Agroecology & Innovations course

Disrupting industrial discourse by Organising grassroots innovations

Schola Campesina, May 2025

This online course is part of the Institute for Agroecology (IfA) free short 'praxis' courses offered in the online space with the intension of engaging learners in different parts of the world in introductory-intermediate learning on select topics. It took place in March-April 2025.

This course has been hosted by the Institute for Agroecology of the University of Vermont in partnership with Stat4SD; taught by Schola Campesina Aps in partnership with the Grassroots innovations assembly for Agroecology (GIAA); with support of the McNight Foundation

With the external contributions of Qumar Najmi (Serikat Petani Indonesia), Stephen Sherwood, Jim Thomas, Samuel Oslund, Marie-Océane Fekairi (l'Atelier Paysan), Cheshakala Wettasinha and Makonge Righa (Prolinnova), Ghislain Jutras (Réseau des Fermier et fermières de Famille), Anamika Dey and Anil Gupta (HoneyBee Network), Dorn Cox (OpenTEAM).

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The course is structured under four modules and is ending by a peer-sharing session on possible strategies to strengthen civil society organisations integrating the course learning.

- Module 1 – **Grassroots learning and Agroecology knowledge system**
- Module 2 - **Risks and harms of the innovation narrative and data industry**
- Module 3 – **Agroecology innovation processes**
- Module 4 **- Enabling infrastructures for agroecology innovations**

Résumé

The course explores the meaning and potentialities of *innovation* from an agroecology approach; it interrogates by whom, for whom and under the control of whom are *innovations* developed.

A cultural knowledge system where the learning process is led by grassroot actors, rooted in culture, and where local and traditional knowledge is considered as a valid source of learning, enriched by other sources (Dialogo de saberes) is essential for agroecology innovations to develop: everything starts from the learning environment, from our communities and culture (Module 1). Agroecology organisations are central in creating and maintaining grassroots knowledge systems, and, with their particular profiles and approaches are shaping the various processes supporting agroecology innovations; such as identifying pressing and shared problems, creating adequate solutions, gathering the rights skills and expertises, documenting and dissemination solutions amongst farming communities and organising feedbacks from experience. The course explores various processes, different from one another, having in common the centrality of the food producers' needs, knowledge and creativity (Module 3).

These innovations for agroecology are not in a vacuum. There are political economy elements that hinder local food systems, democracy and people sovereignty. Power concentration, mega mergers across food and data industries and the continuous industrialization of agriculture go hand in hand with the expulsion of farmers from their land, culture and knowledge system and with a interest-driven narrative on innovations (Module 2). On the other hand, there is a need to develop grassroots-led "infrastructure" to allow our innovation processes to develop, such as operational, institutional and legal framework to protect our knowledge; education and training to celebrate silent creativity and share our innovations, digital ecosystems to support the whole efforts, etc. (Module 4).

Building on each other, these four modules draw a comprehensive picture of the diverse dimensions related to Agroecology and Innovations and, we hope, can enrich civil society organisations position, agenda and actions for agroecology and food sovereignty.

Module 1 - Grassroots learning and Agroecology knowledge system

Is the innovation strengthening or weakening our communities? Isn't it at the end an external input?

Knowledge and innovations for agroecology function under a radically different model of knowledge creation and circulation than the mainstream top-down system (see references). Agroecology knowledge system is valuing local wisdom, experiences and knowledge generated out of the scientific frame by non formal researchers and welcoming diverse ways of knowing, understanding, analysis of the surrounding environment; recognizing the importance of traditional knowledge for finding solutions to actual challenges ; the horizontal circulation of this knowledge is often facilitated by grassroots organisations, rooted in territories and communities.

"The diverse knowledge and ways of knowing of our peoples are fundamental to Agroecology. We develop our ways of knowing through dialogue among them (diálogo de saberes). Our learning processes are horizontal and peer-to-peer, based on popular education. They take place in our own training centers and territories (farmers teach farmers, fishers teach fishers, etc.), and are also intergenerational, with exchange of knowledge between youth and elders. Agroecology is developed through our own innovation, research, and crop and livestock selection and breeding." Declaration of the International Forum for Agroecology (Nyéléni, Mali, 2015)

Agroecology knowledge system key points:

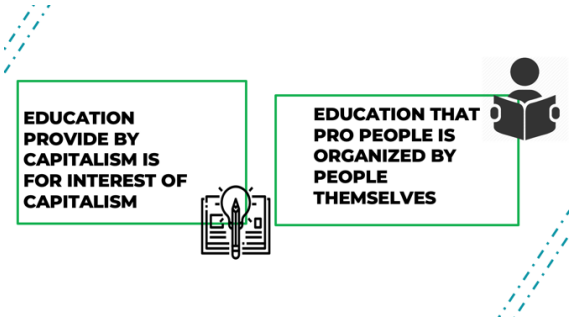
- **Traditional knowledge** is a dynamic accumulation of knowledge created by generations of food producers and rural communities.
- In this **culture**, are embedded **learning** systems, and this is what characterize grassroots learning (or SPI term « cultural education »)
- The grassroots learning experiences enable **innovation** to happen in our communities, innovations that are reinforcing our communities (or « agroecology innovation »),
- It's the dialogue in the community that brings a collective process of **co-creation** of knowledge, rooted in experience, where everyone's knowledge is recognized as valid (see popular education method)
- The co-creation process **reinforces** the communities and its capacity to collectively design and develop their own solutions and is making people benefit from the dynamic traditional knowledge as well as from external knowledge, all kind of knowledges are on an **equal footing** (Dialogo de saberes)
- Protecting and maintaining traditional knowledge and developing peer-sharing spaces (**agroecology schools**) is a matter of taking the **power** back in the grassroots, defending **food sovereignty** and affirm people's **Rights**.

