



Recommandations pour surmonter les obstacles à la diversification des cultures

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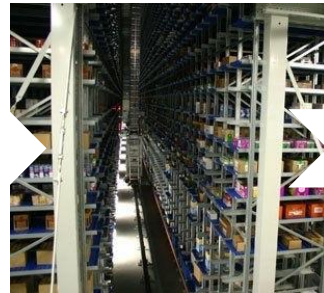
Une approche construite sur trois piliers

- Identifier les **obstacles** à la diversification des cultures
- Développer des recommandations et des innovations pour dépasser les situations de verrouillages
- En considérant toutes les étapes de la chaine de valeurs et toutes les interactions entre les acteurs de ces chaines de valeurs.

FERMES



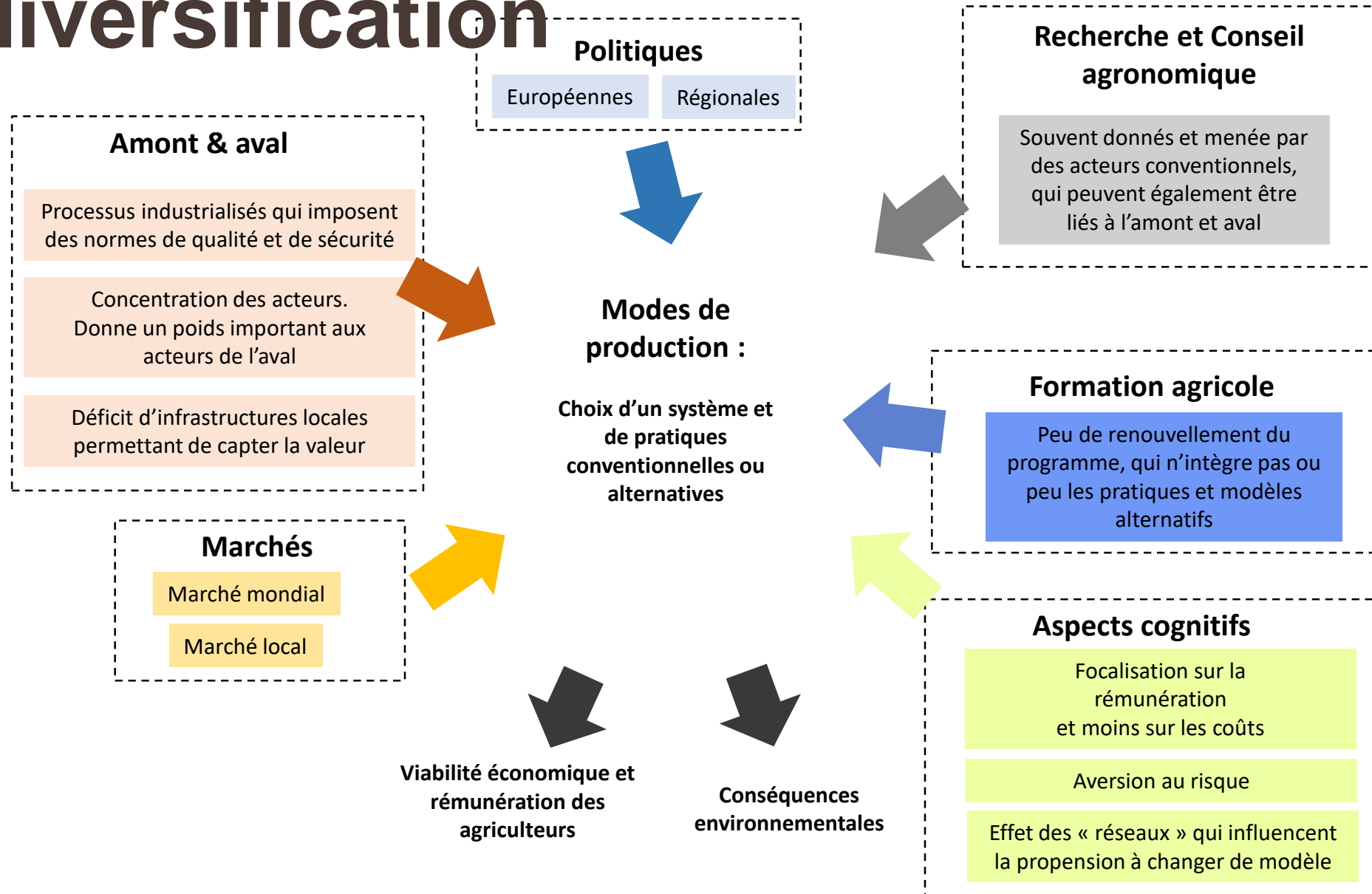
LOGISTIQUE, TRANSFORMATION, DISTRIBUTION



