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A tool-box for designing an agroecological transition with local stakeholders

Elise Audouin, Jacques-Eric Bergez, Gaël Plumecocq, Olivier Therond

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tatabox



Transition Agroécologique des Territoires Agricoles

AGENCE NATIONALE DE LA RECHERCHE
ANR

PROGRAMME ANR - AGROBIOSPHERE 2013

Projet ANR-13-AGRO-0006-01

TATABOX

Transition agroécologique des territoires : une boîte à outil pour concevoir et mettre en œuvre une transition agroécologique des territoires agricoles avec les acteurs locaux.

Date de début du projet: 16 janvier 2014

Durée: 48 mois

Production non identifiée comme livrable: Presentation for the 12th conference of the European Society for Ecological Economics, 20th to 23rd of June 2017 in Budapest (Hungary), on “Ecological Economics in action: building a reflective and inclusive community” in the parallel session « Science-society contributions to sustainability transformation: citizens science, Community-Based Research, Participatory Action Research, Responsible Research and Innovation», titled: “TATA-BOX: “Territorial Agroecological Transition in Action”: a tool-Box for designing an agroecological transition with local stakeholders”

| Dissemination Level | | |
|---------------------|--|-------------------------------------|
| PU | Public | <input checked="" type="checkbox"/> |
| AN | Restreint aux membres d'autres projets ANR (Commission ANR incluse) | <input type="checkbox"/> |
| RE | Restreint à un groupe désigné par le consortium (Commission ANR incluse) | <input type="checkbox"/> |
| CO | Confidentiel, uniquement pour les membres (Commission ANR incluse) | <input type="checkbox"/> |

TATABOX vise à tester et adapter une méthodologie pour aider les acteurs agricoles locaux à développer une vision de la transition agroécologique souhaitable et à la gérer. Le projet implique 9 unités de recherche et 986 ETP. Les chercheurs sont de différentes disciplines permettant une bonne analyse des différents processus en jeu : agronomes, zootechniciens, écologues, sciences de l'informatique, ergonomes, sciences de gestion, géographie sociale, économistes. Le cas d'étude est un grand bassin versant agricole dans la partie sud-ouest de la France (Aveyron et Tarn-et-Garonne).

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Ce manuscrit a été rédigé dans le cadre du projet TATABOX, financé par l'Agence Nationale de la Recherche au travers du programme AGROBIOSPHERE 2013. Son contenu ne représente en aucun cas la position officielle de l'Agence Nationale de la Recherche et est entièrement sous la responsabilité de son(s) auteur(s). L'information contenue dans ce document est délivrée telle quelle. Il appartient au lecteur d'utiliser ces informations avec discernement.

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Territorial Agroecological Transition in Action

A tool-box for designing an agroecological transition with local stakeholders

Elise Audouin

Jacques-Eric Bergez

Gaël Plumecocq

Olivier Therond

UMR AGIR

INRA Centre Occitanie Toulouse, France



12th ESEE conference
21th of June 2017

Session: Science-society contributions to sustainability
transformation: Citizens Science, Community-Based Research,
Participatory Action Research, Responsible Research and Innovation

AGENCE NATIONALE DE LA RECHERCHE
ANR ANR-13-AGRO-0006



le cnam

CRTD

Dynafor

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EDUCATION FORMATION
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Métafort

MA
TOULOUSE

SenS
Sciences en Société





Agroecological transition: a challenge that requires new tools



**Multiple challenges
Conventional agriculture**

Agroecological transition: a challenge that requires new tools



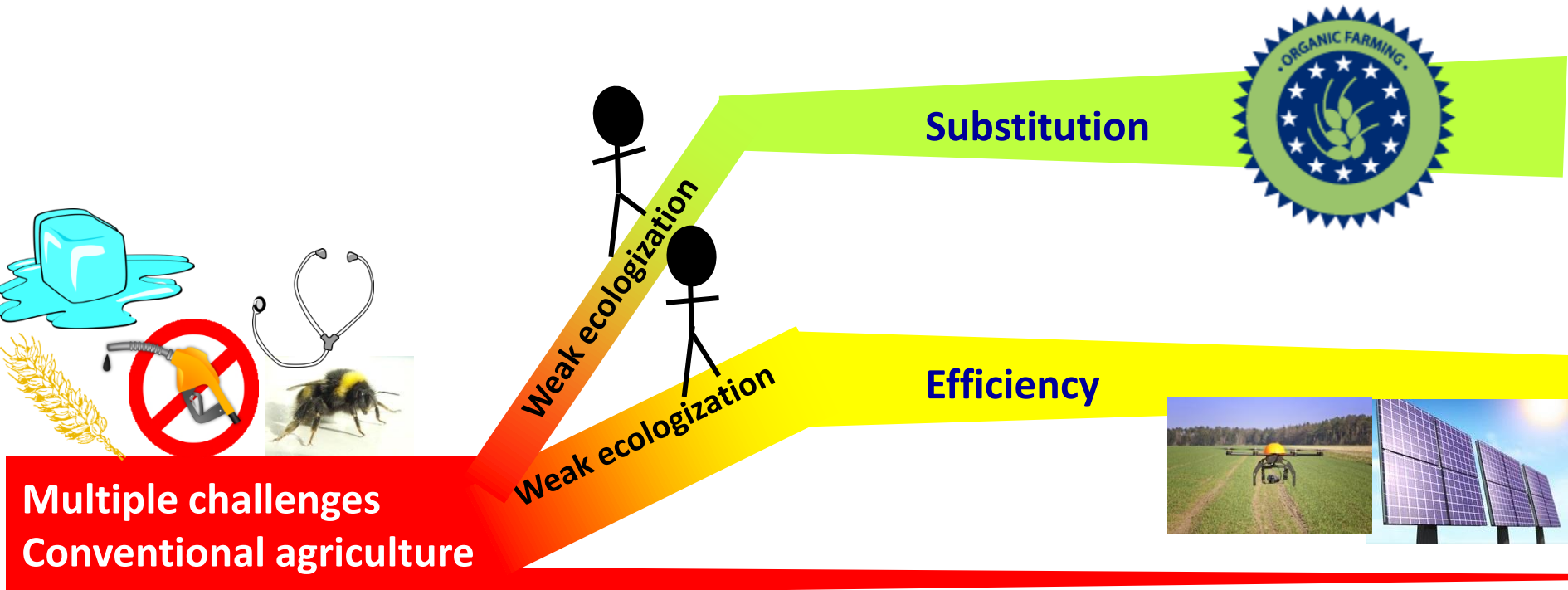
Multiple challenges
Conventional agriculture

Weak ecologization

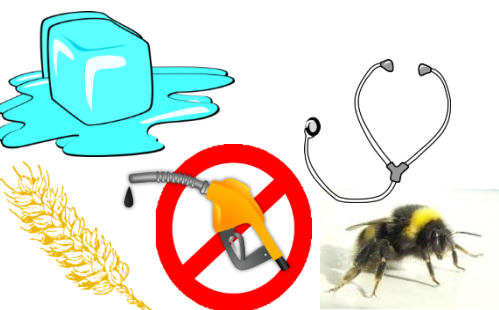
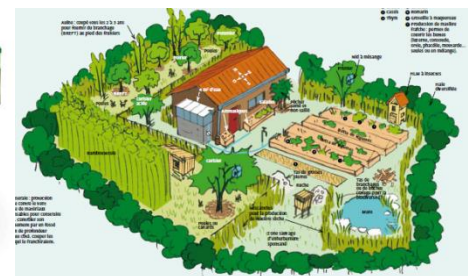
Efficiency



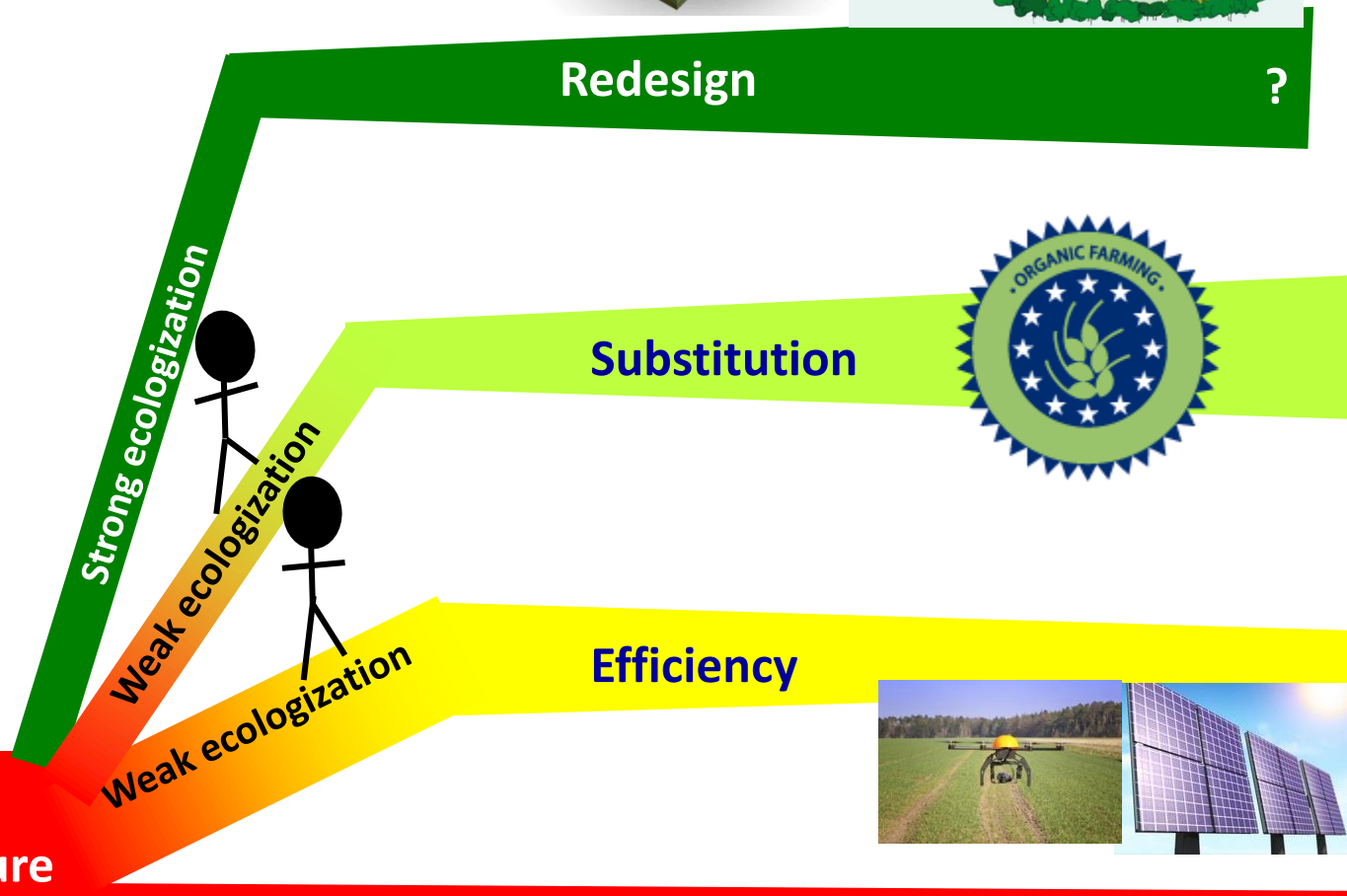
Agroecological transition: a challenge that requires new tools



