



**Co-design of agroecological viticultural practices through  
participatory action research**

**Impacts of the REPERE method built by the Westhalten GIEE**



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Case study carried out according to the ASIRPA method (Analysis of the societal impact of research) developed by INRAE.

## **Abstract**

Changes in viticultural practices were announced by the Ecophyto program. But constraints linked to climatic, economic and social disturbances have imposed themselves and are blocking the innovation system. Have scientific disciplines become too isolated one from another, from viticulture and from society at large, to the point of losing the ability to integrate alternative forms of knowledge and reasoning in order to innovate and act in a complex system?

Winegrowers, in their diversity of practices, nature conservation associations, elected officials, citizens, industry advisors, ODG<sup>1</sup> members, companies, and researchers in agronomic sciences and humanities have developed, together, a method of participatory research-action 'REPERE'. Its epistemological framework values complexity and dissensus in different pedoclimatic, socio-cultural and economic contexts, in France, Switzerland and Germany.

The projects focused on the design of alternatives to herbicides, biodiversity restoration, vine resilience to water stress, and fungicide reduction. The ASIRPA study underlines that knowledge circulates, as soon as it is produced, on the initiative of actors who, without intermediation, promote agroecological changes on a territorial scale. The environmental impacts are linked to redesigned viticultural practices, readily the third year of the project, with half of the committed vines surfaces cultivated without herbicides, and grassed with wild plants labelled Végétal local. The reduction in costs of the redesigned practices inspired by organic and biodynamic viticulture, with fewer phytosanitary products and less work in the vineyards, is the major economic impact. The social impacts are linked to the structuring of a trinational network of about 100 stakeholders.

This participatory action research, by mobilizing all the stakeholders from the outset of the questions, renews the interactions between the human sciences and the agronomic sciences, and produces knowledge and action at the same time.

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<sup>1</sup> ODG are defense and management organisms, that guarantee the origin and quality of a given agricultural production.

## Societal issues and context

### Making science and society work together?

The idea of a cooperation between research and citizens, in order to solve innovation problems in viticulture, was inspired by previous collaborations conducted by INRAE that involved stakeholders (wine growers, inhabitants, members of associations related to viticulture or nature protection). This first collective dynamic, which began in 2003 through a local monitoring committee, was initiated by the research (LMC et al., 2010), which made the group want to address a more global viticulture issue - this time initiated by members of civil society themselves. The idea of a project dealing with plant protection products used in viticulture was proposed to INRAE researchers, and new actors were mobilized to create a new project-group (Groupe REPERE et al., 2016).

For this, the choice was made to rely on already existing groups of winegrowers, such as cooperative cellars or wine unions. After a series of meetings between the researchers and the winegrowers, the local monitoring committee chose the Westhalten wine union because it showed both a more dynamic organization and willingness for action, when compared to other groups.

### Historical context of the territory

Although the winegrowers' union facilitated the mobilization of its members for the project, significant difficulties had to be overcome, given the existing tensions within the village. Between the 1950s and 1970s, the vineyard was ploughed at large scale. After violent storms, mudslides invaded the village. To prevent these mudflows, the winegrowers developed grass coverings. Despite the development of these practices, the trauma remained very present in the memories (Moneyron et al., 2017). In addition, in the late 1990s, violent protests took place against settling a Natura 2000 area. Finally, this Natura zone was implemented. It resulted in the restriction of the vineyard area. Therefore, a very strong tension remained between the associations of defense of nature and the village inhabitants, on the one hand, and the wine growers, on the other hand.

### Societal and regulatory pressures

During the first meetings, the members of the winegrowers' union, as well as other local stakeholders mobilized for the project, prioritized the issues and built questions that structured the research presented in this report. Some of the issues raised anticipated the regulatory changes banning herbicides, in line with the Ecophyto 2008-2018 plan. The desire to change viticulture' image was also an important motivation, mainly for respond to criticisms associated to pollution caused by pesticides.

Within this context, the participatory action research work carried out individual interviews and collective workshops and brought to light three research questions. Each one constitutes a component of the VitiREPERE project:

- - The search for alternative methods to herbicides usage under the vine-row: **zero herbicide component**
- - The search for a grass cover for the inter-row to reduce vine's threats after water stress: **ecological grass cover component**
- - Redesign of viticultural practices after highlighting complexity's viticultural practices on the vine: **vine health component**

## Inputs and contribution

To answer the questions raised during the first workshops (Moneyron et al., 2017; Masson et al., 2021) the local actors, the wine union and the RPSV team in Colmar, organized themselves into a research collective, notably by relying on a shared epistemological framework, and applied to a research project call 'REPERE' from the Ministry of Ecology and Sustainable Development (September 2010). In 2015, this group was labelled Groupement d'intérêt économique et environnemental (GIEE) by the Ministry of Agriculture. Since 2013, this group which ultimately was labelled GIEE involves

- Winegrowers of the Westhalten wine union in conventional, biodynamic or organic practices
- The Alsace Winegrowers Association (AVA)
- Michel Breuzard, president of the association Alsace Nature
- The Center for Professional Training and Agricultural Promotion (CFPPA de Rouffach)
- The RPSV team (Participatory Research for Vine Health) of the UMR SVQV - INRAE center of Colmar
- Anne Moneyron, researcher in education and training sciences

Each of these actors brings to the group his or her own knowledge and forms of reasoning. The **winegrowers** bring to the table the central issues they would like to see addressed, and contribute with their knowledge of vineyard experience, which will be used to construct the questions, the research experiments, the interpretation of the results and finally drawing the conclusions. Combining **winegrowers** with different viticultural practices (organic, conventional or biodynamic) allows us to share different registers of knowledge and approaches to viticulture. These winegrowers make their plots available for the project and take the risk of trying out on their own farms the new practices and methods designed by the GIEE.

