Vision

Our vision is for a **just transition** to environmentally, economically, and **socially sustainable** food systems.

Our Mission

Our mission is the integration of transdisciplinary **responsible approaches** for novel cellular agriculture tools and technologies, into current food systems, to deliver sustainable food manufacturing in the UK and beyond.

Rosalee Yagihara, March Against Monsanto Vancouver 2013

Robyn Beck/AFP/Getty Images

Public Legitimacy Frameworks

Just transition –
"[E]nsuring that no one is left behind or pushed behind in the transition to low-carbon and environmentally sustainable economies and societies…" (UN, 2022)

Social licence (to operate) –
- Prominent in mining operations
- Does the local community consent to local operations?

Public acceptance –
- Does the public accept our innovation?

Public acceptability –
- How can we innovate in a way that would be acceptable to the public?

"**Responsible research and innovation** is a process that seeks to promote creativity and opportunities for science and innovation that are socially desirable and undertaken in the public interest." (UKRI, 2025)

"**Responsible innovation** means taking care of the future through collective stewardship of science and innovation in the present." (Stilgoe et al., 2013)

Democratic mandate –
- Processes or systems in which people have the opportunity to participate in, influence, and hold accountable the decisions that affect them.
- A mandate is the authority or permission to act on behalf of others, based on their support, consent, or endorsement.

Other frameworks?

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DEFICIT MODEL: KNOWLEDGE AND ACCEPTANCE

People experience science socially, not in an abstract cognitive form

Framing the public as ignorant of the facts can mask why opposition exists

It also points towards education as a ‘fix’ to deeper issues

“As long as public understanding of GM technology remains relatively low, opposition to GM crops is likely to remain high. Thus, increasing the public understanding of the science behind GM technology is critical in raising levels of consumer acceptance.” (Marchant, 2001)

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Marchant R. (2001). From the test tube to the table. Public perception of GM crops and how to overcome the public mistrust of biotechnology in food production. EMBO reports, 2(5), 354–357.

“SCIENCE” OFTEN MISUNDERSTANDS ITS PUBLICS

Scientific deficits of understanding of publics:

1. **Public mistrusts science because it is ignorant of science** (it is ignorant, but this is not a cause of ‘mistrust’!)
2. **Public is scared of ‘uncertainty’**
3. Public is only concerned about threats to own safety (risk)
4. Public is incapable of having its own independent valid meanings of the issue
5. Public behaviour equals public attitude (ambivalence unrecognized)
6. Public has no epistemic substance/agency
7. Public is either unambiguously pro- or anti-technology
8. **Public is only concerned about *our* (scientific) object concerns, not institutional relations or conditions**
9. **Public does not understand ‘facts’ of benefits (which science of course ‘understands’, i.e. *presumes*)**

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ISSUE FRAMINGS MAY DIFFER

Deficit framings masked publics' real concerns:

- Why do we need GMOs? Who will benefit from their use?
- Who decided that they should be developed and how?
- Why were we not better informed about their use in our food, before their arrival on the market?
- Why are we not given an effective choice?
- Have potential long-term and irreversible consequences been seriously evaluated, and by whom?
- Do regulatory authorities have sufficient powers to effectively regulate large companies who wish to develop these products?
- Can controls imposed by regulatory authorities be applied effectively?
- Who will be accountable in cases of unforeseen harm?

Opposition can relate to science's organizational forms of patronage, ownership, governance and control.

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ISSUE FRAMINGS MAY DIFFER

Public had learnt lessons from previous affairs:

- Impossible to anticipate all risks—especially in the long term
- Uncertainty is not admitted and not taken into account in decision-making
- Preventative action is delayed even when risks become apparent
- Even when rules are established, they are not strictly adhered to
- There is no transparency in decision-making
- Important decisions which influence our lives are made by unaccountable, 'alien' institutions over which we have no control

Knowledge of the science or technology not sole determiner of attitudes, attitudes towards broader institutions are very important

Env. Sec. John Gummer feeding his daughter a beef burger

Allan, S. (2002) Food Scares: Mad Cows and GM Food. In Media, Risk, and Science. OUP.
Marris, C. (2001) Public views on GMOs: deconstructing the myths. Stakeholders in the GMO debate often describe public opinion as irrational. But do they really understand the public? EMBO Rep. 2001 Jul;2(7):545-8

WHO CONTROLS “THE SCIENCE” MATTERS

CA INVESTOR:
“This company… It is going to own – I am making this as a statement, I don’t mind you recording this and saying it – **this is going to own the X market… and other X markets in the world within 10 years. And I mean own it.** There will be none of the other… **none of them will be able to compete with us…**
…they've got a head start on everyone, but **they also have the intellectual property that means that no one else can copy what they're doing.”**
…

INTERVIEWER:
“Ok, but clearly it’s going to put a few noses out of joint if it monopolises the whole market?”

CA INVESTOR:
“**Well, I don’t care. No seriously. This is like the horse and cart being replaced by the car.** There are going to be some people who will be displaced…”

Power & transparency

Concerns around power included:

- The companies that produce cultivated meat could have too much control over the food system, particularly by undercutting and replacing traditional meat production, so that the system becomes reliant on cultivated meat.
- Income currently going to smaller producers and into local economies will be consolidated into a few, multi-national corporations, with profits going offshore.
- The cultivated meat industry won't be transparent about their production methods, ingredients, or finances.
- Government won't be transparent about their interest in cultivated meat.

"We don't want relationships where places have become dependent on cultured meat producers and they're locked into paying certain amounts of money that they maybe could better spend on other ways of being food secure." -CARMA Citizen

To build citizen trust in the food system, UK regulators should:

1. Create a non-commercial governing body to oversee the cultivated meat industry that:
    - Provides balanced governance.
    - Collaborates internationally and steers investment to low-income countries.
    - Champions open access and anti-trust.
    - Spots and flags loopholes (independent scrutiny).
    - Benchmarks regulatory standards.
    - Sets industry norms and standards on transparency.
2. Ensure no single company can own more than one part of the supply chain or own a patent for more than two years.

CONSUMERS VS CITIZENS: THE PRICE-TASTE REDUCTION

I told a friend about Cultivated Meat this weekend.
He said he'd never try it.
I said: the choice will probably be taken away from you anyway.

Not by force, but by economics.

Here's the thing most people miss about food adoption:
You don't take much interest in what's in your food now, even though you like to think you do.

But for 99% of people, it's taste and price. That's it.

When cultivated meat hits cost parity, the market decides. Not you.

Supermarkets stock what's cheapest to produce at scale.
Restaurants serve what margins allow.
The supply chain optimises for efficiency.

Then social dynamics finish the job.

When your neighbours eat it, your colleagues eat it, your kids school serves it - you eat it too. We're social creatures. We follow the herd.

No force needed. No education campaign. No guilt.

Just economics and human nature doing what they've always done.

I spent years trying to convince people to go vegan (like pushing a rock uphill)

This is the opposite.
The rock rolls downhill.
We just have to build the slope.

Seductive framing: publics become one more engineering challenge – reduce costs, make better product

If we only frame publics as consumers (buy/don't buy machines) – we mask how public attitudes actually work

We also miss the opportunity to develop technology and governance in a responsible, socially sustainable, publicly acceptable, and just way