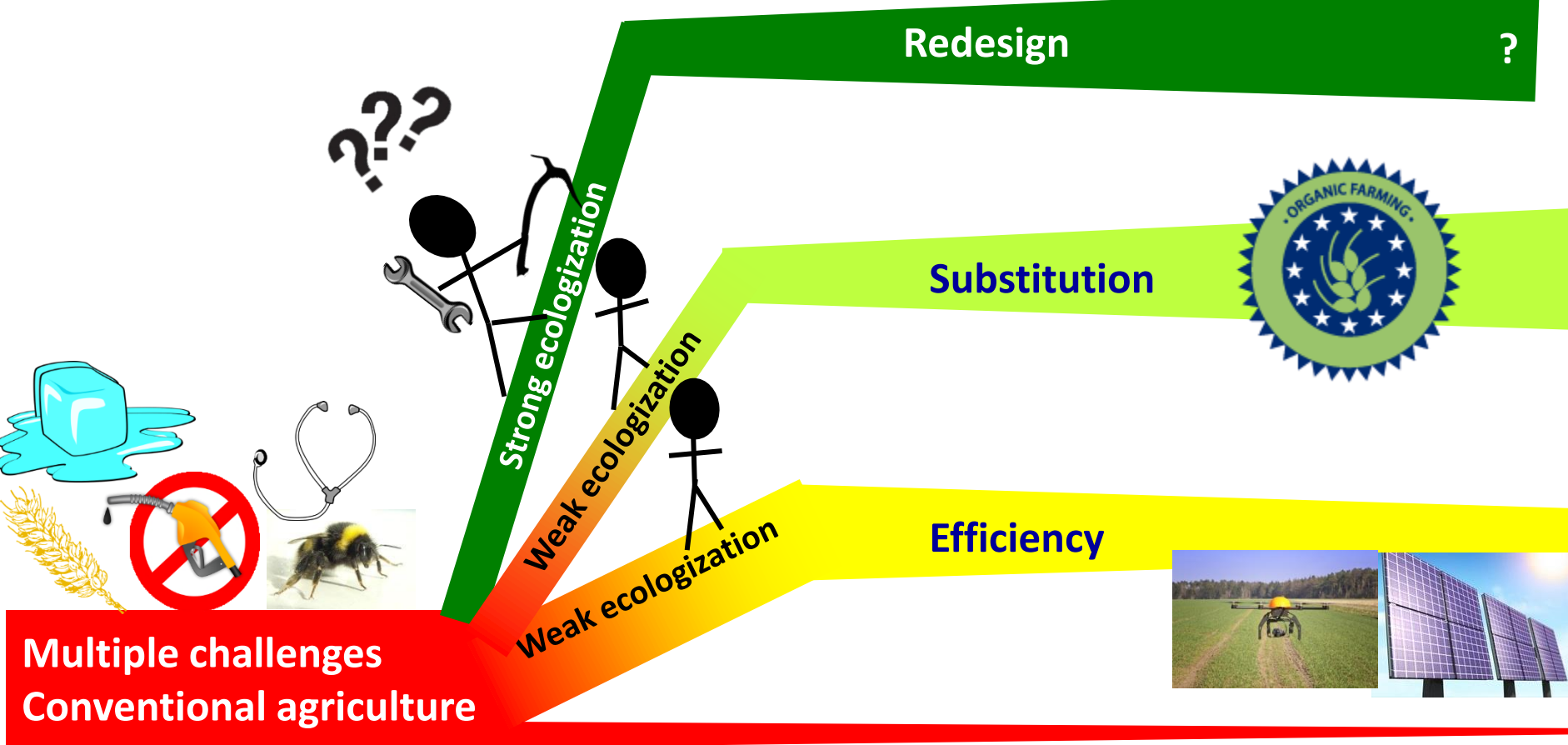
Agroecological transition: a challenge that requires new tools



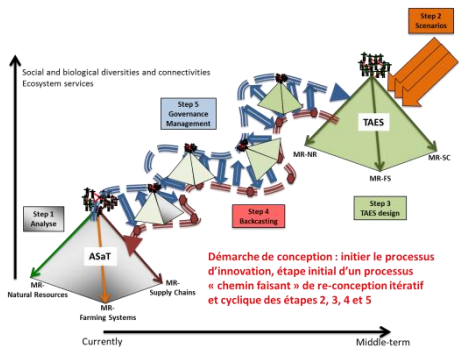
**Multiple challenges
Conventional agriculture**



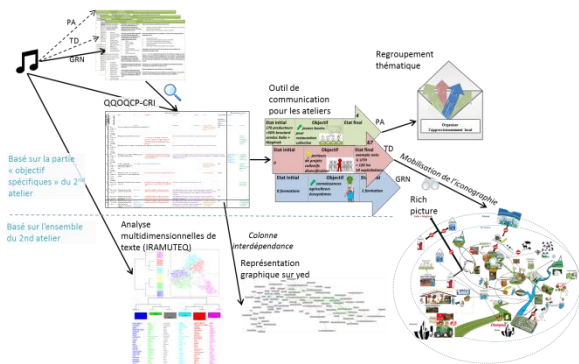
Agroecological transition: a challenge that requires new tools



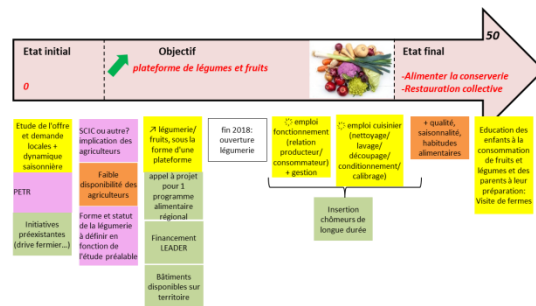
This presentation focuses on the participatory methods and tools design and application on 2 territories