The **AVA** brings the point of view and knowledge of the wine industry, as well as a link with it.

**Alsace Nature** contributes to the reflections from the point of view of environmental protection, while the **CFPPA** as involved in the co-construction of training. Finally, **researchers** in vine molecular physiology and in education and training sciences also contribute with their respective knowledge to answer research questions and build the framework for collective reflection.

Other academic partners, sometimes linked to other INRAE teams, will join the group at different moments of the project, and bring expertise on topics that have emerged:

- Malherbologie : INRAE Dijon– UMR Agroécologie – Pôle Gestion Durable des Adventices
- Microbiologie et écologie des sols : INRAE Dijon– UMR Agroécologie – Pôle Biologie et fonctions écosystémiques des sols
- Botanique : ANSES – Laboratoire de santé des végétaux
- Agronomie et statistiques : Université de Haute-Alsace – Laboratoire LBVE
- Etude de l'expression des gènes de la vigne : Institut de Génétique et de Biologie Moléculaire et Cellulaire (IGBMC) – Plateforme GenomEast

Together with the company Twistaroma (specialized in extraction and characterization of aromatic compounds), the academic partners will also provide experimental means to carry out genomic analyses on vines, for microbiological analyses of soils or for the analysis of aromatic compounds. They participate in the development of research protocols to answer the questions posed. They also collaborate in the production of conclusions based on experimental data, through participatory workshops.

For the ecological grassing component of the project, the company Nungesser Semences and botanists from the Conservatoire des Sites Alsaciens (CSA) will contribute with their knowledge for the selection of wild plants from the Natura 2000 zone, in order to respond to the problems of soil cover in the vineyard inter-row and water stress issues. Once the plants have been selected in a participatory manner with the whole group, the presence of the CSA is essential to obtain the authorization to harvest the seeds of these wild plants, before they were multiplied thanks to the infrastructure and know-how of Nungesser Semences.

Finally, throughout all steps, the elected officials of Westfalen's village and the AVA will contribute their knowledge of the territory and their links with other actors. They also provide the conditions for the organization of events during the course of the project, as in 2016 for the reception of 120 inhabitants in Westhalten, namely when the Night of Agroecology took place.

## Research outputs

During the course of the project, the members of the GIEE collectively built a **participatory action research method** (PAR), its major output. This method is based on two main elements: the creation of a common epistemological framework, considering the forms of reasoning and knowledge of all the actors and their transformation during the project, as well as a schematization of the different stages that a PAR project follows (Figure 1). This method is described in the data sheet "Methodological device for the constitution of a collective REPERE project". It has also been the subject of a scientific publication, also constructed collectively upon a participatory workshop. (Moneyron et al., 2017)

For the zero-herbicide component, two solutions - plant or mechanical - were explored and evaluated as alternatives to herbicides' usage. Main conclusions are found in two technical sheets designed collectively by the GIEE: the "**Pilosella**" sheet and the "**Plough**" sheet. The date of the first output, corresponding to the commitment of the winegrowers to abandon herbicides and use these alternative solutions, is January 1, 2014.

For the ecological grassing component, a **mixture of plants for the grassing** of the inter-row of vines was designed collectively and tested following the selection of local wild plants from the Natura 2000 zone. A method for preparing the soil and sowing this mixture was also described by the group in a "**Seeds**" technical sheet.

For the vine health component, a **shared statement** by the whole group was established, showing that viticultural practices have an influence on the responses of vine's defenses to climatic and biotic stresses (due to diseases such as downy mildew, powdery mildew and the GFLV, GLRaV1-3, GVA viruses). (Soustre-Gacougnolle et al., 2018). As we will see later, the consensus built around this influence of viticultural practices within the group was the source of different impacts.

The joint elaboration of these statements challenged the viewpoints and reasoning of the actors. For example, during the collective elaboration of the consensus on the influence of viticultural practices on vine health, different hypotheses were proposed actors as an explanation, when considering their knowledge and point of view on the vine. This workshop identified gaps in actors' knowledge and raised new questions. On these later, a collective consensus was reached. This dynamic is characteristic of the argonaut process of the REPERE participatory action (Figure 1). Thus, the formulation of new questions by the stakeholders is a full-fledged outcome of the research (Masson et al. 2021).