=> Creativity is at the basis of all innovation process and it requires conditions to be expressed. To understand the innovations process in agroecology, we need to understand our learning system, our organisations that create the fertile ground for agroecology innovations to emerge

Deepening democracy in the construction of knowledge for food sovereignty, agroecology and biocultural diversity depends on further strengthening grassroots research and innovation networks (M. Pimbert)

Invited speakers to this module: Qumar Najmi (SPI / Indonesia), Steven Sherwood (EkoRural / Ecuador)

Serikat Petani Indonesia (SPI) represents 2 million farmers in Indonesia and is part of La Via Campesina. As many other peasants' organisations, SPI knowledge system is rooted in traditions and in the dialogue with other kind of knowledge, such as allied modern science actors. SPI has set up mechanisms to collect and disseminate appropriate knowledge and technical solutions to their peasants' members, recovering and valuing ancestral know-how and situating knowledge as rooted in culture. This close relationship between culture and agriculture is part of a strategy to **defend peasant culture** "against capitalist knowledge system". Like many La Via Campesina agroecology schools, SPI developed extended learning system where peasants are teaching other peasants in a perspective of autonomy and celebration of local knowledge.







We need to organise our learning to address our needs. We have strong traditions, for preparing the land or harvesting, we have our habits, … and, as an organisation, we realized that these are not only traditions, it is a knowledge management system.
Qumar Najmi, SPI

The **politics of knowledge** is a concept shedding light on the **power** dimension of knowledge paradigms. A knowledge **paradigm** is determining which *kind of* knowledge is valid and which is not, and is promoting an agrifood system at the expenses of its alternatives. For Steven Sherwood, the actual knowledge paradigm excluding many other kind of knowledge, such as traditional and grassroots generated, is a major piece of today's crisis .

Science has its priorities, is not neutral but part of a knowledge paradigm, so do Technologies and Innovations

In the Andean cosmovision (Pachamama), Humans are Nature. This is a cultural paradigm that orientate the Andean people knowledge system, how they consider their environment and how they see their present and future path on the world

Group discussion : What learning experience are existing in our contexts ? How knowledge is built in your organisation? What are the formal and informal spaces where knowledge circulate? Here below is a list of knowledge sharing spaces reported from group discussions:

- Social groups and associations are place to chat informally, exchange knowledge and concerns.
- Field days, Farmers' days, on-farm demonstrations and trials. Formal or informal, organised by farmers, organizations or governments
- Cultural events, dance
- Online social groups
- Fairs
- Facilitators-Communities exchange, to bring innovations from elsewhere and document the innovations from there
- Farmer association with a general assembly to share information
- virtual/face to face meetings between organisations, working groups, constituencies, with popular education methods
- participatory innovation development (PID), process through which farmers come up with a solution
- Farmer-to-farmer learning network, Farmers organisations training (cascade training the first group of farmers then trains other
- Participatory Action Research : community mapping, research questions emerging from fieldwork,…
- "Stories of our land" presented in schools
- Co-creation of digital solutions, engaging the end-users from the design to the feedback



A cultural knowledge system where the learning process is led by grassroot actors, rooted in culture, and where local and traditional knowledge is considered as a valid source of learning, enriched by other sources (Dialogo de saberes) is essential for agroecology innovations to develop: everything starts from the learning environment, from our communities and culture (Module 1).

Module 2 - Risks and harms of *innovation*, the data industry and the need for technology assessment framework

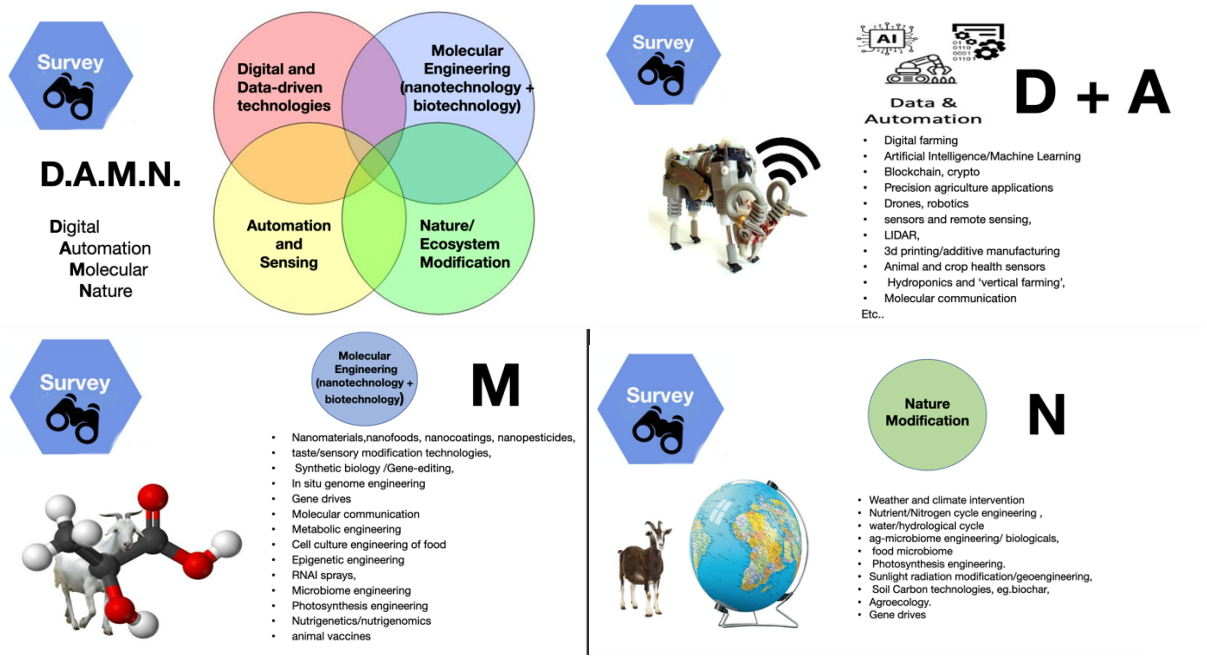
The concentration of knowledge and ownership of data as well as the concentration of data processing and commercialization in the hands of few companies creates inequality, environmental damages and contribute to expropriate peasant knowledge and community autonomy. Agroecology organisations deserve to be well aware of the general trends ongoing in this field.