Frameworks for agroecological transition

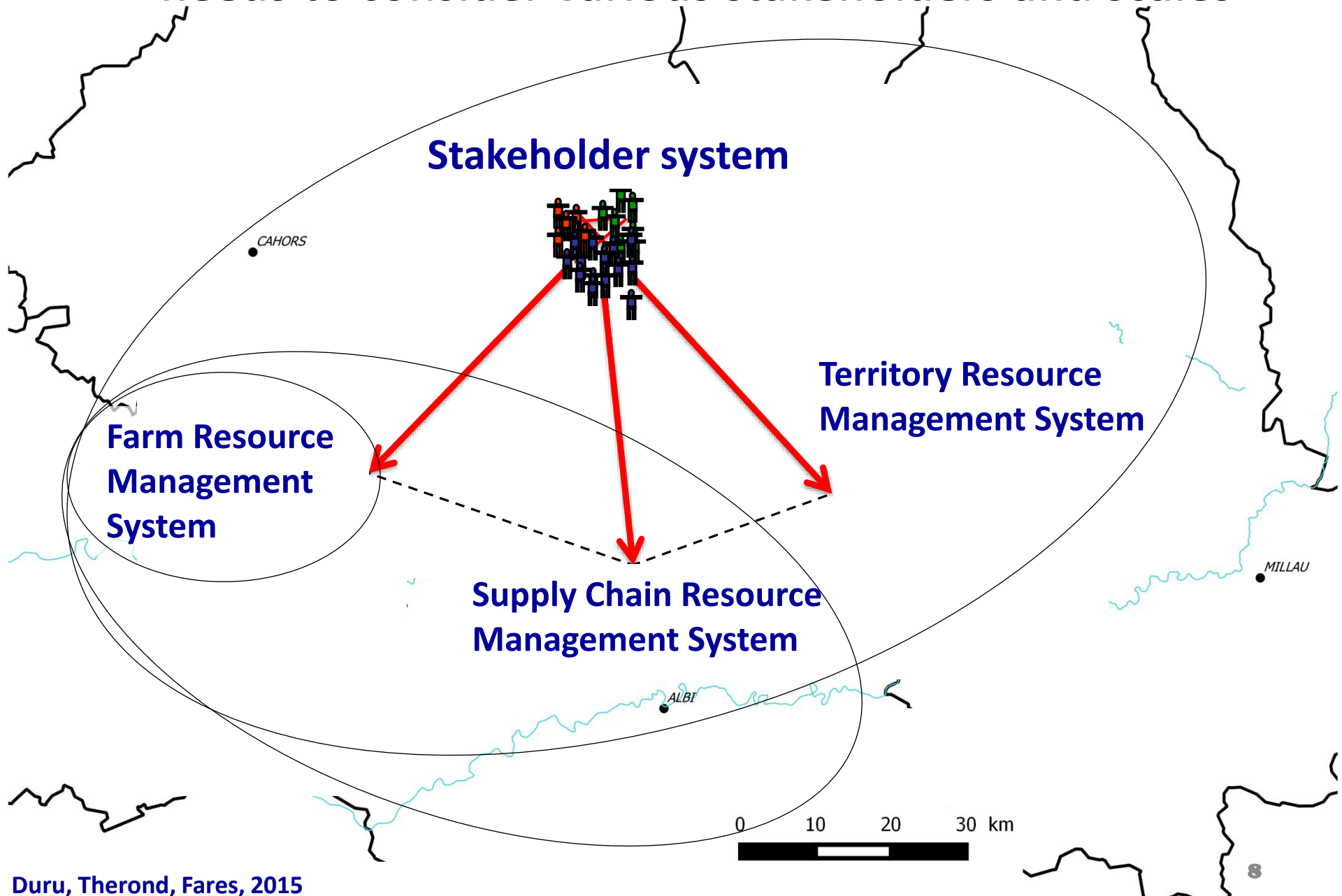


Methods and tools design

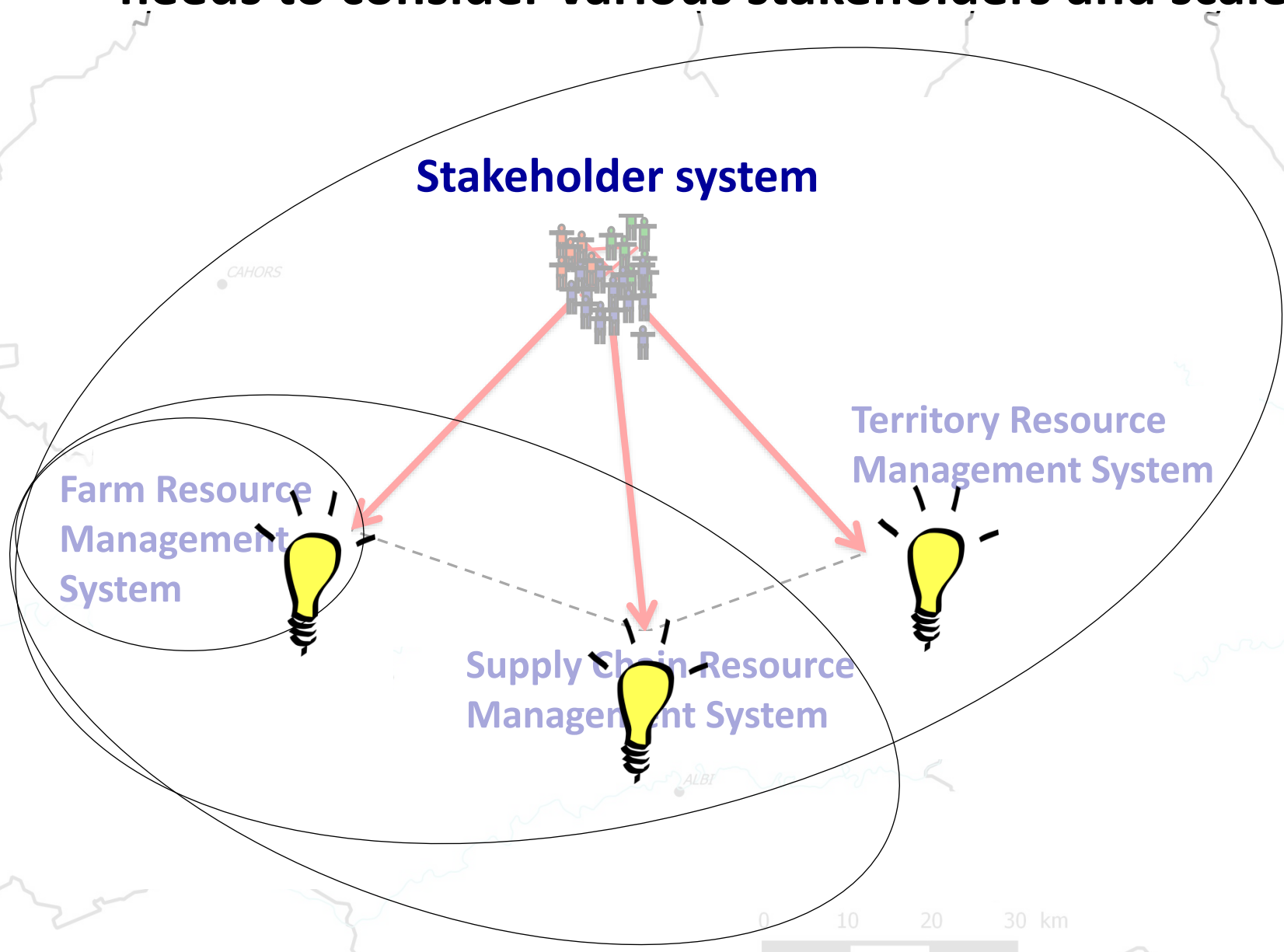


Results obtained

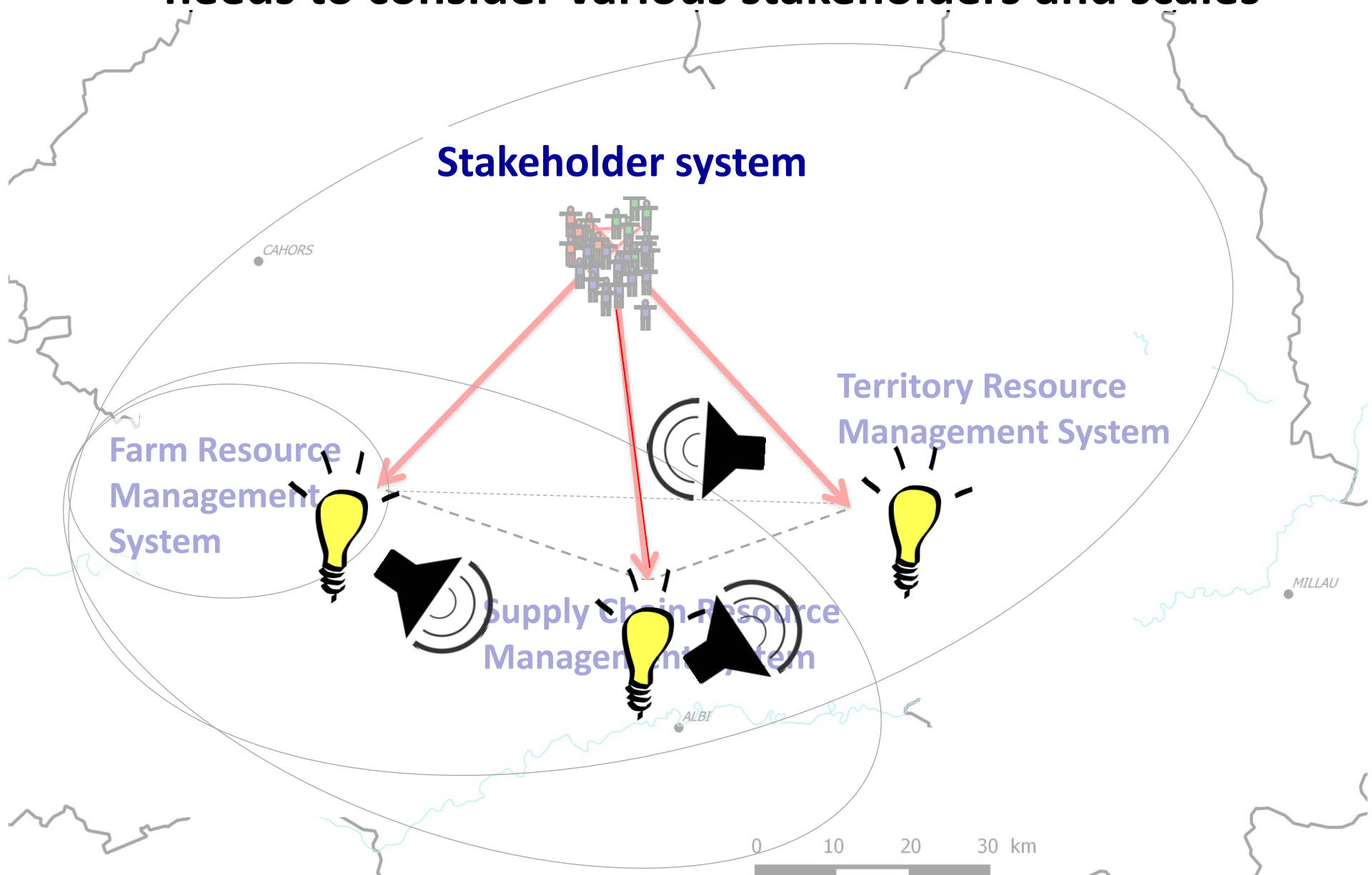
Conceptual framework: agroecological transition needs to consider various stakeholders and scales



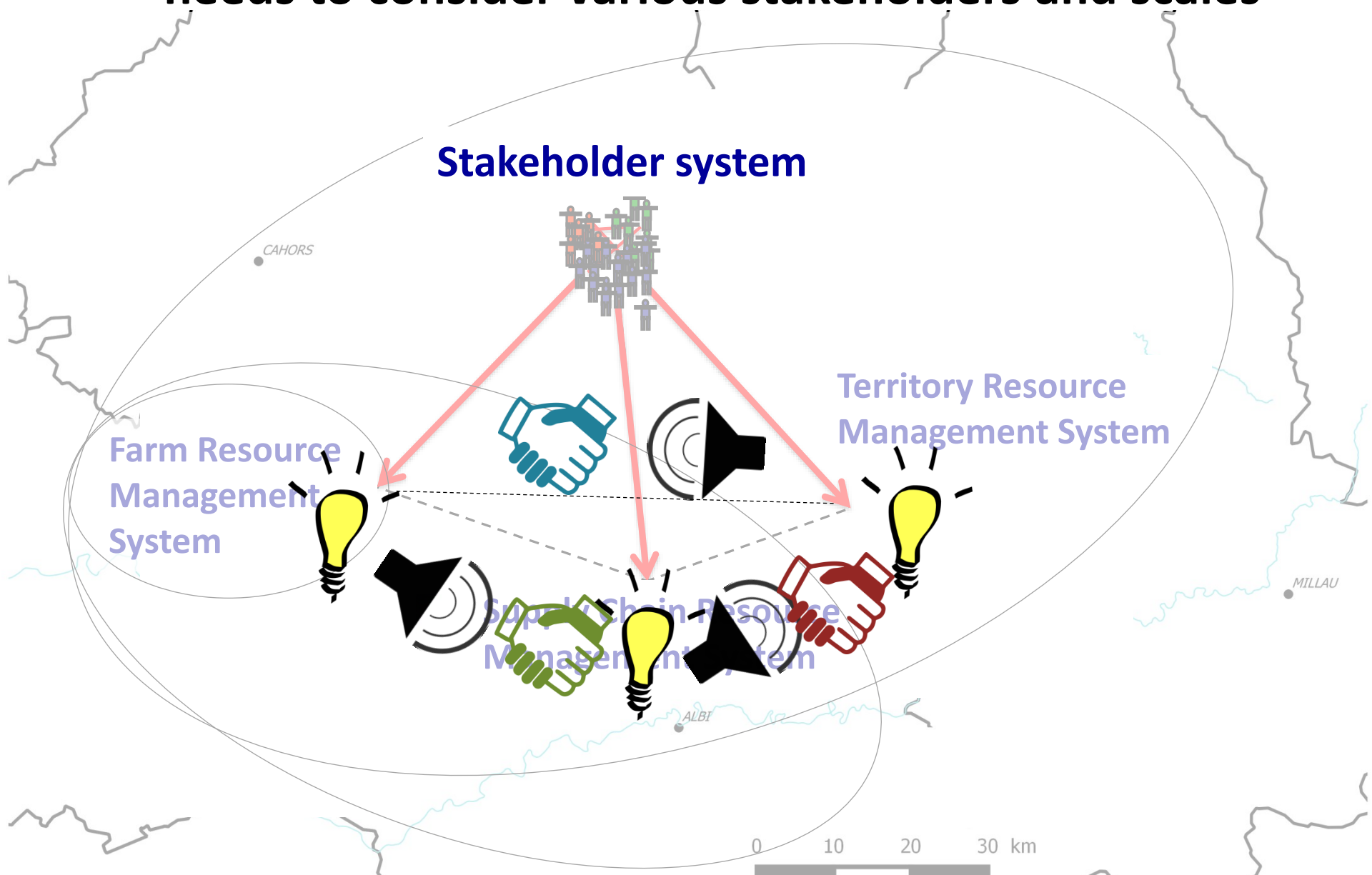
Conceptual framework: agroecological transition needs to consider various stakeholders and scales