## Références des publications scientifiques citées dans les *outputs* :

Moneyron, A., LMC., Westhalten group. *et al.* Linking the knowledge and reasoning of dissenting actors fosters a bottom-up design of agroecological viticulture. *Agron. Sustain. Dev.* **37**, 41 (2017). <https://doi.org/10.1007/s13593-017-0449-3>

Soustre-Gacougnolle, I., Lollier, M., Schmitt, C. *et al.* Responses to climatic and pathogen threats differ in biodynamic and conventional vines. *Sci Rep* **8**, 16857 (2018). <https://doi.org/10.1038/s41598-018-35305-7>

Masson, J.E., Soustre-Gacougnolle, I., Perrin, M. *et al.* Transdisciplinary participatory-action-research from questions to actionable knowledge for sustainable viticulture development. *Humanit Soc Sci Commun* **8**, 24 (2021). <https://doi.org/10.1057/s41599-020-00693-7>

Masson, J.E., Soustre-Gacougnolle, I., Lallemand, J.F., Lassablière, R., Schermesser, F. Comment agir en situation d'incertitude ? Et si on commençait par se poser des questions, ensemble ? Recherche-action participative, un nouveau système de production de connaissances impliquant pour tous les acteurs. *La Revue des Œnologues* n°177 (2020). <http://search.oeno.tm.fr/search/article/c3420f86-1543-4d8b-8dd2-43e4b556588c>

GIEE de Westhalten. L'enherbement de l'inter-rang par des végétaux locaux – Fiches agrotechniques du GIEE de Westhalten (2018) [https://agroecologie-rhin.eu/wp-content/uploads/2019/03/Fiche\\_Enherbement\\_V3\\_F.pdf](https://agroecologie-rhin.eu/wp-content/uploads/2019/03/Fiche_Enherbement_V3_F.pdf)

## Knowledge flow and intermediaries

### The circulation of knowledge is included in the REPERE method

The participatory research-action method designed by this group, and followed during this project, circulates part of the knowledge, from the production of consensus questions to the validation of the knowledge produced. All the members of the GIEE are the main producers of knowledge and they are also the intermediaries involved in its circulation.

This concomitance between the production and circulation of knowledge is primarily due to the diversity of the actors involved. Particular care is given to the continuous diversification of knowledge and reasoning, notably through the mobilization of new people as the project develops. Indeed, the REPERE method aims first to bring together actors who disagree in order to reformulate, in the form of questions, the problems arising from their respective experiences and knowledge. The stakeholders concerned by these questions will then be fully involved in the research process designed to address them, and will also be among the stakeholders impacted - or benefiting - from the research.

The times of reflection included in this method are the main moments of knowledge circulation. The **times of collective reflection** can take the form of **workshops** that bring out problems in order to build questions, or share results, interpret them and draw conclusions. They also take place during **trial visits** to ongoing experiments, such as plots where viticultural practices have been redesigned, or those sown with the ecological seed mix. **Training sessions** have also been organized by the members of the GIEE to acquire the necessary knowledge on how to deal with research questions in agronomy as well as in the humanities science's issues, both for themselves and for external actors. Nearly 70 meetings of this type have been organized by the different members of the GIEE between 2013 and 2021, with more than 1200 attending participants.

For example, during the ecological grassing project, one of the avenues imagined by the GIEE was to use plants from the Natura 2000 zone. They therefore called on the botanists of the Conservatoire des Sites Alsaciens, both for their expertise on the selection of these plants, and to obtain authorization to collect seeds. The company Nungesser Semences also joined the project at this stage, as a specialist in the production of wild plants-derived seeds. The entry of these different actors into the project, and

their participation in the workshops, allows them to access the knowledge in biology and human sciences produced by the group. For these two actors, the new knowledge concerns the conduct of participatory projects and biodiversity's valuing, beyond mere preservation role in conservatories.

**The time for individual reflection** was given in interviews. It allows the actors to become aware of the legitimacy of their own knowledge and to formulate it. During these moments of reflexivity, the actors **appropriate the knowledge** already formed by the group, and **formulate new ideas** for pushing further the project that would not necessarily appear in the framework of collective workshops. Since 2013, nearly 80 individual interviews have been conducted with about 50 stakeholders in the various projects.

**A winegrower in the group expressed the interest of the interviews as follows:** "The legitimization of knowledge was done on the basis of these famous interviews. It's a rare thing in a winegrower's life to be able to express oneself on very specific themes, and to talk about the experience and the obstacles refraining change and all that, and I think that was quite appreciated"

### The project actors circulate knowledge within their respective networks

The project management experience and the knowledge acquired circulate beyond the project groups **thanks to the commitment of certain EEIG members** in other agro-ecological change dynamics in the region.

The winegrowers of the EEIG, and those invited to workshops (from 10 to 50) will transmit knowledge to their respective networks (fellow winegrowers, visitors, other winegrowing unions, sector meetings). One example stands for winemakers which, as a result of workshops, have engaged themselves in their respective wineries to influence grape purchasing policies and increase the value of winemakers who are committed to changing for organic practices.