CONSOMMATEURS



Un ensemble d'obstacles sur le chemin de la diversification



La combinaison des obstacles construisent un verrouillage

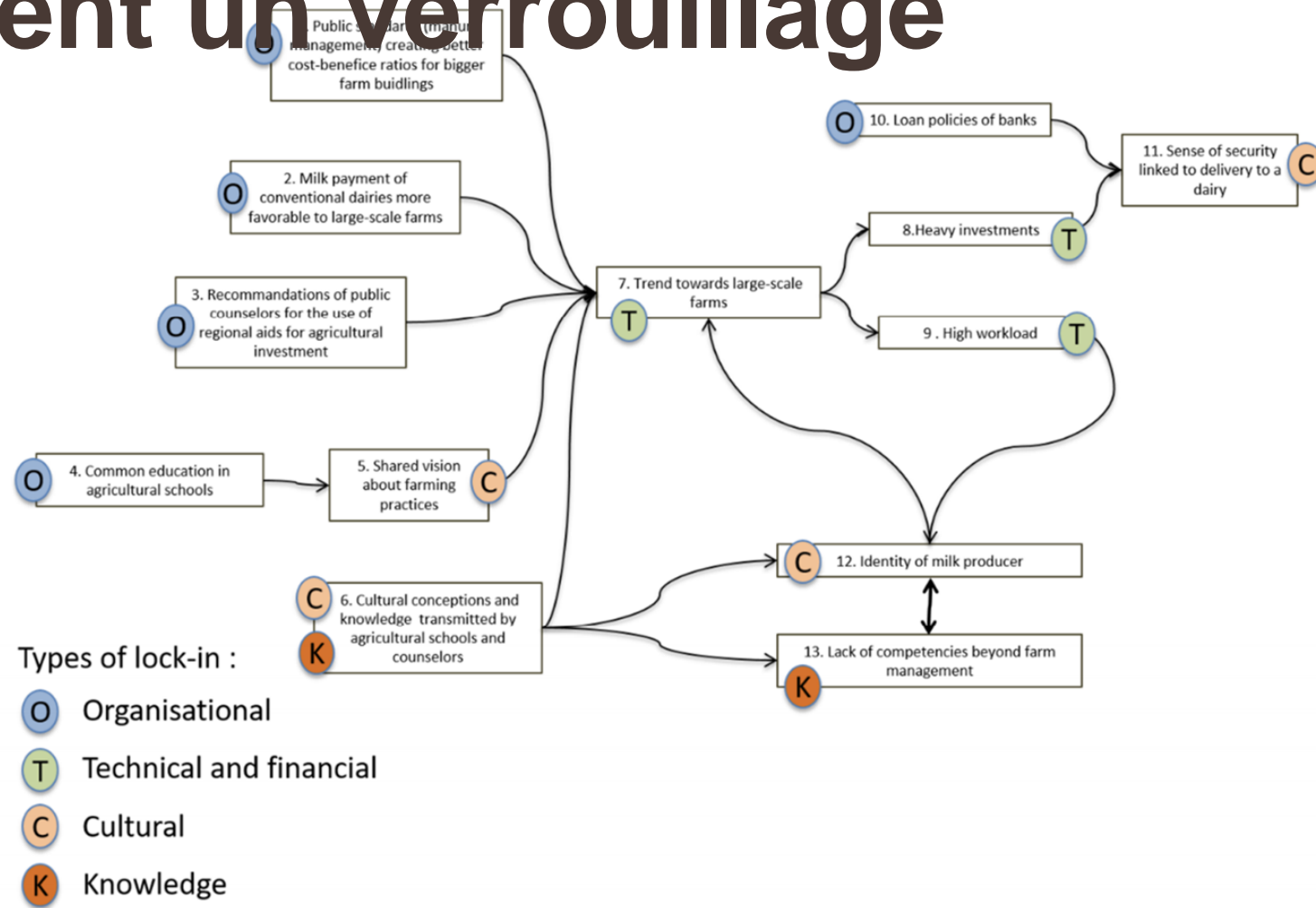


Figure 3. Lock-ins acting and reinforcing themselves at the farmer level.

Une démarche en trois temps



- Une cartographie systématique des solutions permettant de surmonter les obstacles.
- Des solutions et des recommandations claires que les acteurs peuvent mettre en œuvre ou auxquelles ils peuvent contribuer.

Des exemples d'obstacles

Stages of the agri-food system	Main actors	# of barriers	Examples of barriers
Farm	Farmers, Advisors, Input suppliers	20	<ul style="list-style-type: none"> › Lack of technical and economic knowledge or references regarding crop diversification; › Machinery innovations are needed for new field activities; › Cultural barriers and divergence from previous farming practices; › New practices require investment (time & funding).
From harvest to retail	Intermediaries, Food processing companies	12	<ul style="list-style-type: none"> › Product volumes too limited to be profitably or easily collected; › Equipment for processing the new crops require innovation & investment; › Uncertainties, risks and variability of processing new crops/products hinder willingness to invest in new value chains.
Market	Retailers, Consumers	4	<ul style="list-style-type: none"> › No pre-existing market for new crops/products; › Poor competitiveness with imported products.
Across value chains	All	10	<ul style="list-style-type: none"> › Need for new contract designs to address variability of production in the first years of innovation; › Lack of coordination between actors developing new value chains.

² More information on the DiverIMPACTS case studies is available on the DiverIMPACTS project website at <https://www.diverimpacts.net/case-studies.html>.

DiverIMPACTS policy brief: Recommendations for overcoming barriers to crop diversification towards sustainable agriculture.