Conceptual framework: agroecological transition needs to consider various stakeholders and scales



Conceptual framework: agroecological transition needs to consider various stakeholders and scales





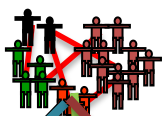
Agroecological transition in a 5-step iterative process

Social and biological diversities and connectivities

Ecosystem services



Step 1
Analysis



MR-
Natural Resources

MR-
Supply Chains

MR-
Farming Systems

Currently

Medium term





Agroecological transition in a 5-step iterative process

Step 2
Scenarios



Social and biological diversities and connectivities
Ecosystem services



Step 1



MR-
Natural Resources

MR-
Supply Chains

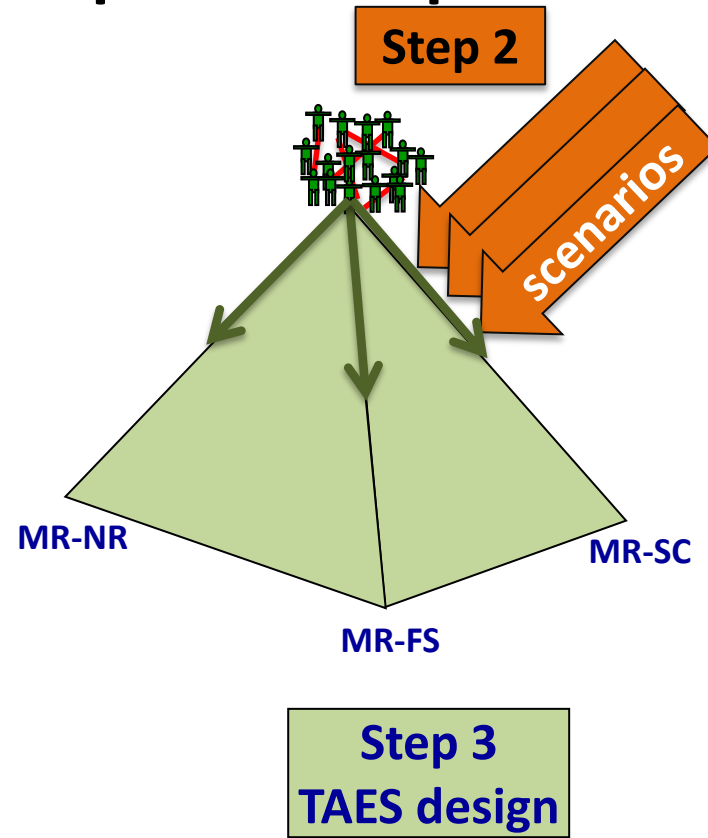
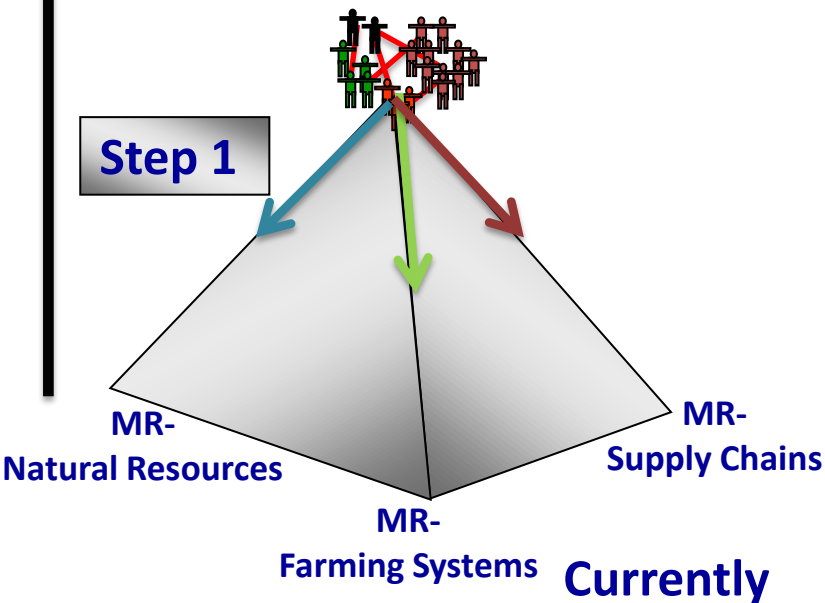
MR-
Farming Systems

Currently

Medium term

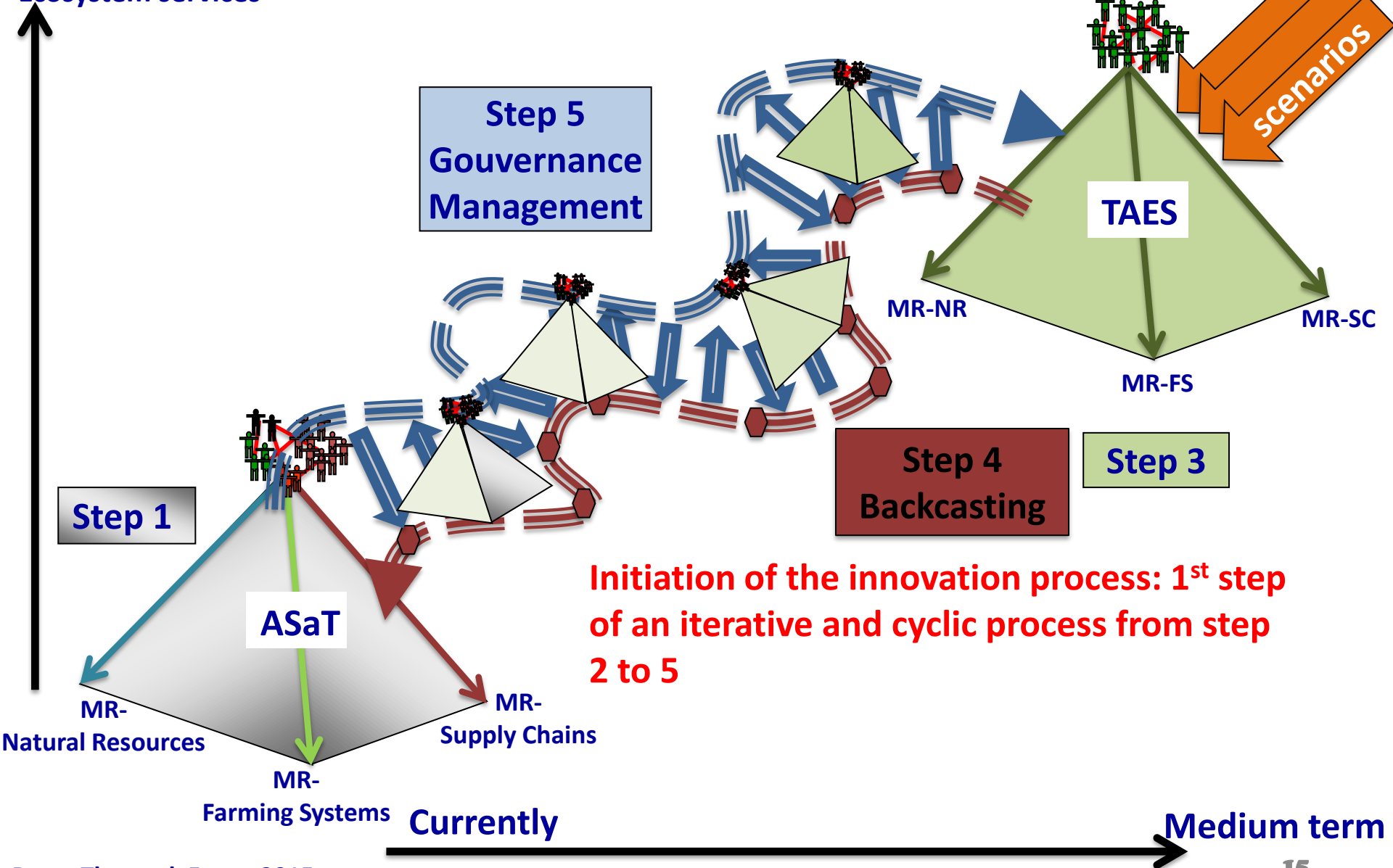
Agroecological transition in a 5-step iterative process

Social and biological diversities and connectivities
Ecosystem services



Agroecological transition in a 5-step iterative process

Social and biological diversities and connectivities
Ecosystem services



Initiation of the innovation process: 1st step of an iterative and cyclic process from step 2 to 5

Almost as many researchers as participants

42 pluridisciplinary researchers



+ *Ergonomics* + *Sociology*



le cnam



Almost as many researchers as participants

42 pluridisciplinary researchers



+ *Ergonomics* + *Sociology*

Selection



le cnam



Territory partners:



Pays Midi-Quercy

Pôle d'Equilibre Territorial Rural



Almost as many researchers as participants

42 pluridisciplinary researchers



+ *Ergonomics* + *Sociology*



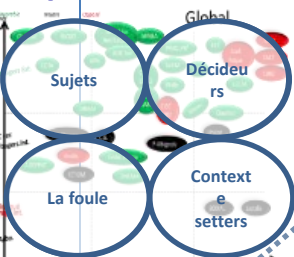
Selection



Territory partners:

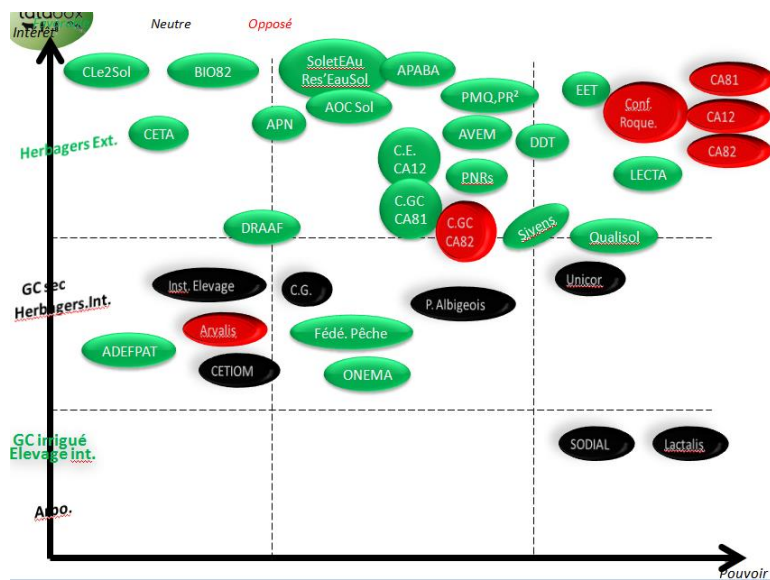


Selection



Workshops' participants

Key individual stakeholders part of a global representativeness of local agricultural system



| Organisme | Agriculteurs | Fonction | Contact | Mail | Contact de | Tel | Adresse1 |
|-------------------|--------------|--|------------------------|---------------------------------------|------------------|--------------------------|--------------------------------|
| ADEAR Tarn | | Animateur | Rémi Gachenot | adear.tarn@free.fr | Etienne | 05 63 51 03 70 | ADEAR Maison des associatio |
| ADEFPAT | | Directrice | Anne Froment | anne.froment@adefpat.fr | Etienne | | |
| Albigeois | | Chef projet Plan Climat Territorial | Julien frat | ifrat@pays-albigeois-bastig | Etienne | 05.63.36.87.01 | Pays de l'Albigeois et des Bas |
| APABA | X | président | Olivier izard | olivierizard@hotmail.fr | Marc | | |
| Bio82 | | animatrice | Virgil Bezin | techniquebio82@gmail.com | Guillaume | | |
| CA12 | | Conseillers d'entreprise | Héloïse Gonzalo-Turpin | heloise.gonzalo-turpin@ay | Marc | | |
| CA12 | | conseiller élevage bio | Stéphane Doumayzel | stephane.doumayzel@tjv | Guillaume | 05.65.73.77.13 | |
| CA12 | | conseiller agronomie fourrages | Benoit Delmas | benoit.delmas@tjveyron.c | Guillaume | 05 65 71 37 00 | |
| CA81 | | conseiller fourrages élevage | Jean-Bernard Mis | jb.mis@tarn.chambagri.f | Guillaume | 05.63.48.83.87 | |
| CA81 | | Conseillère agronomie-environnement | Cécile Frayse | c.frayse@tarn.chambagri | Etienne | 05.63.48.83.83 | Chambre d'agriculture du Tar |
| CA81 | | Conseillère agronomie-environnement | Antoine Delaunois | a.delaunois@tarn.chambagri | Etienne | 05.63.48.83.83 | Chambre d'agriculture du Tar |
| CA82 | | Conseillère Grande Cultures conventionnel et bio | Ingrid Barrier | ingrid.barrier@agri82.fr | Etienne | 05.63.65.07.11 | |
| CA82 | | Conseillère installation bio | Marie Cabarès | marie.cabares@agri82.fr | Etienne | 05.63.63.09.95 | |
| CA82 | | Responsable du pôle végétal | Didier Lafage | | | 05.63.63.63.46 | |
| CFPPA albi | | | | | | | |
| Clé 2 Sol | | présidente | Sarah Singla | s.singla@laposte.net | Etienne, JPS | 05.65.73.61.70 | |
| CRAMP | X | Pôle économie et prospective | Nelly Grillet | nelly.grillet@mp.chambagri | Olivier, Etienne | 05.61.75.75.81 | |
| FDCUMAR2 | | | | | | | |
| fédé pêche 12 | | Ingénieure | Martine Guilmet | | Alexandre | | |
| Fermes de Figeac | | Directeur | Dominique Olivier | dominique.olivier@fermesdefigeac.coop | | | |
| GPLV | | Animatrice (permanence le mardi) | benedicta Canredon | | | 565451957 06 75 12 22 55 | |
| Lactalis | | | | | | | |
| PMO | | Chargé de Responsab | | | | | |
| QUALISOL | | président | | | | | |
| Res'Eausol | | directrice | | | | | |
| Ruthénois | | directrice | | | | | |
| SODIAL | | | | | | | |
| Sol et Eau | X | Président | | | | | |
| UNICOR | | | | | | | |

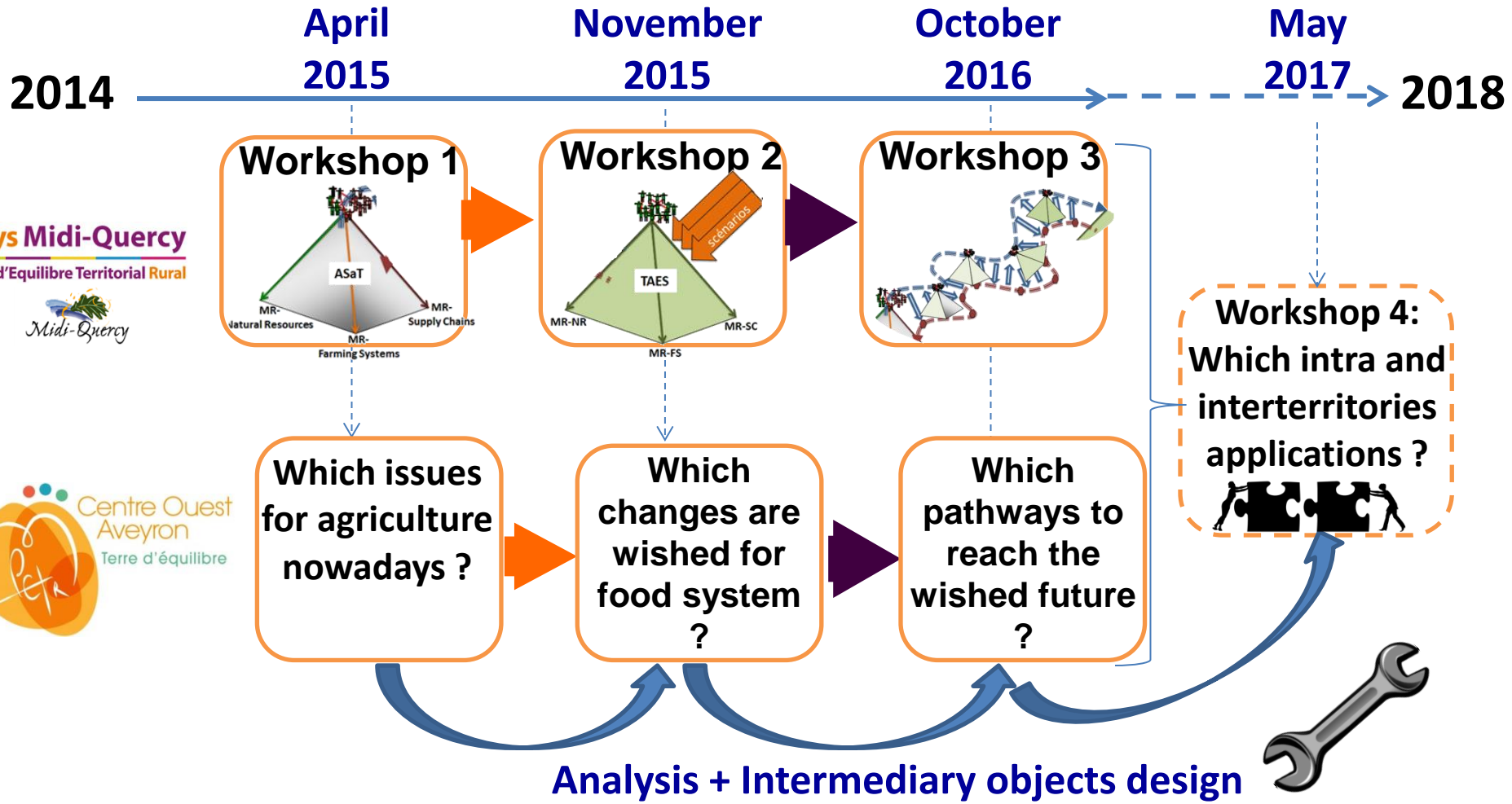
Workshops' participants:

- Farmers
- Farmer groups
- Civil society (consumers or environmental associations)
- Advisory groups
- Institutions
- Supply chain (cooperative, label)



Stakeholders data basis

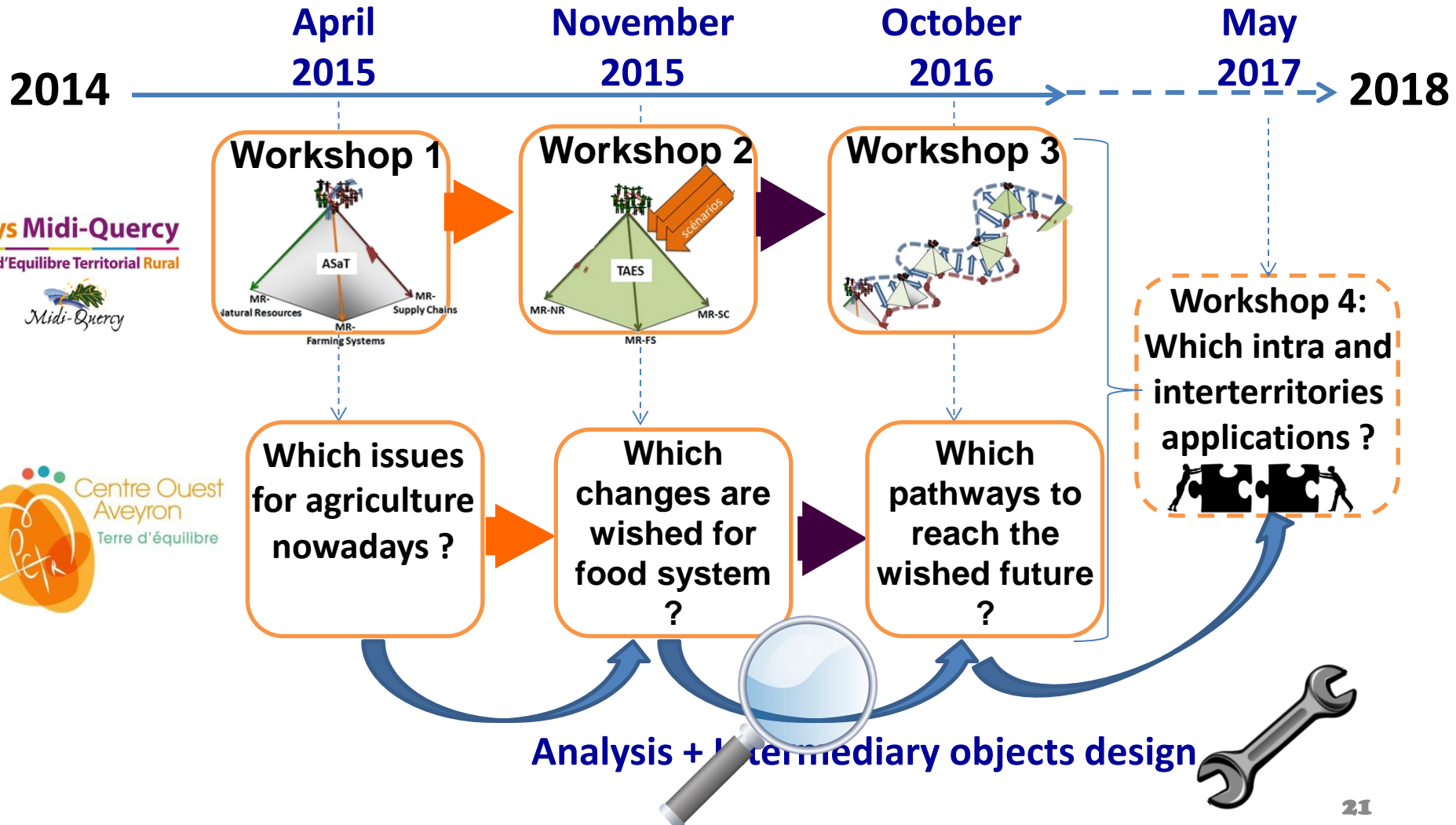
An operationalization of the conceptual framework in 3+1 steps