In session 1, we explored the agroecology learning context that makes grassroots innovation possible to emerge, develop and to adequately solve real problems; leading to more autonomy for rural communities. In this session, we will explore the political economy context where powerful actors are capturing the concept of *innovation* and grabbing data to extend their power, creating new dependencies for small-scale food producers.

Our invitees, Jim Thomas and Samuel Oslund bring to the group their specific expertise on the recent moves regarding big data, AI in agriculture, the risks and harms related to the corporate power and the need for civil society organisations to build technology / innovation assessment framework.



Credit : Samuel Oslund



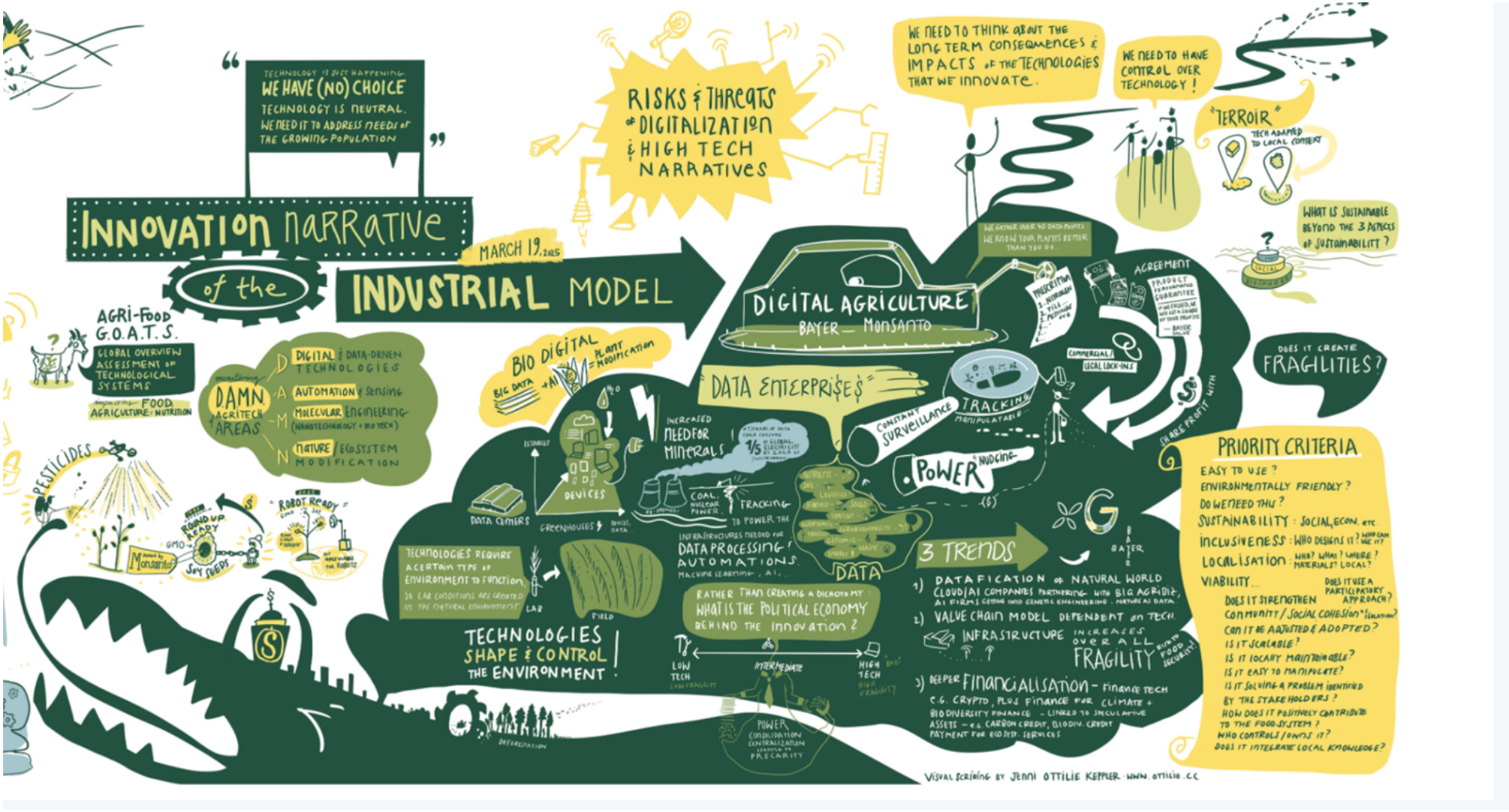
Credit: Jim Thomas

(Jim Thomas) 3 Trends to watch out for:

- Growing centrality of 'Big Tech' - Especially through AI/digitization – eg. Cloud/AI companies partnering with big agribusiness, AI firms getting into genetic engineering. Food as data. Nature as Data.
- Hardening and extending of "value chain" model dependent on technical infrastructure – increases overall fragility.
- Deeper financialisation - financial tech (eg crypto) , plus finance for climate and biodiversity finance - linked to speculative assets – eg. carbon credit, biodiversity credits, Payment for ecosystem services



Credit: Jim Thomas



There are political economy elements that hinder local food systems, democracy and people sovereignty. Power concentration, mega mergers across food and data industries and the continuous industrialization of agriculture go hand in hand with the expulsion of farmers from their land, culture and knowledge system and with a interest-driven narrative on innovations (Module 2).

Technology or Innovation assessment framework

Based on the group exercice, and adding reflections conducted within the Grassroots innovation assembly for Agroecology, we draw this list of questions to assess to what extend an innovation is advancing agroecology -or working against- around 3 main points: Actors, Use, Impacts. This is a work in progress to be continued..