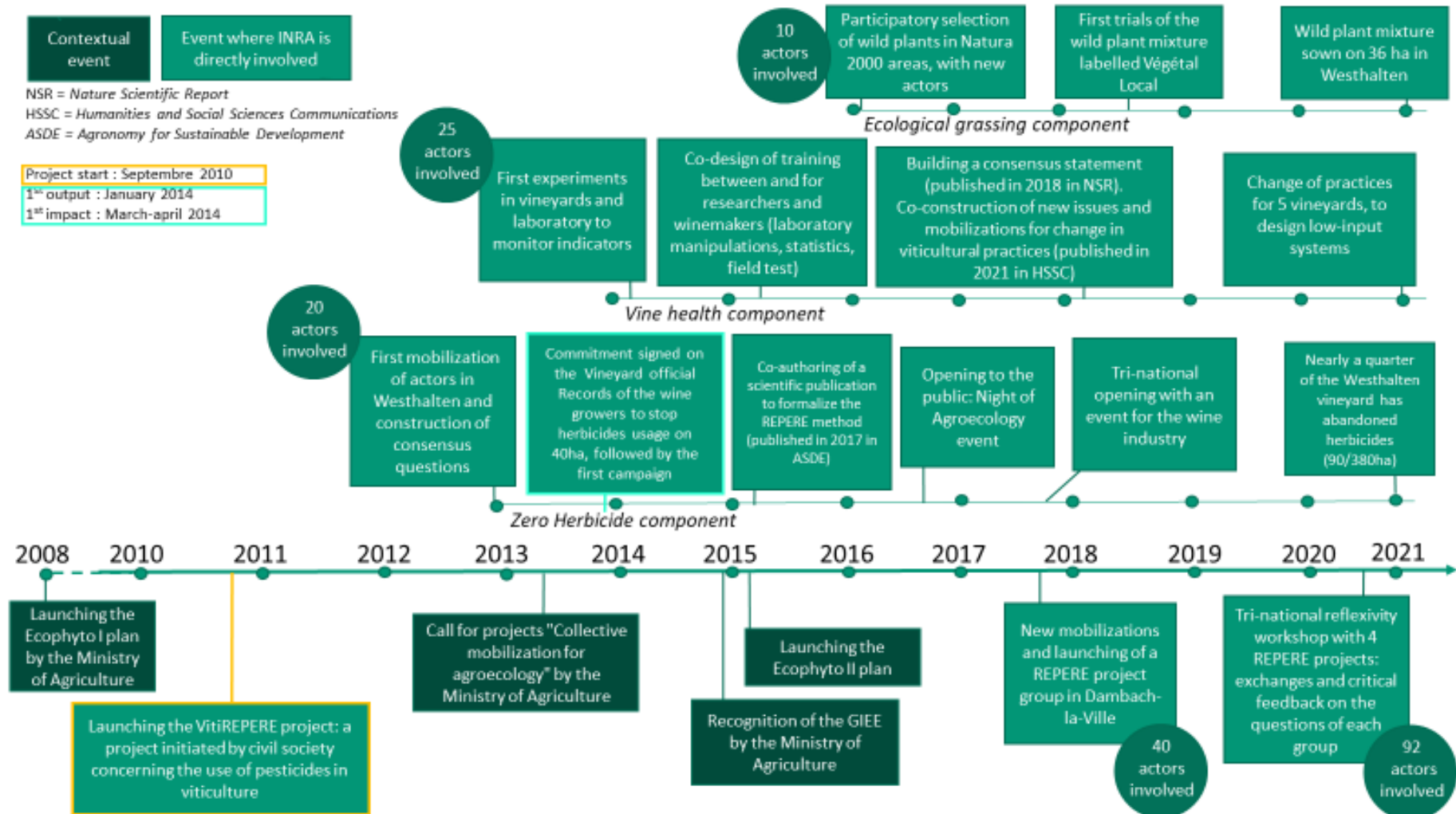
The members of the group are reinvesting in their networks the knowledge produced in agronomy as well as in project management methods. This is the case of the AVA, which used the principles of the REPERE project, such as the choice of issues by the actors involved and the collective construction of different project-groups, in order to initiate a program to promote the Alsatian Grands Crus. Several groups were organized to formulate their own questions concerning, for example, the restoration of Grands Crus' reputation. Thus, the 'Grands Crus in flowers and viti-forestry' project shall increase the biodiversity of the vineyard by planting fruit trees and shrubs in the vineyards.

Finally, dissemination through the press or other agricultural networks has made it possible to circulate knowledge about both agro-technical results and participatory innovation methods more widely. About twenty papers in the general or agricultural press, as well as several videos and explanatory sheets were produced by various members of the GIEE.

The knowledge produced within the framework of this project is also circulated in the form of agro-technical sheets. They have been disseminated via the specialized press, networks of farmers from the Conseil interprofessionnel des vins d'Alsace (CIVA) or the AVA, the REPERE program website, the INTERREG-Agroform project, or even INRAE. Methods in agronomy and human sciences can be adapted for use in other viticultural or even agricultural contexts. These adaptations give rise to exchanges between the GIEE and other territories, which in turn help the REPERE method improvement.



## Timeline



## Impacts level 1

The first level of impact concerns the changes observed among the pioneer users of the innovation, in the non-academic sphere.

### Social

In the region, the REPERE project has led to an evolution and structuring of local networks of actors:

- A permanent collective has been formed, reflecting the involvement of a variety of actors in an **autonomous and reflective dynamics**, allowing raising new questions for the production of actionable knowledge. In particular, the collective allows for the exchange of ideas and the overcoming of conflicts between winegrowers with different sensitivities and production methods (AB, biodynamic, conventional) and allows them to better understand each other in order to work together and thus build projects at territorial scale.