L'importance des acteurs

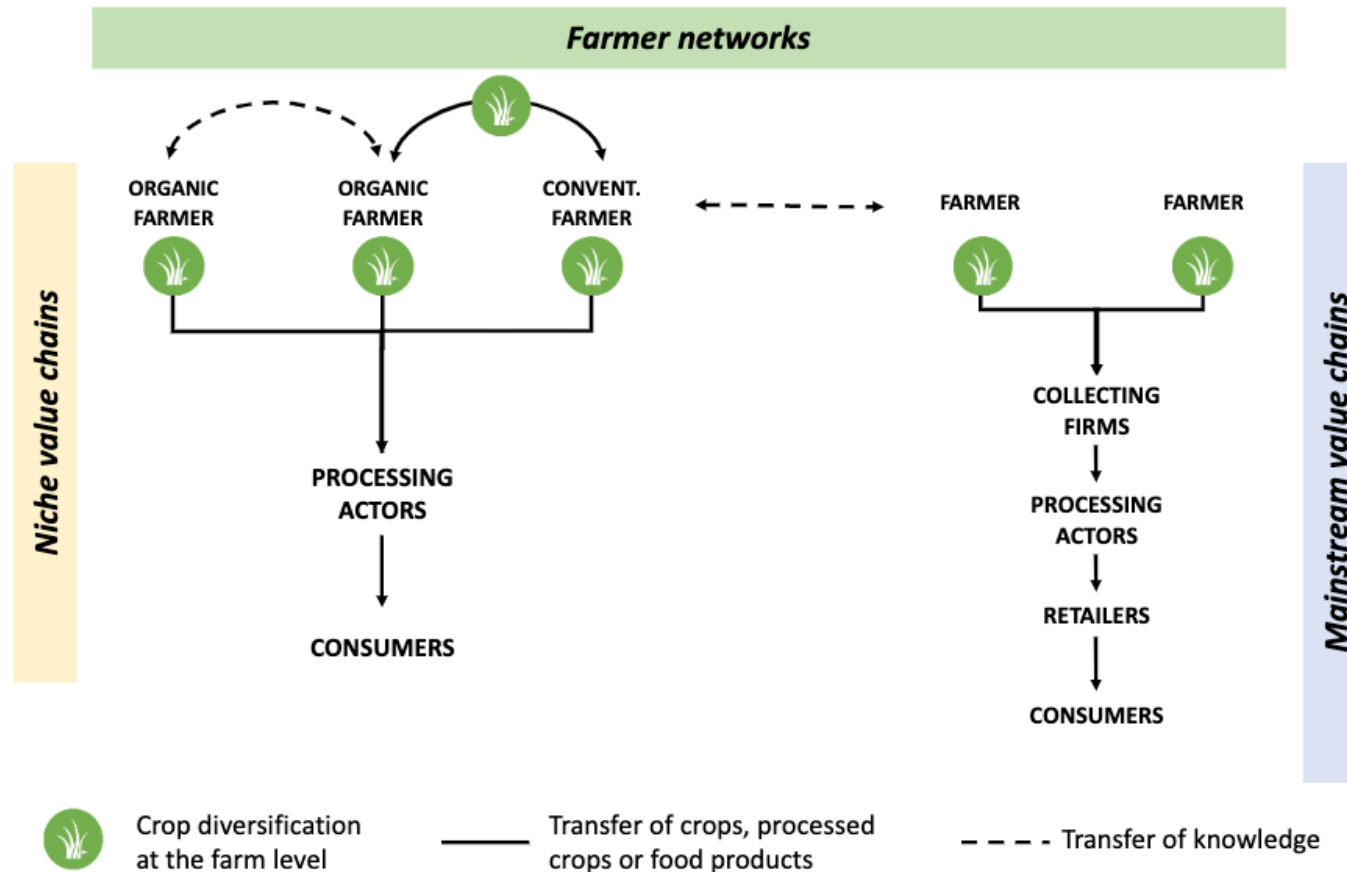


Figure 1: The three innovation settings for developing crop diversification. Crop diversification can occur in: (a) niche value chains; (b) mainstream value chains; and (c) farmers' networks of innovation. Examples of these innovation settings are provided in the text above. (Adapted from Morel et al 2020).

Une démarche en trois temps




- Une cartographie systématique des solutions permettant de surmonter les obstacles.
- Des solutions et des recommandations claires que les acteurs peuvent mettre en œuvre ou auxquelles ils peuvent contribuer.

Deux documents de référence

- www.sytra.be
- www.diverimpacts.net

POLICY BRIEF



Recommendations for overcoming barriers to crop diversification towards sustainable agriculture

Clémentine Antier, Loïc Viguier, Antoine Messéan and Philippe V. Baret

- The diversification of cropping systems is still limited due to barriers occurring at the farm level, along value chains as well as in the coordination between actors.
- Different barriers affect niche and mainstream value chains.
- Future policies should address barriers using a systems approach and should differentiate between innovations in niche and mainstream value chains.
- Barriers can be addressed by monitoring the uptake of crop diversification, reallocating public and private resources towards agroecological practices and value chains based on minor crops, providing financial support to actor networks to mitigate innovation risks, and communication campaigns to promote minor crops.

Introduction



Crop diversification is recognised as a central strategy to improve productivity, delivery of ecosystem services and resilience of cropping systems [1]. It can be achieved by including more crops in existing rotations or cultivating several crops together in a field. Ecosystem services provided by crop diversification include the conservation of biodiversity, preservation of water quality, pesticide-free pest and disease control, improved soil quality, and climate change mitigation [2-5]. Crop diversification can thus be considered key to reaching the EU environmental sustainability targets.