Actors

What actors with what intentions are behind the innovation ?
Who owns it ? Who has the power, skills, knowledge to repair and adapt it ?
Who benefits from its selling, if ever sell ?
Who designed it and for what purpose (make a profit ? address a community need ? both ? what is the main motivation ?)
Is it contributing to the autonomy of the users / is it creating new dependencies ? (to a software processing the data for generating guidance for instance)
Is it part of a community-driven research process ? Is this innovation a stone is the co-created knowledge wall ? Is it part of an agroecology learning process ?
Are big players (powerful corporation, industrial actors, non allies outsiders, ..) part of innovation design, development, commercialization,… ? is it based on information and knowledge held locally ? Who is processing this data, with what kind of consent and benefit sharing is effectively applied?
…

Use

Is the use of the innovation making the life of the users more easy and more autonomous toward external actors ?
Is it useful for a large base of food producers ?
Is it effectively and safely alleviating the workload, addressing real needs of farmers and workers ? (is it taking the job of someone ?)
Is it easy to use for men, women and elders ?
Is it easily reparable, tailorable, adaptable, replicable, maintained in good state of use ?
Is the use at low cost for the user ?
With locally sourced material ?
…

Impacts

What are the immediate and long term risks for the people and the environment ?
Is it based on cloud or other resource demanding technologies ? As it other kind of environment impact?
Is it contributing to generate income for the users ? Is it cost-effective ?
Is the innovation development and use generating social cohesion, solidarity or at risk to exacerbating individualism and competitivity ?
Has it a positive/negative impact on the users' health in comparison to the work without the innovation ?
…

Further Resources :

- https://www.scanthehorizon.org/
- https://assess.technology/how/

- IPES-Food, ETC Group (2021) long Food movement. Transforming Food Systems by 2045 **Section 3 Looking ahead to 2045: Agribusiness as usual?** (Scenario 1)

  "In this section we imagine a 'business-as-usual' food system and how it might evolve over the next quarter century – as corporations and governments respond to environmental breakdown, social dislocation, geopolitical reconfiguration, and a vast pipeline of technological possibilities. The world we imagine in this scenario is one in which power relations remain largely unchanged, even as farms, food supply chains, and the food industry undergo radical disruptions. The overarching trajectories are agribusiness-led. Civil society – itself stuck in 'business-as- usual' operating mode – is able to challenge the agenda and prevent the worst excesses, but not to fundamentally change the course." (Authors)

- ETCgroup (2020) **What is Technology, Jim Thomas –**A podcast where Jim Thomas gives a sense of what we call *Technology*. This critical exploration is very much valid for the concept of *Innovation* and enlight us on the system that underlines the concepts. The podcast is a great introduction to the course where Jim will help us to deepen the critical exploration of the concepts of Technology and Innovation

- Food systems and digitalization from a food sovereignty approach (Schola Campesina 2021) This working paper seeks to support food producers' organizations and other grassroots-based organizations in the complex debate on digitalization. It highlights four critical issues when considering digitalization in agriculture from a food sovereignty perspective: (1) the practice of digitalization is not neutral but supports large-scale food production systems at the expense of small-scale and family farming systems; (2) data extracted from farming activities is treated as a commodity from which profit is generated and economic concentration is deepened in a context of a lack of regulation framework; (3) people-led digital tools are being developed by communities with a rights-based approach for local development; (4) digitalization has important environmental impacts that have to be considered.
- The politics of data – Understanding the value of data to farmers and farm systems (1hour Webinar, Matthew Canfield, ETC Group, 2023)



Episode 1 of 'Who will control the food system?' 29 Jun 2023 - Zahra Moloo, Neth Dano, Kavya Chowdhry. **Corporations entering food ; and role of big Ag giants**. Big Tech jumping on the food band wagon (pandemic profit for corporations, fasle narrative we need food production, concentration in seeds, machinery, commodity trading,…)

Modules 3 – Agroecology innovations processes

Grassroots organizations identify, document, recover, promote, disseminate local solutions for easier and more autonomous local food systems, all around the world.

The innovations are the products of the daily inventiveness that farmers mobilize in order to address an animal disease, to have constant water provision, to understand what fish to catch to enable reproduction ; they are the reinvented ways to access market, to build digital tools to connect to consumers, to document their seeds' quality, to create the adequate tools for their production,…



What are grassroots innovations? ----------

Why does innovation even matter? Does the word innovation encourage creating new things when they aren't necessary? By the definitions of grassroots innovations surfaced during the gathering,

Innovation is inherent, constant and ongoing.
Innovation is a necessity to live differently.
Innovation is the power to choose the way we live.

Our innovations grow from ancestral knowledge. Innovation does not have to be new, it may be something which worked and was forgotten or erased. What is common in one place, or at one time, is an innovation in another context.

Our innovations solve real problems. An innovation starts with users' needs, often the need to adapt to a changing environment.

Our innovations come from the grassroots and are tested in the grassroots. They are local solutions to local problems that rely on the resources we have at our disposal and the generational knowledge of agroecological farmers. Even GMO seeds require an ancestral peasant-created seed to modify. They are a result of farmers' inherent experimentation that is a necessity just to survive. There has never been stability, or a "way it's always been."

Our innovations encompass the complexity of agroecology, including the social, political and ecological dimensions. Our innovations address ecosystem health and the wellbeing of our communities, not only food production. Our innovations may be mechanical, technological, or social; they may be a method rather than an object or artifact. We may innovate the innovation process itself.

Community governance and feedback systems determine the success of our innovations and make sure they do not create new problems. We recognize that governance requires increasing our communities' capacity to critically discuss technology.

We discussed many innovation questions that agroecological farmers must tackle. How do we farm without fossil fuels? Without plastic? How do we survive the effects of climate change? How do we make tools accessible to all bodies? How do we advocate for our needs as smallholder farmers? How do we ethically engage with digital tools for our own empowerment?