- This collective became a GIEE (2015) then an association (2021). **The VitiREPERE association** counts 20 winegrowers (*i.e.* half of the winegrowers of Westhalten) among its 25 permanent members, as well as trainers from the CFFPPA of Rouffach, a researcher, members of the Alsace Nature association and the Alsace Winegrowers Association.

New winegrowers will be able to join the reflections, diversify them and promote the construction of projects.

**A relationship and spirit of exchange and cooperation has been created** between the research actors and society. Most of the winegrowers involved say they have a new vision of research: "The fact that scientists come to our vineyards already breaks down barriers. We willingly accept to work with people like that, who came listening to us.

Finally, a collective learning of territorial actors can be characterized in different ways:

- **Training courses were created by the GIEE actors** and then implemented at the CFPPA in Rouffach for a wider audience beyond the collective. These training courses deal with soil health and vine health. They provide knowledge and new ways of reasoning that encourage the redesign of viticultural practices.
- The CFPPA trainers who attended the training sessions also **questioned their teaching practices** and are willing to discover new ways of learning and teaching.
- The winegrowers have **gained confidence and autonomy** in redesigning their practices and running their farms. One actor in the sector confirms their increased independence and critical spirit with regard to technical advisors, who until now "gave them the right word, instead of giving winegrowers the floor to the winegrowers": "We can no longer tell [the group's winegrowers] anything: every time they intervene, we see that they have mastered and that they no longer need technical advisors."
- The winegrowers also come up with **new requests for training** as a result of the new knowledge produced by the project. They want to be trained on new topics, and new forms of knowledge are desired. In particular, they want to be able to use scientific knowledge in their practices.

### Environmental

The three components of this project led to the redesign of systemic agroecological practices:

- Vine health component:

o Among the winegrowers in the Westhalten group, 5 out of 16 are committed to testing biodynamic preparations (**and abandoning synthetic products**) on five of their vine plots.

o Two of the 16 winegrowers involved in the Westhalten project group went **to organic farming**. This represents approximately 12 hectares.

- Zero herbicide component:

o Half of the group's plots are **cultivated without herbicides**, which represents nearly a quarter of the Westhalten vineyard (90 ha/385). The date of the first impact, corresponding to the beginning of the first herbicide-free campaign in Westhalten, is March-April 2014.

- Ecological grassing component:

o On the 36 hectares sown with the collectively created seed mixture, only **one mechanical mowing** is required, compared to an average of 5 passes with conventional grassing, thereby reducing fuel use and soil compaction.

o **An increase in the number and biodiversity of insects** has been observed by winegrowers who have sown this mixture consisting in 25 wild plant species.

## Economic

**The major economic impacts concern the wine growers.**

- The development of methods and machines for weeding under the vine row without herbicides has led to the purchase and mutualized **construction of new tools by the CUMA** (Cooperative for the Use of Agricultural Equipment) of Westhalten. The visit of the trials and provisioning these machines by the CUMA allows winegrowers of the project, as well as the outsiders, to build up their own knowledge after experiencing, with the ultimate possibility purchasing these tools later on.

- The ecological seed mixture considerably reduces working time and fuel costs. Its maintenance requires only one mechanical mowing instead of 4-6 per year with classic grassings. The cost reduction is 150€-200€ per hectare and per year.

- Synthetic products whose use has been reduced or replaced leads to costs reduction of viticultural practices. However, these new practices require an increase in working time, which eventual cost increases around 200-250€ (per ha/year), for example upon ploughing soil instead of spraying herbicides. Rethinking the practices as a whole, within the framework of a participatory research-action, could lead to balancing the costs, in particular by valorizing the knowledge of experience and by refining the questions of representation of the winegrowers.

- Alsatian wine cellars are **changing their grape purchasing strategies** under the impetus of the REPERE group's winegrowers. For example, the Bestheim winery (the leading cooperative winery in Alsace) is in the process of developing an organic range: 80 hectares belonging to the winery's cooperative members are being converted to organic viticulture. During the second and third year of conversion, the purchase price of the grapes at the winery will be increased by 5%. At the end of this transition period, this increase will reach 20%.

The Wolfberger winery (the second largest cooperative winery in Alsace), which already had an organic range, also wishes to promote the agro-ecological approaches undertaken by its cooperators. Collectives inspired by the VitiREPERE group (association) are being considered to developing better adapted agricultural advices.

**Nungesser Semences**, the seed company involved in the project, is impacted by the creation of the ecological seed mix.

- In one year, the seed company was able to propose **20 new plants** for a "Local Plant" label by the French Office for Biodiversity (compared to the usual 3 to 4 new varieties per year).

- The display of the **partnership with INRAE** allows the company to be recognized as a competent and committed actor for the preservation of biodiversity and thus to better value the production of seeds.

## Policy

One of the main consequences of this method of participatory action research is the **appropriation and debate of environmental issues** among a wide variety of actors, who are usually far apart and even often in conflict.