Although multiple benefits of crop diversification have been proven, the development of diversified cropping systems is still limited due to several barriers in the agri-food system. Conventional crop rotations typically last only 3 to 5 years [6], which indicates that limited number of crops are being cultivated. At the EU level, 70% of the annual agricultural crop-ping area is cultivated with only eight species¹.

In this context, a detailed analysis of barriers to crop diversification was undertaken by the DiverIMPACTS project. The analysis aimed to highlight the factors limiting the development of more diversified cropping systems and identify enablers to facilitate the shift to more sustainable food systems. To be effective, these enablers have to be rolled out using a systems approach [8], which takes into consideration all stages and actors in the value chains as well as the interactions between them.

¹ The eight species are: Common wheat and spelt, barley, grain maize, rape and turnip rape seeds, sunflower seeds, and green maize. The annual cropping agricultural area was 85 744 ha, 82% of the EU-28 arable land [7].

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DiverIMPACTS

Diversification through Rotation, Intercropping, Multiple cropping, Promoted with Actors and value-Chains Towards Sustainability

Report

Addressing barriers to crop diversification: key elements of solutions identified across 25 case studies

Work package: 5
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CI Classified, as referred to Commission Decision 2001/844/EC	
CO Confidential, only for members of the consortium (including the Commission Services)	

Research and Innovation action: GA no. 727482
Start date of the project: June 1st, 2017



OBSTACLE

AXES STRATEGIQUES

SOLUTIONS concrètes

**Manque de
connaissances
techniques et de
références**

DÉVELOPPER DES
CONNAISSANCES ET DES
RÉFÉRENCES
SUPPLÉMENTAIRES

RENFORCER
L'ACCESSIBILITÉ ET LA
DIFFUSION DES
CONNAISSANCES

- Expériences sur le terrain au niveau des exploitations agricoles
- Expériences sur le terrain par ou avec des groupes d'agriculteurs
- Expériences et recherches sur le terrain par ou avec des acteurs en aval
- Diversification des sources de connaissances des agriculteurs (réseaux, etc.)
- Accès aux connaissances d'autres régions ou d'autres pays
- Connaissances grâce à des formations supplémentaires



14 AXES STRATÉGIQUE

ASPECTS TECHNIQUES

- Adapter les outils et les systèmes aux options de diversification des cultures
- Adapter les options de diversification des cultures pour mieux répondre au contexte actuel
- Développer de nouvelles connaissances et références
- Renforcer l'accessibilité et la distribution des connaissances
- Améliorer les performances

ASPECTS ÉCONOMIQUES

- Limiter les coûts initiaux
- Mitiger les risques
- Sécuriser la rentabilité
- Sécuriser la demande
- Rechercher les économies d'échelle

ASPECTS ORGANISATIONNELS

- Organiser les étapes en aval
- Développer des partenariats
- Faciliter l'accès aux intrants

PAYSAGE INSTITUTIONNEL

- Développer un contexte favorable
- Développer un cadre politique favorable
- Evaluer et promouvoir la diversification des cultures

→ Impliquer tous les acteurs des chaînes de valeur ainsi que les parties prenantes externes : *agriculteurs, industrie agroalimentaire, détaillants, consommateurs, décideurs politiques, banques et assurances, fournisseurs d'intrants, ONG environnementales, etc.*



Recommandations pour les décideurs

1. Documenter le développement de la diversification des cultures aux échelles régionales, nationales et européennes
2. Adapter la politique agricole commune pour soutenir les pratiques agroécologiques innovantes
3. Réallouer les moyens publics et privés en recherche-développement vers des cultures de diversifications et des cultures mineures
4. Mettre à disposition des mécanismes financiers pour atténuer et partager les coûts de l'innovation et les risques durant les premières années d'innovation
5. Soutenir la coopération entre les acteurs qui s'engagent dans des trajectoires de diversification et développent des innovations
6. Entreprendre de grandes campagnes de promotion des avantages des cultures mineures et de la consommation des produits issus de la diversification

The research done in the context of DiverIMPACTS shows that barriers apply differently depending on the socio-economic context of farms and value chains [9]. Thus, specific support should be designed to effectively address barriers in these three innovation settings.