P7 of the GIAA first gathering report (2023), Maya Cohen

In this module (two course sessions), we listen to different organisations, all part of the Grassroots innovarions assembly for agroecology (GIAA – www.gia-agroecology.org)

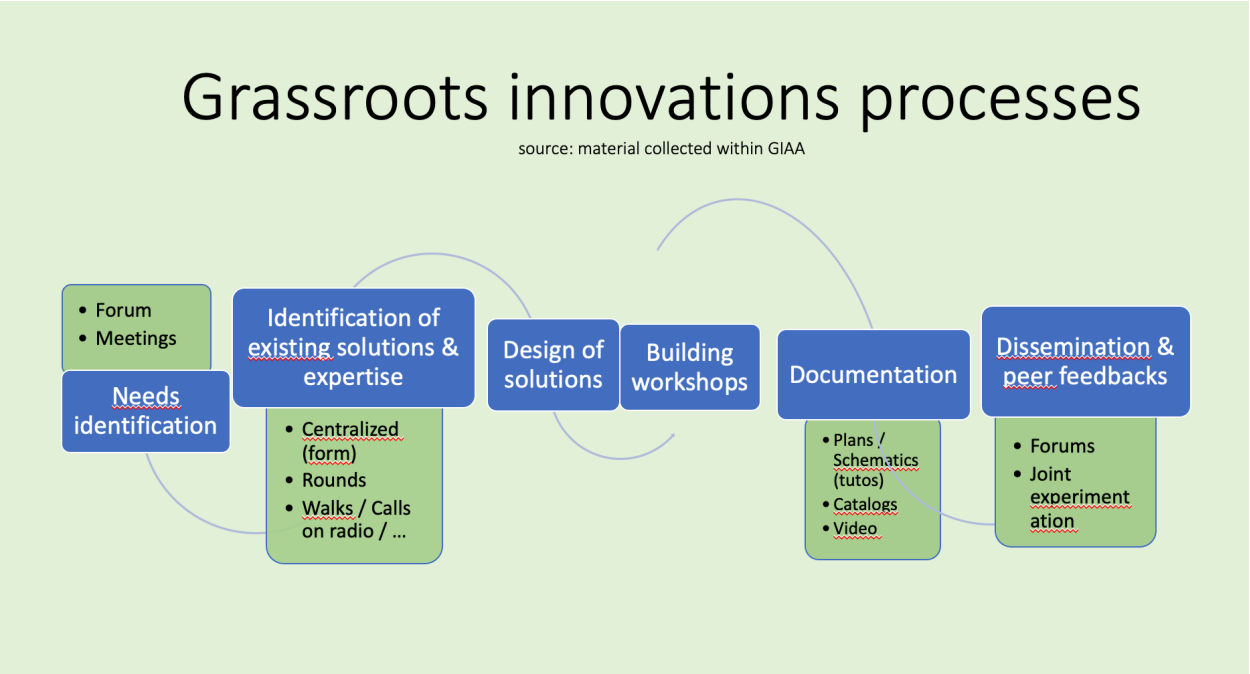
What is the CIAA ?
While diverse in approaches, what unites these organizations and networks is their shared emphasis on peasant and farmer-led innovation, ecological sustainability, peer to peer exchange, and creative commons and open-source diffusion models. What's more, this form of innovation goes beyond technology. In responding to a lack of appropriate tools, these grassroots innovation networks are simultaneously developing novel forms of organization, production, and knowledge exchange that trouble profit motivated, competitive models of innovation. The result is an emergent socio-technical ecosystem that supports agroecology, strengthening local and regional economies while contributing to a growing innovation commons. In addition to this critical innovation infrastructure, these networks can also foster critical discourse as well as participatory technology assessment. It is therefore not a question of whether another vision of innovation and technology in agriculture is possible. As the ongoing work of these organizations demonstrates, it is already happening. (GIAA first gathering report (2023), Maya Cohen)

If we seek to categorize the diverse organisations active in agroecology innovations, based on their profiles and approaches, we can, tentatively, draw four categories :

- Promotion of local innovations (Prolinnova, HoneyBee Network)

- Self-building of farming tools, equipment and machines (Atelier Paysan, Tzoumakers, Fabriek Paysanne, Réseau des fermier et fermières de familles, Toekomstboeren, Farm Hack) – essentially based in Western Europe
- Search for technical solutions for members of large farmers union/organizations (Serikat Petani Indonesia, Kenyan Peasant League) essentially based in countries with a large part of the population involved in family farming
- Promotion of open-source and agroecology knowledge as Common (OpenTEAM) essentially based in North America

These four profiles of organisation are demonstrating the enormous diversity of actors enabling local solutions to emerge and be shared amongst peers. Each of them in their own way, with their proper means, they undertake the different processes that make agroecology innovations develop in our diverse territories (blue box).





Examples of processes / activities undertaken by the GIAA organisations

In this course, we can listen to representatives of the following examples.

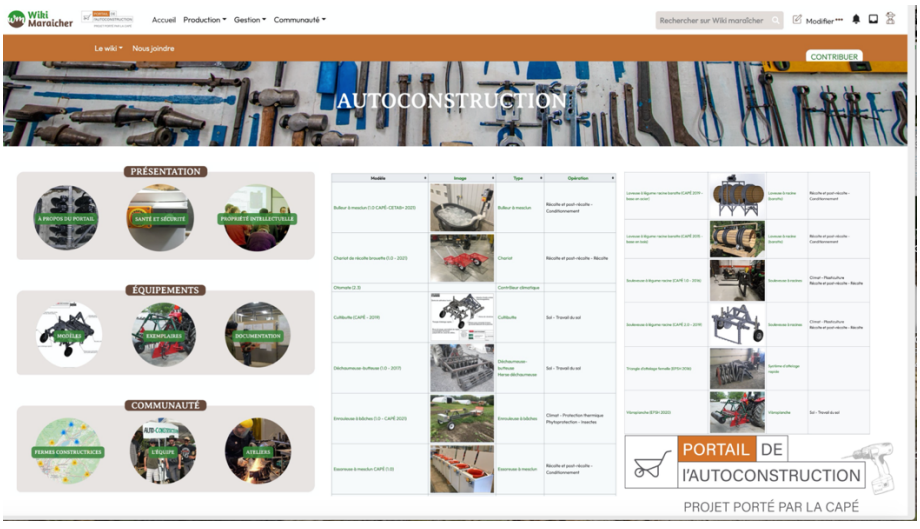
L'Atelier Paysan
This organisation (created in 2010 in France) is an initiative for farmers' technological autonomy, co-designing tool, equipment and infrastrcuture, that is organising self-building workshops and conducting socio-political analysis of the evolution of machinery. They are inspiring many other initiatives in Europe and North America. In 15 years of existence, they developed (and self reflected) on their processes. See below some of l'Atelier Paysan activities:

- Need identification and assessment of the validity of the needs (common problems to a great number of peasants / ecological farming / ….). Assessment of the feasibility of the solution design, creation and replicability by non-expert users
- Round trip to collect existing innovations on-farm (methodology guide developed – available in French only)
- Design, modelisation and schematic development (computer-assisted)
- Dissemination through online tutos and workshops to build the tools
- Concrete use on-farm and constant feedback to redesign it better (*retour d'usage*)

Le wiki Maraicher

Implemented by La Coopérative pour l'Agriculture de Proximité Écologique (CAPE) and today managed by the Family Farmers Network of Québec, Canada.

