

Agroecological Transition in the Andean Region

Umari district, Peru - 2019

in collaboration with



Summary

3

Why Iles de Paix supports agroecology

5

Context

THE AGROECOLOGICAL TRANSITION PROCESS IN UMARI

6

The beginnings: Umari, an Andean district

8

programme timeline
agroecological transition dissected

10

Rebuild soil fertility

12

Diversify crops

14

Manage disease ecologically

16

Take social factors into account

18

Taking stock

20

Challenges to come

22

Recommendations and good practice

23

A documentary to learn more

THANKS, LINKS, CONTACTS

The production of this booklet and the documentary it refers to is the result of a collaboration between the two NGOs Iles de Paix and I FEED GOOD, as well as the contributions of IDP's partners in Peru: the NGOs DIACONIA, IDMA, IDEL and IDPP.

SOURCES

institutions involved in the SIA Peru programme

EDITORIAL MANAGERS

Sébastien Mercado, Iles de Paix
sebastien.mercado@ilesdepaix.org

Lara Jouaux, I FEED GOOD
lara.ifeedgood@gmail.com

EDITOR

Iles de Paix Asbl

COORDINATION

Gaël de Bellefroid, Iles de Paix
gael.debellefroid@pe.islasdepaz.org

GRAPHISME

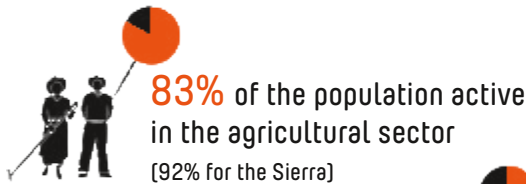
Marmelade sprl
soleil@marmelade.be

This booklet was printed with vegetable-based inks on recyclable paper, with the support of the *Direction Générale de la Coopération Internationale Belge* [Belgian International Cooperation].

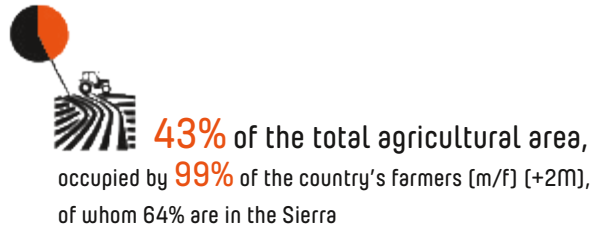


Iles de Paix encourage the use, reproduction and dissemination of the data in this information product. Unless otherwise indicated, the contents can be copied, downloaded and printed for the purposes of study, research or teaching, or used in non-commercial products or services, as long as Iles de Paix are correctly cited as the source and copyright owner and on condition that it is in no way understood that Iles de Paix endorse the opinions, products or services of those users. Any enquiry concerning translation or adaptation rights, resale or other commercial use should be addressed by email to info@ilesdepaix.org

Rural family farming in Peru in numbers



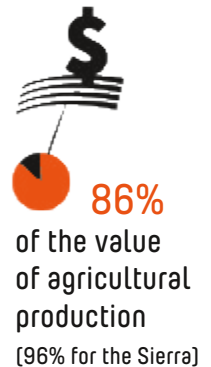
+3 million people



1 Why has Iles de Paix chosen to support rural agroecology?

Iles de Paix strives for a world which allows everyone to live in dignity and develop their potential; for a united world that promotes access for all to human rights in a preserved environment. However, entire populations find themselves faced with many difficulties meeting their basic needs. Millions of families have only limited access to a healthy, varied diet, and sometimes they do not even have access to enough to eat.

This is why Iles de Paix has chosen to work for the development and promotion of sustainable food systems, in particular by supporting family farming. Among other things, this consists of promoting better access to water for farming families and promoting crop diversification and increased production through techniques based on agroecological principles. This also involves urging local authorities to manage natural resources more sustainably. The NGO's objectives, therefore, are to help farmers to produce more and in a sustainable way, adapting both to the local cultural and natural context (geography, climate, water resources, etc.) and to global issues.



Sources: CEPES, IPE, ENAHO, INEI, CENAGRO, SUNAT, MINCETUR, CLACSO, PROMPERU

In Peru, Iles de Paix has been focussed on supporting farming families in their agroecological transition since 2014

Agroecology

Agroecology is both a science and a set of practices.



It was created by the convergence of two scientific disciplines: agronomy and ecology. As a science, agroecology is the application of ecological science to the study, design and management of sustainable agroecosystems. As a set of agricultural practices, agroecology seeks ways to improve agricultural systems by copying natural processes, thus creating beneficial biological interactions among the components of the agroecosystem. It provides the most favourable soil conditions for plant growth, particularly by managing organic matter and by raising soil biotic activity. Agroecology is very knowledge-intensive, based on techniques that are not delivered top-down but developed on the basis of farmers' knowledge and experimentation.