Recommendations for policy makers to foster crop diversification

- 1** Monitor the development of crop diversification at regional, national and EU levels.
 - Better monitoring at the regional, national and EU level would highlight progress, challenges and opportunities and enable proper support policies and advisory strategies to be designed;
 - Crop diversification data is still scarce; no statistics are available at the EU level;
 - Specific indicators could be included in Eurostat or FADN datasets
- 2** Adapt the CAP Policy to support innovative agroecological practices.
 - Proper support for diversification would accelerate the uptake, thus increasing the environmental benefits and facilitating economies of scale in new value chains;
 - The CAP should be adapted to account for the specificities of crop diversification, e.g., updating the CAP information system to allow farmers to report more complex crop patterns;
 - Subsidy rules should be clarified for farmers willing to cooperate at the territorial level (e.g. land exchange, direct sale of crops between farmers).
- 3** Reallocate public and private R&D resources towards minor and diversification crops.
 - Innovative knowledge, techniques and technologies need to be further developed in order to implement new practices and value chains; in particular:
 - Further R&D is needed on breeding and farming practices¹, as well as to assess the impact of the new practices and support technological and organisational innovations at the value chain level².

¹ Examples of R&D aspects to be further developed include: specific breeding criteria to address the needs of intercropping and develop minor crops; techniques and technologies for strip cropping and intercropping; tools to assess the benefits of longer rotations in conventional farming; and management tools to support farmers' decision making.

² Examples of technological and organisational innovations needed at the value chain level include: post-harvest management and processing technologies for mixed crops or new crops; new contracts, logistics and organisational modes adapted to crop diversification innovation settings; collection and analysis of value chain success factors.

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DiverIMPACTS conference: Systems approaches to support agro-ecological transitions in the agri-food system

DiverIMPACTS - Diversification through Rotation, Intercropping, Multiple Cropping, Promoted with Actors and value-Chains towards Sustainability

About DiverIMPACTS

The overall goal of DiverIMPACTS - Diversification through Rotation, Intercropping, Multiple Cropping, Promoted with Actors and value-Chains towards Sustainability - is to achieve the full potential of diversification of cropping systems for improved productivity, delivery of ecosystem services and resource-efficient and sustainable value chains. DiverIMPACTS receives funding of the European Union's Horizon 2020 programme. [More](#)

News

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February 03, 2022

DiverIMPACTS Practice Abstracts

Several new DiverIMPACTS practice abstracts are now available, which provide useful tips and...

[Read more](#)

December 10, 2021

DiverIMPACTS conference: Systems approaches to support agro-ecological transitions in the agri-food system



TOOLBOX



DELIVERABLES

DiverIMPACTS - Diversification through Rotation, Intercropping, Multiple Cropping, Promoted with Actors and value-Chains towards Sustainability

Funding: Horizon 2020, European Union and Swiss State Secretariat for Education, Research and Innovation (SERI)

Call: Rural Renaissance - Fostering innovation and business opportunities

Topic: RUR-06-2016: Crop diversification systems for the delivery of food, feed, industrial products and ecosystems services - from farm benefits to value-chain organisation

Grant agreement No 727482

Coordinator: Dr. Antoine Messéan, INRAE, 78850 Thiverval-Grignon, France

Deputy: Dr. Didier Stilmant, CRA-W, Rue de Lioux, 9, 5030 Gembloux, Belgium

Duration: June 2017 to May 2022

- www.diverimpacts.net
- [DiverIMPACTS on Cordis](#)
- [More about DiverIMPACTS](#)

Website of the Crop Diversification Cluster



Crop Diversification