The Wiki is an online space where to collect diverse innovations for family farmers and collect feedbacks from field experience.





Honey Bee Network

Anil Gupta (India) presented the Honey Bee Network and the Gujarat Grassroots Innovations Augmentation Network, highlighting the following points:

- Their network seeks to give voice, velocity and visibility to innovations developed in the grassroots
- They understand innovative dimension as to apply to the product, the method, delivery system, or the use of a product
- Many parameters influence the (non) development of a grassroots innovation (triggers, place, kind of innovation, access to credit,…)
- The infrastructure needed is provided by the Honey Bee Network and the supportive financial mechanisms.
- The Honey Bee Network also facilitate the cross-pollination of ideas, sharing back whatever is learned from people along with pooled knowledge with knowledge providers in local language
- It helps to overcome anonymity, giving recognition, and protecting intellectual property rights of the innovator (IPRs), a fair and just share of benefits with or without value addition
- Shodhyatra: learning walks across the country to fertilize our imagination by recognising frugal grassroots innovations, traditional knowledge, institutions, biodiversity, shatayu

Prolinnova

Farmer-led Documentation (FLD)

- FLD is diverse documentation tools and methods. - stories, dances, drawings or songs; ICT - digital video/photo cameras/mobile phones
- FLD gives farmers/local innovators a voice to express knowledge, experiences and practices in their own words and their own vision
- FLD results used by the community for learning (horizontal sharing) and among communities, development agents, academia, researchers, policy makers, etc. (vertical sharing)

What is captured during the process?

1. Brief about the local innovations (Summary, when it started, etc.)
2. What motivated the innovator to come up with the innovation (challenge(s), adapted?, accidental?, etc.)
3. What has the innovator done so far? (experimentation, process used, etc.)
4. Benefits so far (yield, money, dietary/nutrition, cost saving, etc.)
5. Potential areas of improvement/development or further research.



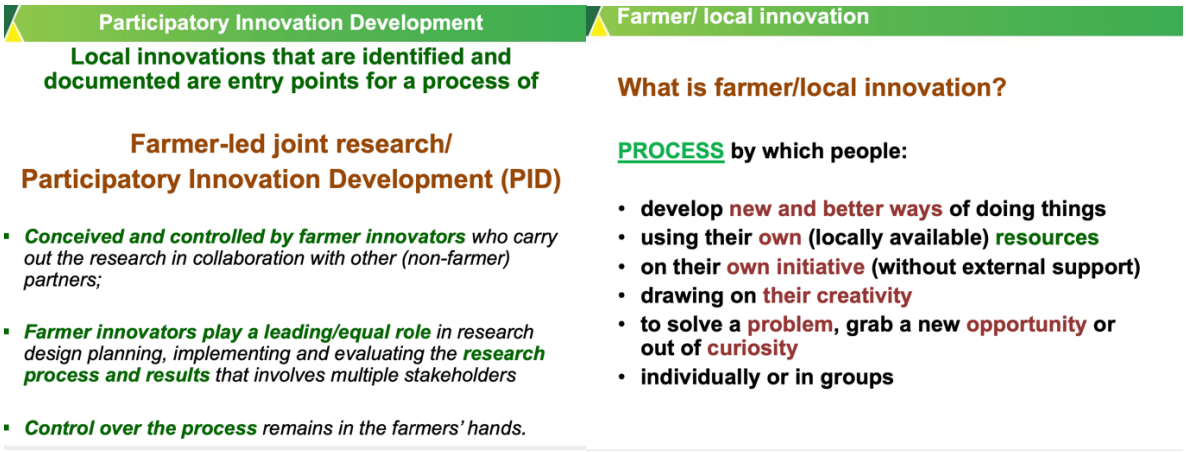
Credit: Righa Makonge

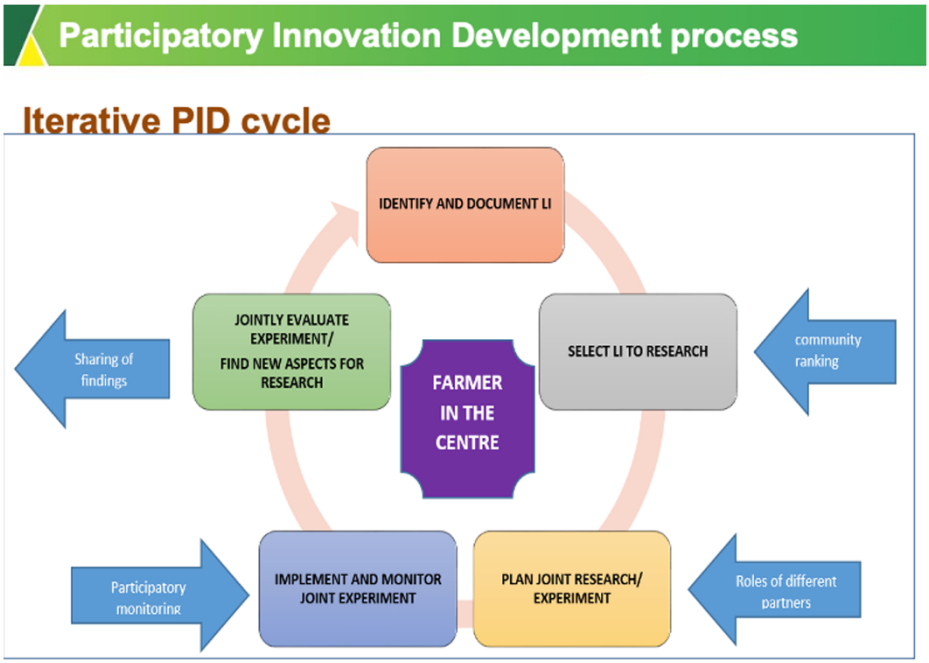
Farmer-led joint research



Credit: Prolinnova team

Participatory Innovation Development





Credit: Prolinnova team

The barriers expressed by the GIAA organisations in regard to these processes are that it requires time and capacities, it requires articulation across the processes and at different scales (national coordination has an important role in centralizing concerns, solutions, feedback, etc.), it requires to work in (often multiple) local languages, across languages, it requires skills to read or edit the schematics.