Winegrowers and other local actors (elected officials, nature conservation associations) **have become involved in the debate** in search of solutions, which involve the development of PAR projects. In total, 92 different people were involved in the various projects in France, Germany and Switzerland, for more than 1,200 participations in 80 interviews and 70 collective meetings. The ideas developed during these exchanges, based on scientific knowledge as well as on winegrower's expertise, have been carried over the long term by the Westhalten group, which has been active for 7 years, as well as by the other groups that have been mobilized since then.

These new interactions offer new perspectives for discussion at the political level on territorial issues related to agriculture (financial support was given for a thesis on participatory action research by the Conseil Régional du Grand Est). They show that with a scientific methodological framework, collaboration between actors in dissent can be a powerful engine for changing.

Moreover, access to wild plants in the Natura 2000's area, whose seeds were used for the ecological grass mixture, is a regulatory precedent. This first authorization could open the door to other projects wishing to use local plants from protected areas to restore biodiversity in degraded areas.

## Impacts level 2

The second level of impact concerns a generalization of the direct impacts of this research.

### Social

The geographical area of this project has been extended through the creation of other REPERE project-groups. Three new groups were set up in Dambach-la-Ville (Alsace), Muttentz (Switzerland) and Tüllinger Berg (Germany). Their questions are currently being prioritized, and a conversion to organic or biodynamic agriculture is underway for 5 of the 11 winegrowers in Dambach-la-Ville. This means that the epistemological framework created by the Westhalten GIEE is a lever that other groups wishing to initiate a similar action research dynamic can mobilize on their own questions, often characterized by different pedoclimatic, social, economic and cultural conditions.

Other projects have also been created, inspired by this REPERE method. This is the case of the Grand Crus en Fleurs project initiated by the AVA, which aims to promote the reputation of the Alsace Grands Crus through the association of fruit trees with vines. The creation of the EcoVitiSol project in partnership with the INRAE center in Dijon has also benefited from the know-how of the REPERE project with respect to mobilizing stakeholders. Between Burgundy and Alsace, 150 winegrowers are mobilized to participate in meetings to discuss the health of winegrowing soils.

## Economic

For Nungesser, the seeds included in the catalog as part of the ecological grassing component will be ready to be used in contexts other than agricultural applications, notably for the restoration of natural areas for example.

## Political impact for and on research

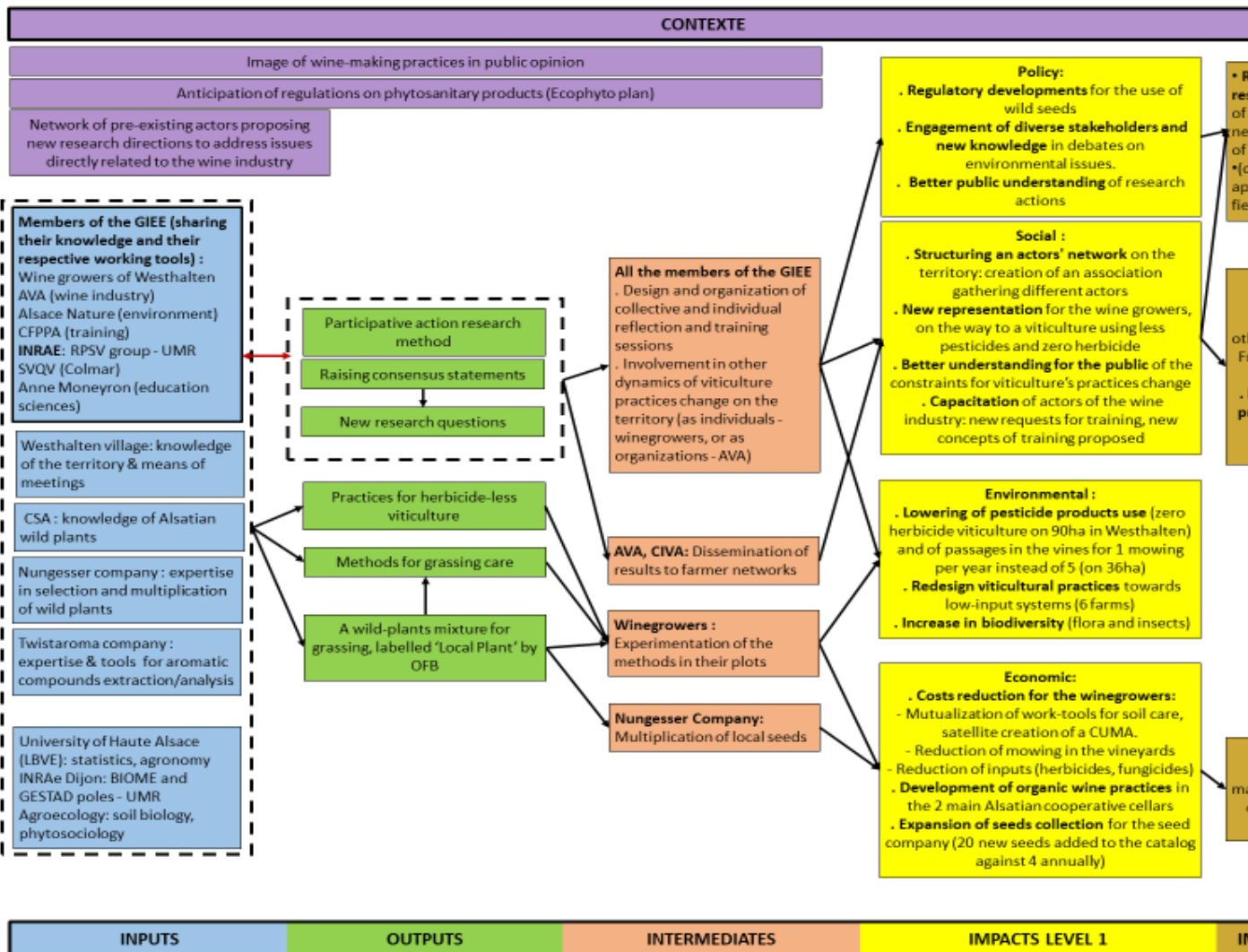
This method of participatory action research questions the academic world organization's in a broader way. It brings to light new objects of study and new ways of studying them. The researchers who were involved in part of the project confirm that they have changed their posture, thanks to this project, now feeling involved in the process they are studying and accepting to question their certainties, their networks of collaboration, aiming to raise prevalence of transdisciplinary. For most of them, the exchange of knowledge with other actors is an important moment of recognition of other registers of reasoning.