Pays Midi-Quercy
Pôle d'Equilibre Territorial Rural
Midi-Quercy

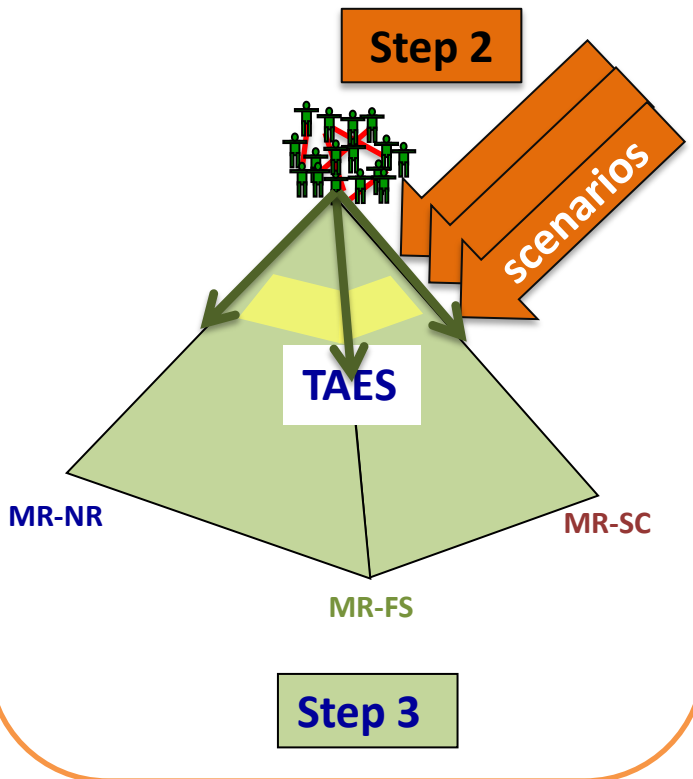
Centre Ouest Aveyron
Terre d'équilibre

An operationalization of the conceptual framework in 3+1 steps



83+65 targets for an agroecological system in 2025 represented at different scales

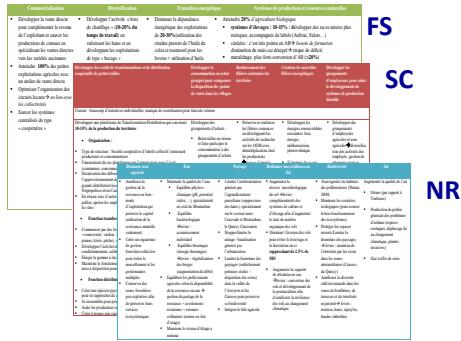
Workshop 2



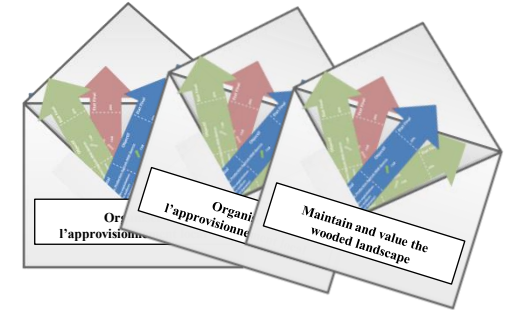
- ↗ crop rotation's length
- spread calving time to optimize the use of mountain lands
- create common compost platform
- ↗ pilot farm to test innovations
- ↗ direct selling
- ↗ certification label to export
- ↗ wooded network
- ↘ urbanization dynamics
- ↗ soil cover

...

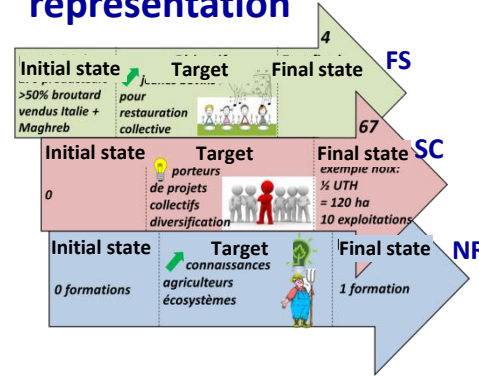
83+65 targets for an agroecological system in 2025 represented at different scales



Target clustering

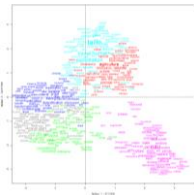


Target individual representation

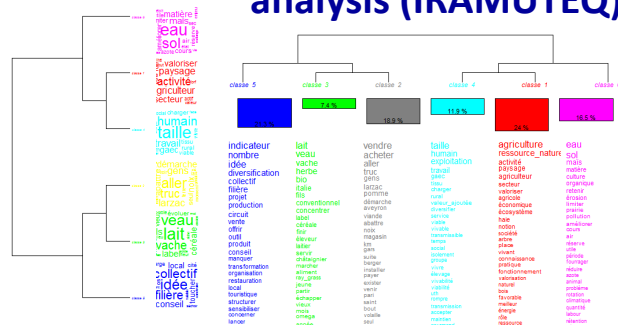


5W1H -HRI

| Indicateur | Objectif | Unité | État initial | État cible | État final |
|------------------|-------------------------------------|--------|--------------|------------|------------|
| Produit agricole | Produire 1000 tonnes de légumes | tonnes | 500 | 750 | 1000 |
| Émission de CO2 | Réduire les émissions de CO2 de 20% | tonnes | 1000 | 800 | 600 |
| Surface boisée | Augmenter la surface boisée de 5% | ha | 100 | 105 | 110 |



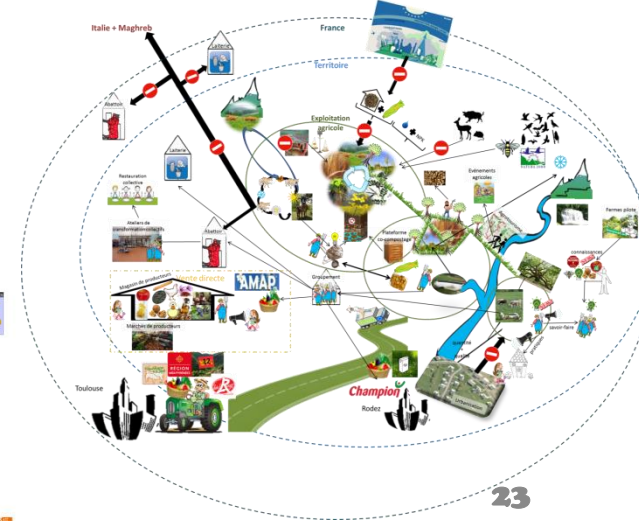
Multidimensional text analysis (IRAMUTEQ)



Interdependency representation on yed

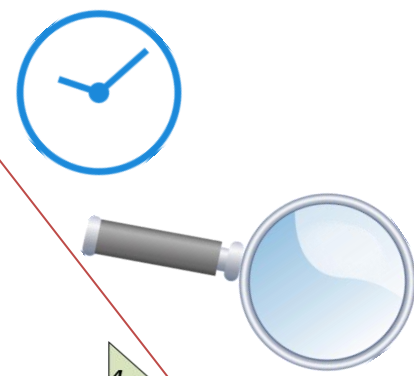
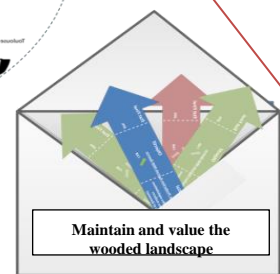
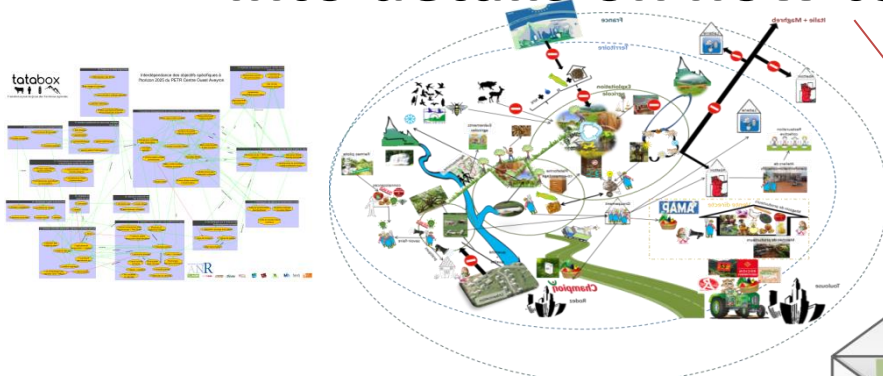


Rich picture



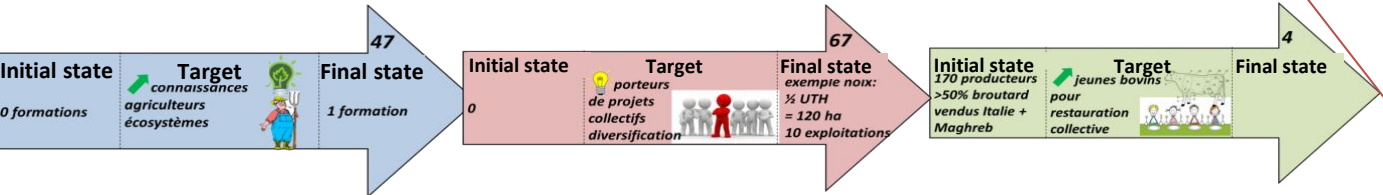


A diversity of methods and tools to go progressively into details on how to reach the targets



What did you already produced?