The expressed concerns were:

- The low participation of women, women step back and take a low profile when it comes to innovation and techniques
- It requires to be careful about not being in an extractive process, but contributing to a collective sharing.

- It requires to be careful about the consent issue, the intellectual property (IP), Knowledge protection, Who will benefit from the sharing, and recognizing the source
- It requires to carry documentation efforts on how to build the tools but also on the maintenance ; how to capture the meaningful info and to make it easy to use,… (Atelier Paysan expertise)`
- The use of non ethic software for schematics design (Atelier Paysan)

Discussion on participants processes

Ahmed - Few year ago, workshops for elders orally document knowledge about original varieties of plant and animals transfer to young people ; this happened after the elder realize that after the introduction of new varieties in the village ; and new breeds ; because people think they are more productive , and elders knew they would be new problem with those new varieties ; this is why we set up those **workshops to transfer knowledge from elders to youngsters.**

Marco – Open source technology with farmers, **protocols to be inclusive**,… meeting with community, user central process, prototype tested, feedback from community, through questionnaire, open space tech,..

Ferdinand – When I need inspiration I go to see farmers ; we do training, soil health,.. we come up on **trials on Biofertilizers**, We realize high knowledge of farmers, **recipes** of them are spreading, thanks to the collaboration space (BIOGIs)

Coline – PhD researcher, work on Fabriek Paysanne. In AP, farmers get paid to follow the AP trainings, not in Belgium. Regulation differs. Training and Designing part are separate processes (in contrast to AP), farmers can engage in both. They do **workshop for women** only, to make women get engaged in this field, training done by women. They also **repair** tools on farm, even if it's not their tool.

Gigi – CSA farms, organic agriculture students association, network, CAPE. CSA farms still existing. Stimulation and diffusion of innovarion : Farm tours, Field day, 3day annual gathering, Autoconstruction workshops (inpsired by AP).
Infrastructures : Newsletter, Youtuve channels, Fb,
Email forums, list serv, 1-30 emails per day, sponatenous conversation, archived, moderated, university server (not in Gafam), easy to use / No structured org of the content.
Wikiweb platform , based on mediaWiki (200 users only), 2000 content pages, under CC.

Andrea : How we can use digital tools for ourselves, political impact, organisational impact (strenghtening the organisations themselves) , strengh political vision and how we work in organisations.

Evans, Kenya, Association of Social Entrepreneurs in Vihiga ; healthy diet is a challenge, government politices harmful sibsidies, we take farmers to soil sampling and testing to show how the soil is unhealthy ; people think they come from the soil and back to soil, so survival is dependent of healthy soils ; switch from chemical to organic, supported by evidence, spike of cancers explained by scientific evidences it's linked to chemical,.. ; Supporting by markert forces / Certification of those products.

All those solutions interconnected !

Further resources:

- GIAA (author: Cohen M.) (2023) Report of the Grassroots Innovation assembly for Agroecology 2023 gathering, (Gallese, Italy)
- OpenGrains video on the emergence of grassroots agricultural innovation networks

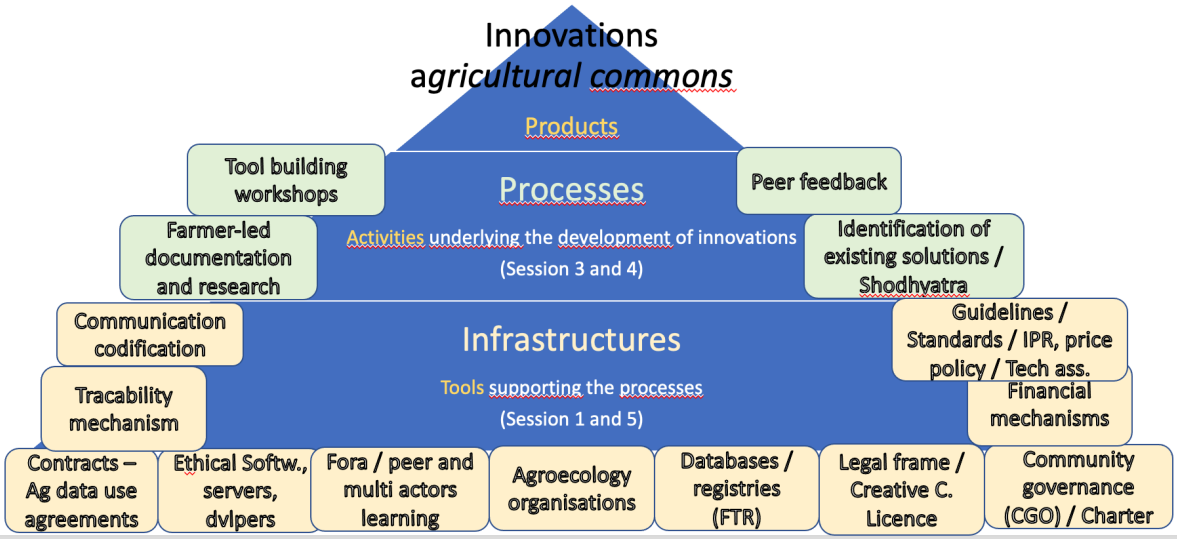
- Prolinnova Farmer Led Documentation and Knowledge Sharing Case Studies from Kenya, Tanzania, Uganda and Zambia
- Prolinnova, How do we recognise local innovation?
- Prolinnova (Makonge Righa) presentation: documentation and dissemination of local innovations
- Prolinnova (Chescha Wettasinha) presentation

Agroecology organisations are central in creating and maintaining grassroots knowledge systems, and, with their particular profiles and approaches are shaping the various processes supporting agroecology innovations; such as identifying pressing and shared problems, creating adequate solutions, gathering the rights skills and expertises, documenting and dissemination solutions amongst farming communities and organising feedbacks from experience. The course explores various processes, different from one another, having in common the centrality of the food producers' needs, knowledge and creativity (Module 3).