## Potential Impacts

One potential impact of this project lies in a better understanding by the **public** of the issues and constraints of viticulture. During the course of the project, actions were taken to promote this link, such as the organization of an event attended by 120 people in Westhalten, where the REPERE project and the progress made by the winegrowers were illustrated (Nuit de l'Agroécologie). Some elected officials confirm that similar actions could find a greater and worth audience from the inhabitants and consumers in future events.

Finally, the creation of the **VitiREPERE association** is an act of openness to other territories and to other actors, whether in the field of viticulture or agriculture. The objective is to disseminate the REPERE method in order to develop the redesigning of agricultural practices with lower environmental impact on a large scale

Impact path



## Impact vectors

<b>Dimension d'impact</b>	<b>Importance</b>	
<b>Economic</b>	middle	<p>Winegrowers are changing their production logic, and companies are winning new markets.</p> <p>The main cooperative wineries in Alsace financially support the transition of their cooperators to new, more environmentally friendly practices.</p> <p>The Nungesser company is expanding its range of wild plants with the "Local Plant" label.</p>
<b>Environemental</b>	strong	<p>Half of the parcels involved in the group are cultivated without herbicides, which represents a quarter of the Westhalten vineyard.</p> <p>The inter-row of 36ha of vines is grassed with local wild plants, requiring only an annual mowing.</p>
<b>Sanitary</b>	middle	<p>New agroecological practices are designed to reduce the use of phytosanitary products in the vineyard. Two farms have been converted to organic farming in Westhalten and five in Dambach la Ville. Five farms are experimenting with innovative practices close to biodynamics.</p>
<b>Social</b>	strong	<p>92 actors are linked, across three territories, and exchange by valuing different pedoclimatic, economic and socio-cultural conditions, during a total of nearly 1200 participations in different collective meetings.</p> <p>An association has been created in the Westhalten area, allowing for the continuity of reflections and actions for the redesign of low environmental impact viticultural practices, through participatory action research projects.</p>
<b>Polityc</b>	middle	<p>The debates about agroecology have been promoted among a wide variety of actors, and have allowed the appropriation of these issues. The involvement of elected officials questions territorial policies related to agriculture.</p>

## Data source – References

Interviews conducted:

- Françoise Cousin and Pascale Berndt, directors at the CFPPA (Centre de formation professionnelle et de promotion agricole) of Rouffach - 40-minute interview concerning the impact of the project on the capacity of the actors of the territory (wine growers, trainers) and the contribution of the CFPPA in the co-design of the trainings.
- Lucie Heitz, director of Nungesser Semences - 30-minute interview concerning the impact of the ecological weed control component on the company's activity.
- Jean-François Lallemand, winegrower of the REPERE group, former president of the GIEE and vice-president of the Bestheim cooperative cellar - 1 hour and 15 minutes interview about the impacts of the project on winegrowing.
- Nathalie Lallemand, current mayor of the town of Westhalten - 20-minute interview on the link between the project and the inhabitants
- Raymond Lassablière, technical manager at the Association des Viticulteurs d'Alsace - member of the collective since the beginning of the project - 1hour interview on the impact of the REPERE project on the wine industry and on the projects carried out by the AVA.
- Marc Oberheiden, leader of the REPERE groups in Dambach-la-Ville, Tullinger Berg (Germany) and Muttenz (Switzerland) - 4-hour discussion with other members of the INRAE RPSV team about the comparative evolution of these different groups.
- Gérard Schatz, mayor of the municipality of Westhalten until 2020 - 50-minute interview on the historical context of the REPERE project and the link between the inhabitants and the wine growers in the municipality.
- Frédéric Schermesser, winegrower of the REPERE group, president of the VitiREPERE association, member of the board of directors of the Wolfberger cooperative cellar - 45-minute interview on the economic impact of the project on the wine industry.
- INRAE RPSV team (Jean Masson, Isabelle Gacougnolle, Mireille Perrin, Carine Schmitt, Valentine Delrieu, Maxime Madouas) and two researchers from the University of Haute Alsace (Mélanie Gellon and Marc Lollier) - partners in the project as experts or observers - Workshop held during 3 hours on the impact of the REPERE project for research and the important steps.