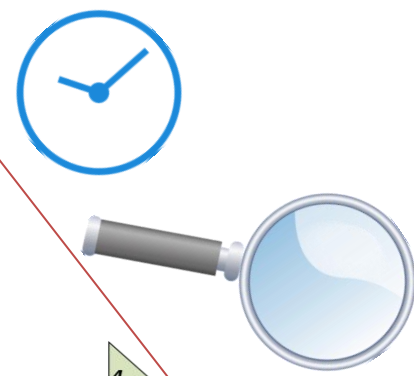
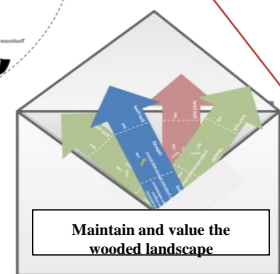
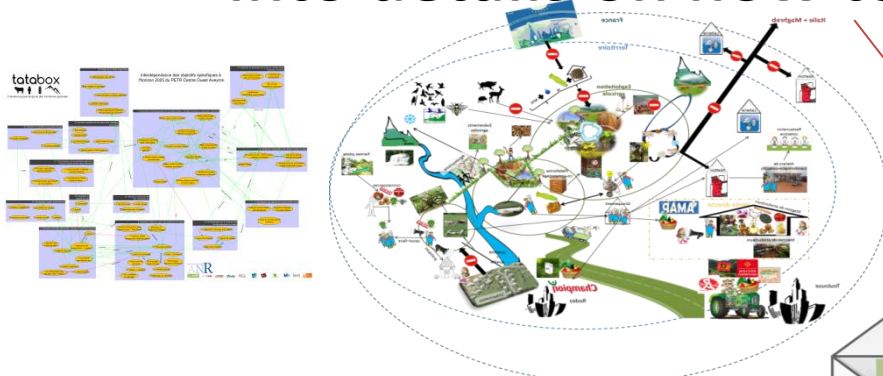
Are there priority clusters?



How do you organize the targets in each cluster?

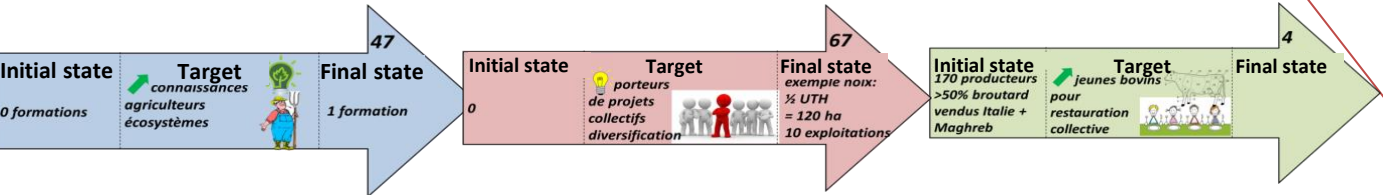


A diversity of methods and tools to go progressively into details on how to reach the targets

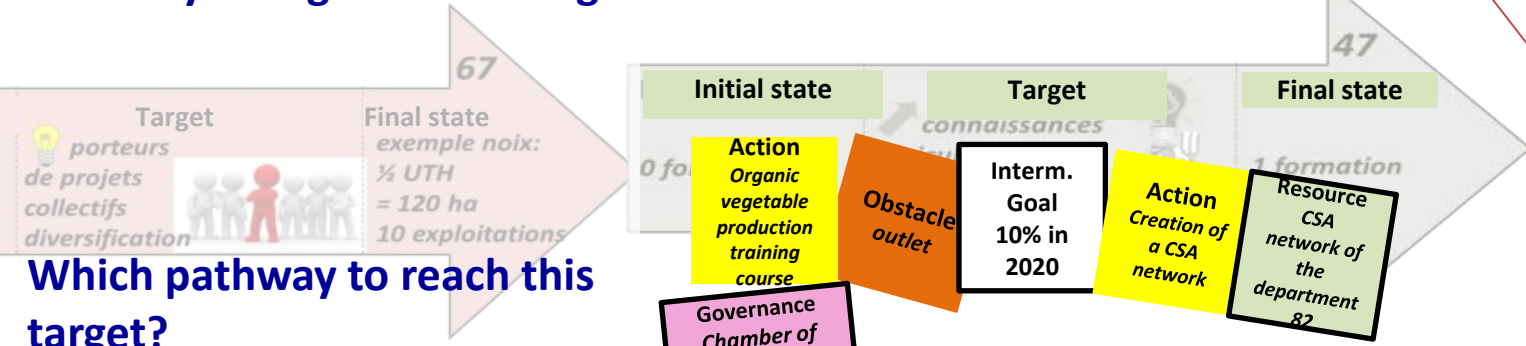


What did you already produced?

Are there priority clusters?



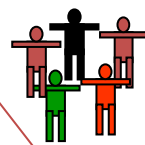
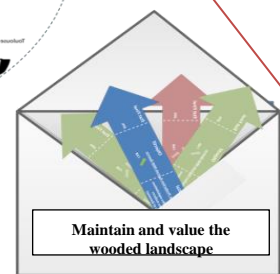
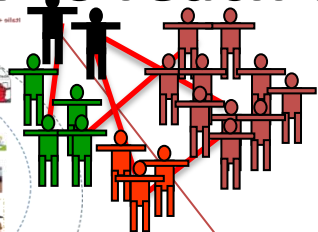
How do you organize the targets in each cluster?



Which pathway to reach this target?

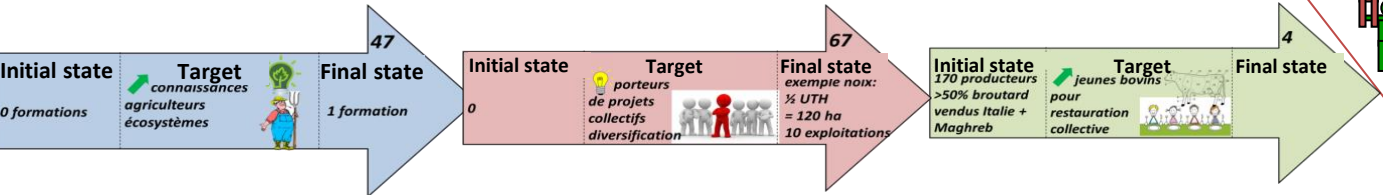


A diversity of methods and tools to go progressively into details on how to reach the targets

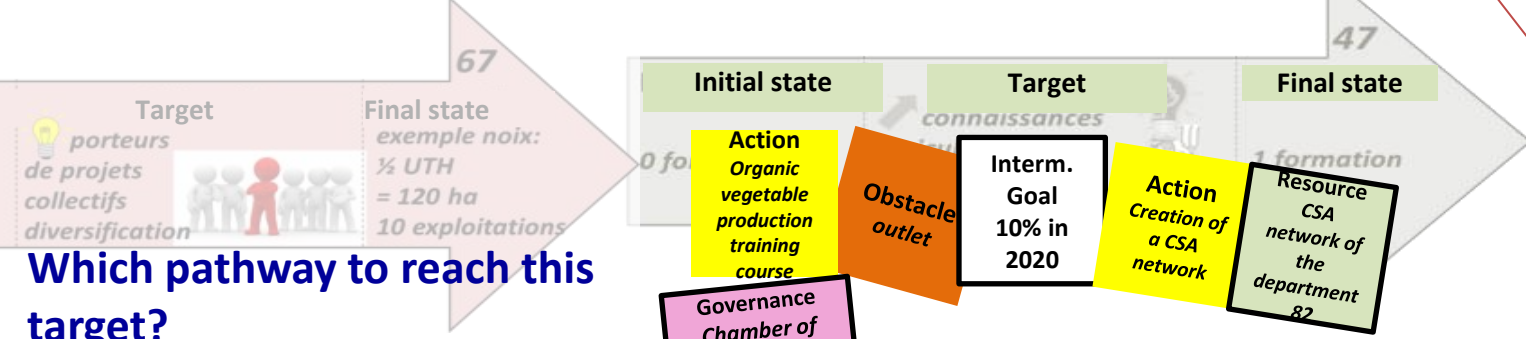


What did you already produced?

Are there priority clusters?

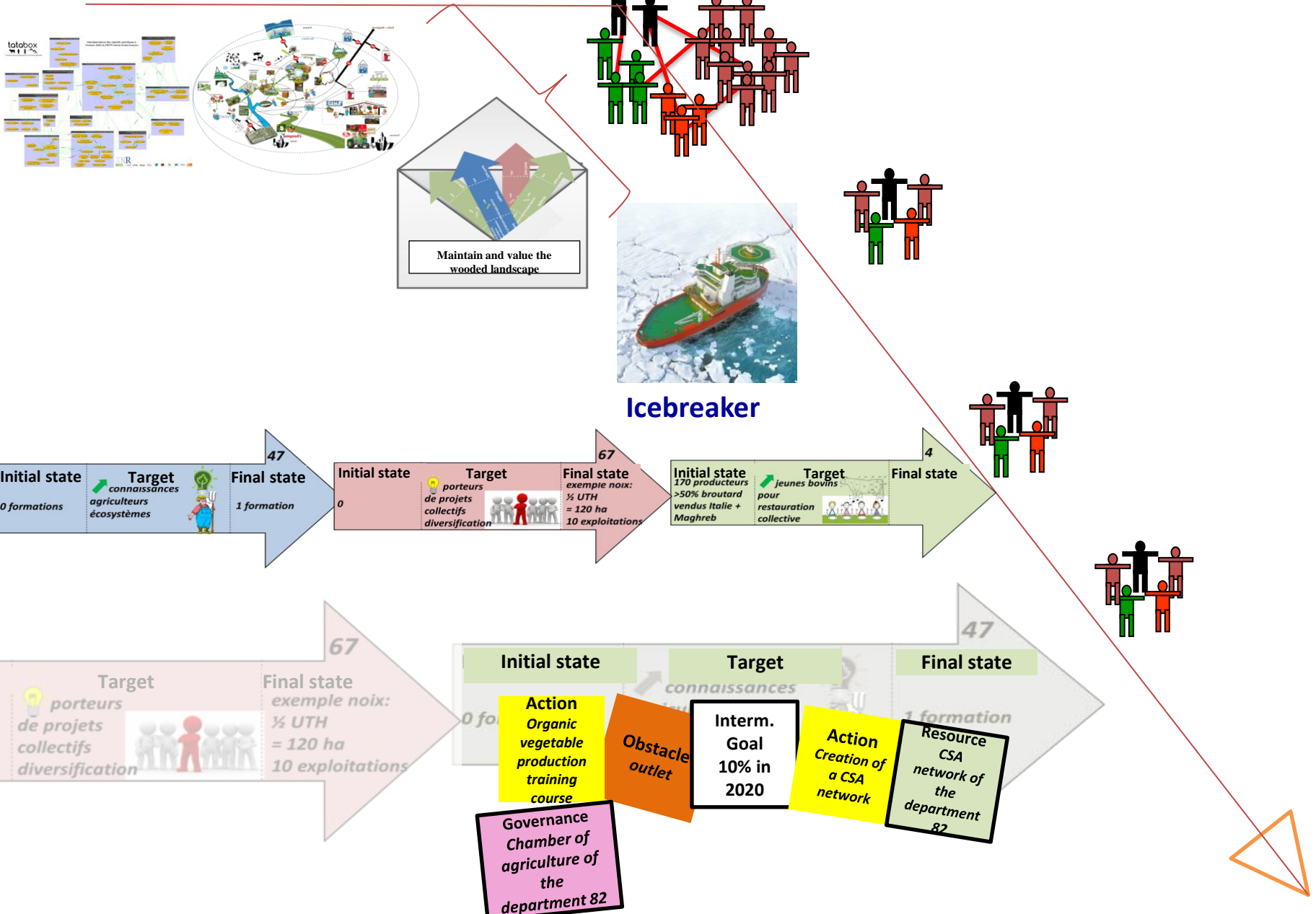


How do you organize the targets in each cluster?