Module 4- Enabling infrastructures for agroecology innovations

Grassroots innovations for agroecology rely on different processes and infrastructures



The word *infrastructure* means to include the **concrete tools that organisations need to support the different processes: identification, documentation, dissemination,… of agroecology innovations;** all those processes that we explored during the Module 3.

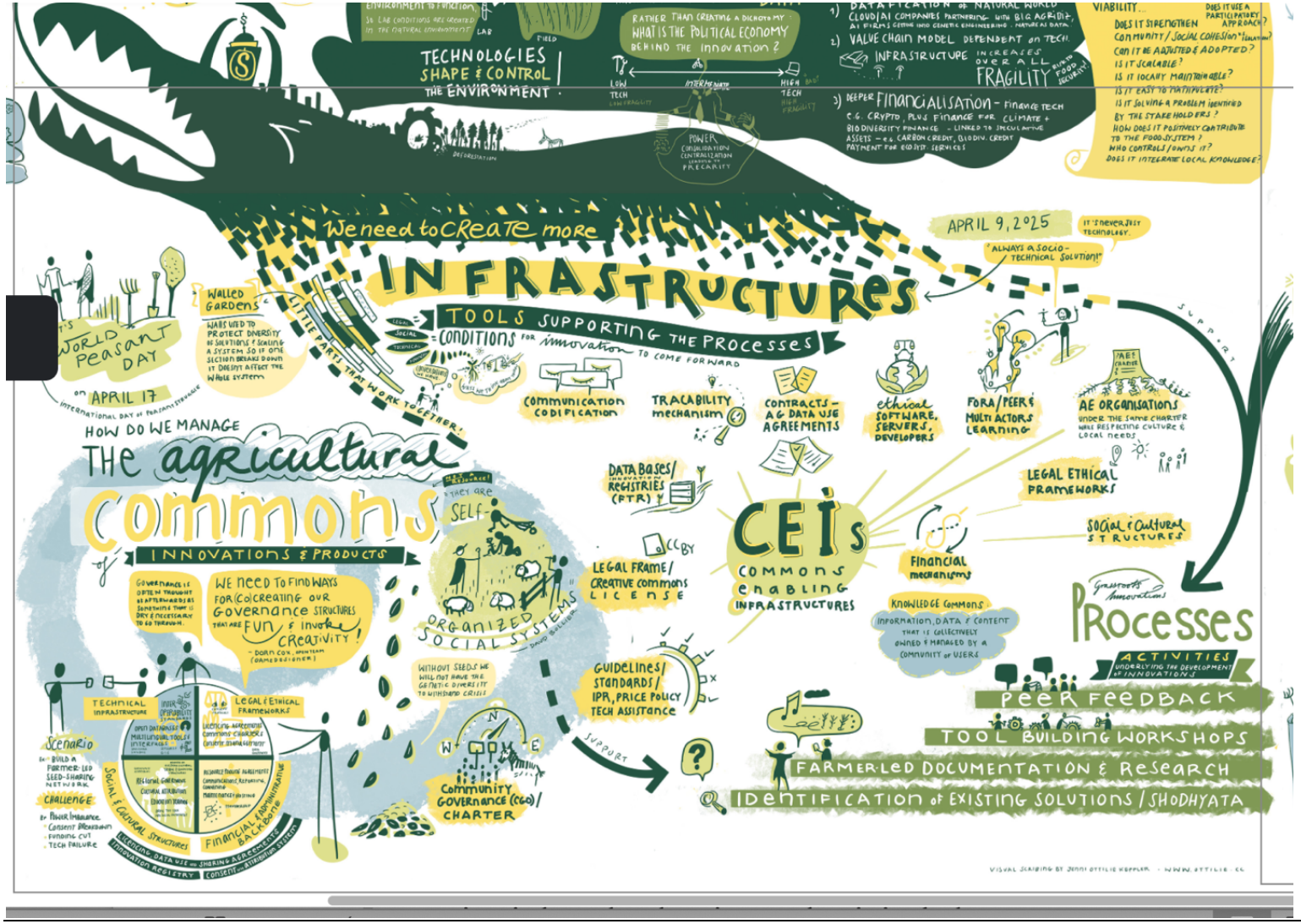
When we **move** from the **abstract** idea of community-led innovation to the **reality** of those processes -if we effectively decide to support such processes- then we **inevitably confront** with e.g. the social agreement that are needed to disseminate an innovation held by someone; and how to protect local knowledge while wishing to share it with others. The Legal frameworks, Financial mechanisms, Social and governance structures and Technical infrastructures as softwares and platforms constitute a wide toolbox where organisations can pick and adapt adequate means for supporting their activities on agroecology innovations.

When research and development are too often working against people's creativity and needs; grassroots research, farmer-led experimentation, agroecology schools have to create *their infrastructure* to support bottom-up research and development processes and democratized knowledge systems.

We continue to explore and enrich this toolbox through the sharing amongst agroecology organisations, in this course and beyond.



Credit : Dorn Cox, Samuel Oslund



There is a need to develop grassroots-led “infrastructure” to allow our innovation processes to develop, such as operational, institutional and legal framework to protect our knowledge; education and training to celebrate silent creativity and share our innovations, digital ecosystems to support the whole efforts, etc. (Module 4).

AGROECOLOGY AND FOOD SOVEREIGNTY ARE THE FRAMEWORKS GUARANTEEING THAT INNOVATIONS WILL SUSTAIN LOCAL FOOD SYSTEMS THAT ARE FEEDING THE WORLD TODAY AND IN THE FUTURE

SCHOLA CAMPESINA