### Other resources :

- Minutes from interviews before this ASIRPA study:
  - o Réalisés en 2015 par A. Moneyron avec 13 viticulteurs de Westhalten
  - o Réalisés en 2020 par M. Madouas avec 10 membres du projet REPERE : viticulteurs, chercheurs, responsable technique à l'AVA
  - o Compte-rendu de l'assemblée générale constitutive de l'association Viti REPERE, ayant eu lieu le 7 avril 2021
- videos realized in the frame REPERE's project:
  - o **Innovater en agriculture, c'est dépasser la technique et changer les idées.** Vidéo réalisée par le GIEE, postée par le Ministère de l'Agriculture (2016) : <https://www.dailymotion.com/video/x4hzo01>
  - o **Projet REPERE : la construction de solutions sur le terrain.** Vidéo réalisée par le journal L'Est Agricole et Viticole (2017) : <https://www.youtube.com/watch?v=laJTnqrCqN4>
  - o **Le programme REPERE sur la recherche participative en vidéo.** Vidéo réalisée par le programme REPERE (2018) : <http://www.programme-repere.fr/actualite/repere-en-video/>
  - o **Expérimenter avec les professionnels : changeons de méthode.** Présentation par Jean Masson et Frédéric Schermesser lors d'un événement de Vinosphère Bourgogne



- « Comment évoluer pour faire face aux crises ? » (2020) : <http://vinosphere-bourgogne.live/> (Section 12 à 3:06:00)
- Publications scientifiques (autres que celles citées dans les outputs page **Erreur ! Signet non défini.**) :
    - The Local Monitoring Committee, Lemaire O, Moneyron A, Masson JE (2010) “Interactive Technology Assessment” and Beyond: the Field Trial of Genetically Modified Grapevines at INRA-Colmar. PLoS Biol 8(11): e1000551. doi:10.1371/journal.pbio.1000551
  - Fiches techniques agroécologiques :
    - L’enherbement de l’inter-rang par des végétaux locaux. Fiches agrotechniques du GIEE de Westhalten (2018) : [https://agroecologie-rhin.eu/wp-content/uploads/2019/03/Fiche\\_Enherbement\\_V3\\_F.pdf](https://agroecologie-rhin.eu/wp-content/uploads/2019/03/Fiche_Enherbement_V3_F.pdf)
    - Le travail mécanique du cavaillon. Fiches agrotechniques du GIEE de Westhalten (2018) : [Fiche-Charrue\\_VF.pdf](Fiche-Charrue_VF.pdf) ([repere-viti.net](http://repere-viti.net))
  - Article de presse :
    - Groupe Repère, vignerons du syndicat viticole de Westhalten, Jean Masson et Anne Moneyron. L’innovation en agroécologie dans les vignes d’Alsace. La revue des vins d’Alsace n°4 – avril 2015 : [https://abiodoc.docressources.fr/doc\\_num.php?explnum\\_id=4044](https://abiodoc.docressources.fr/doc_num.php?explnum_id=4044)

## Glossary

**AVA** : Association des viticulteurs d’Alsace

**CFPPA** : Centre de formation professionnelle et de promotion agricole

**CSA** : Conservatoire des Sites Alsaciens

**CIVA** : Conseil interprofessionnel des vins d’Alsace

**GIEE** : Groupement d’intérêt économique et environnemental

**Projet INTERREG-Agroform** : INTERREG est un programme européen, dans le cadre duquel sont financés des projets de coopération internationale, par exemple sur des territoires transfrontaliers. Agroform est un de ces projets, qui a permis de financer une partie de ce projet VitiREPERE et d’associer les 4 groupes tri-nationaux décrits dans ce rapport.

**ODG** : Organisme de défense et de gestion

**OFB** : Office français de la biodiversité

**REPERE** : Réseau d’échange et de projets sur le pilotage de la recherche et l’expertise. Ce programme du Ministère de l’Écologie et du développement durable lancé depuis 2010 à travers plusieurs appels à projets successifs, vise à soutenir des partenariats entre instituts de recherche et organisations de la société civile portant les enjeux du développement durable. Plus d’informations sur le [site internet du programme REPERE](#).

**RPSV** : Recherche participative pour la santé de la vigne. Equipe de recherche du centre INRAE de Colmar.

**RAP** : Recherche action participative

**SVQV** : Santé de la vigne et qualité du vin. Unité de recherche d’INRAE.

**Végétal local** : Label accordé par l’OFB à des productions d’espèces végétales dont la traçabilité, l’origine géographique et la diversité génétique sont garanties.



Cette étude de cas a été réalisée selon la méthode ASIRPA (Analyse de l'impact sociétal de la recherche) mise au point par INRAE.

Pour en savoir plus sur la méthode : <https://www6.inrae.fr/asirpa/>

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