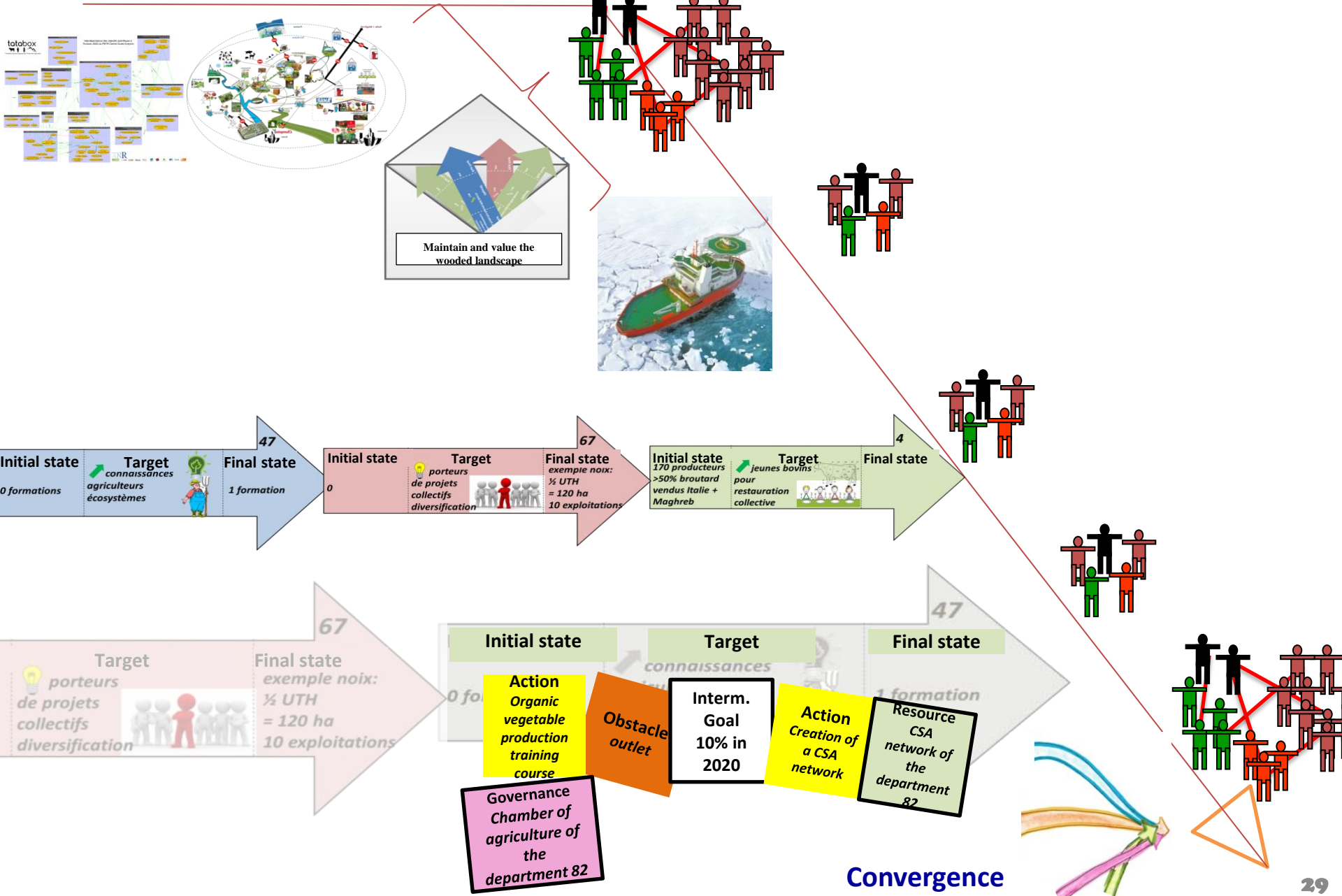


Which pathway to reach this target?

A diversity of methods and tools to go progressively into details on how to reach the targets



A diversity of methods and tools to go progressively into details on how to reach the targets



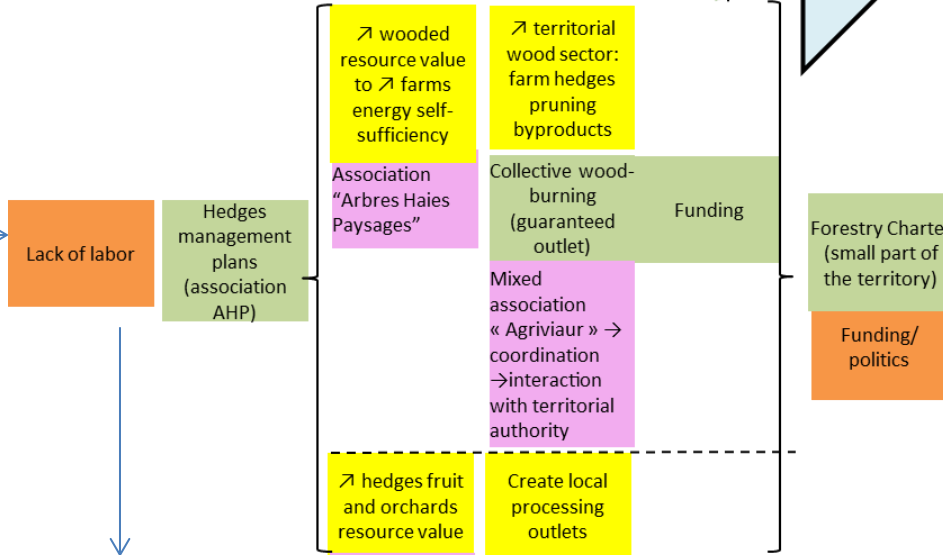
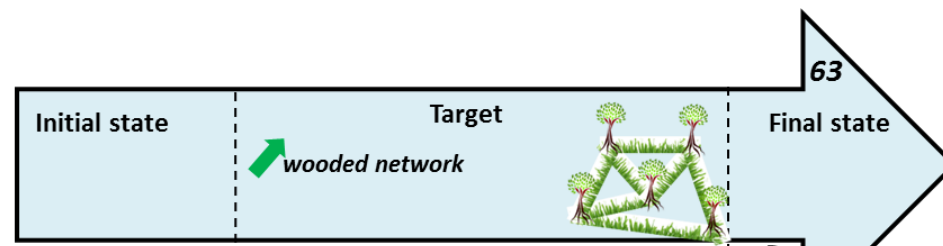


Dense outputs





Processing results to create useful tools for the territorial planning



Action plan

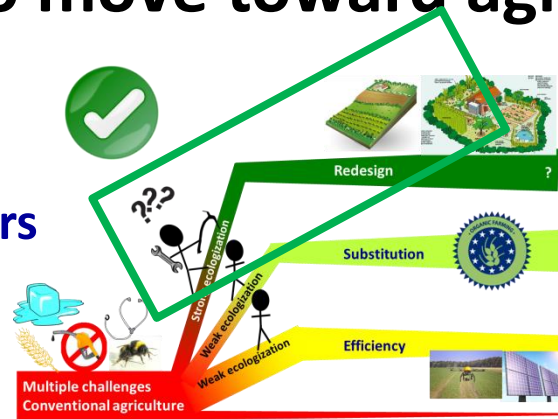
| Target cluster | Target | Semester jan-16 | jan-17 | jan-18 | jan-21 |
|---|---|--|---|--|---|
| Maintain and value the wooded landscape | Create a regular wooded network between farms | -> wooded resource value to farms energy self-sufficiency | -> territorial wood sector: farm hedges pruning byproducts | -> hedges fruit and orchards resource value | -> territorial wood sector: farm hedges pruning byproducts |
| | | Association "Arbres Haies Paysages" | Mixed association « Agrivieur » → coordination → interaction with territorial authority | Associations « Terres paysannes » and « Les amis du verger » | Association "Arbres Haies Paysages" |
| | | -> hedges fruit and orchards resource value | -Create local processing outlets | Create employment to manage fruit trees in a farm network | Collective wood-burning (guaranteed outlet) |
| | | Associations « Terres paysannes » and « Les amis du verger » | Start up | Start up | Mixed association « Agrivieur » → coordination → interaction with territorial authority |
| | | -Create employment to manage tree fruits in a farm network | Visit of successful examples | Visit of successful examples | Start up |

In summary, we designed outputs for scientists and local stakeholder to move toward agroecology

From theory to practice:

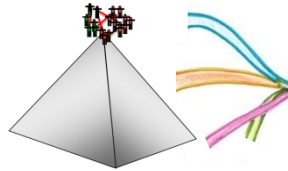
- Operational replicable method
- Validated by the local stakeholders

- ✓ Credible
- ✓ Salient
- ✓ Legitimate



Ready to use outputs for stakeholders

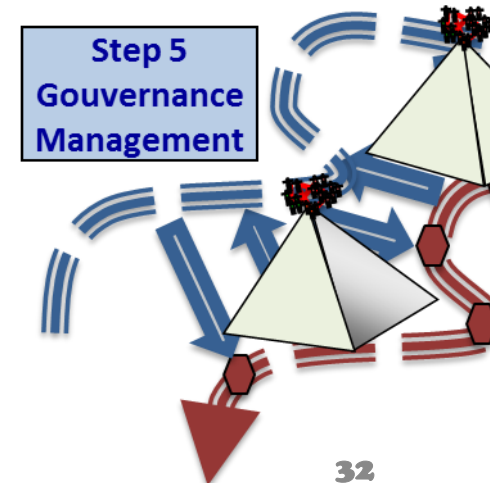
- ✓ Shared Diagnosis + Vision + Action plan
- ✓ Methodological guide



Prospects:

- ? Researcher position on long term processes : design + implementation
- ? Polycentric governance/Step by step design
- ? Analysis learning process and position evolution

Questions?



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