Olivier **De Schutter**: “**Agroecology and the right to food report**”

2 Context

In Peru, farming families have been left behind by the country's economic development, which is primarily based on the exploitation of raw materials (oil, minerals, etc.). They receive very little support from the State, for whom family farming is not a priority. On the contrary, conventional agriculture aimed at export^{*1} has long been the only model covered by government policy. However, this model has a harmful effect on health, the environment and social justice.

FAMING FAMILIES IN HUÁNUCO DEPARTMENT lack organisation and have a poor understanding of marketing channels. Agriculture is not very diversified, and is based on the potato. Yields are low and production techniques are often based on the use of chemical inputs, with underdeveloped irrigation systems.

IN ADDITION TO THESE OBVIOUS NEEDS, Iles de Paix has also chosen to intervene here because of the agricultural potential of the region. Its favourable conditions allow the year-round cultivation of a variety of foodstuffs. Agricultural production, and therefore food security, and the conditions, quality of life and resilience of the families can all be optimised with agroecological plot management.

THE AGROECOLOGICAL TRANSITION PROCESS is a challenge on multiple levels: agricultural, economic, social, cultural and even political. It is not only a matter of stopping the use of pesticides, but also of gradually rebuilding ecosystems, re-establishing a natural balance and reinforcing the rural social fabric. In addition, production needs to be promoted to consumers, bringing access to marketing channels which offer a fair price. This is principally done through consumer education, often with local government support (policies supporting organic farming, introduction of local agroecological producer markets, awareness campaigns, etc.).

1 Conventional: we use this term to mean agriculture characterised by intensive use of synthetic inputs, wage labour and the promotion of export. By extension we talk about conventional farmers and conventional agricultural systems.

3

The beginning: Umari, an andean district

Begun 5 years ago, the agroecological transition support programme involves, in 2019, 250 farming families, who farm less than 2 hectares on average. These families are spread across 25 of the 27 villages in the Andean district of Umari. This district was chosen after an assessment which considered negative criteria (poverty, malnutrition, pesticide use, etc.) alongside potential for improvement (natural resources, interest from the municipality, economic activity with scope for growth, etc.).

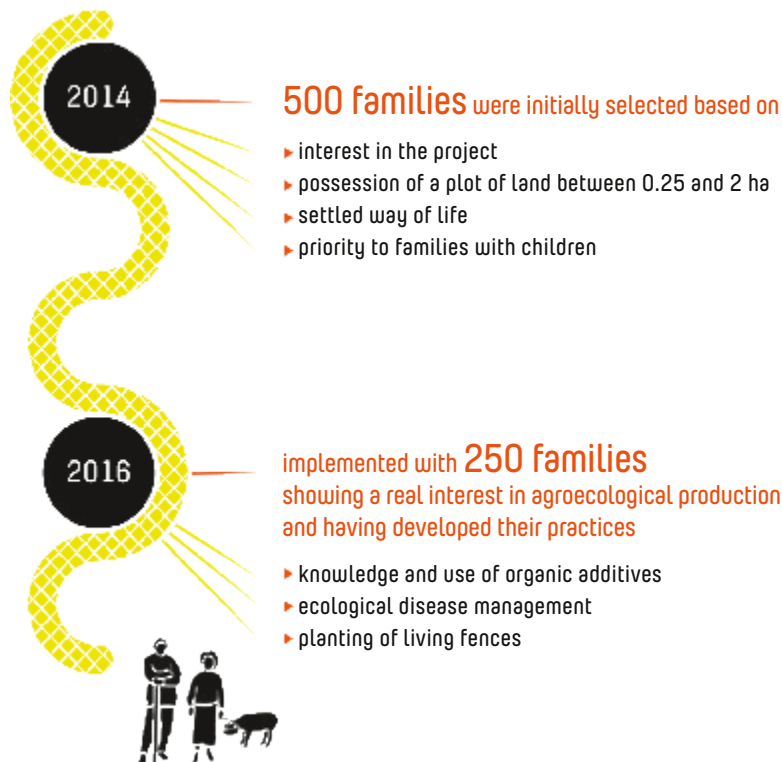
The principal obstacles to development which were identified during the initial assessment were poor soil fertility and lack of access to water. To solve these two related problems, it was necessary to find solutions that were low cost, local, easy for families to adopt, culturally and socially acceptable and that had a swift and significant impact. This is why an agroecological transition programme was proposed in 2014 to improve the resilience of farming families and preserve the district's natural resources.

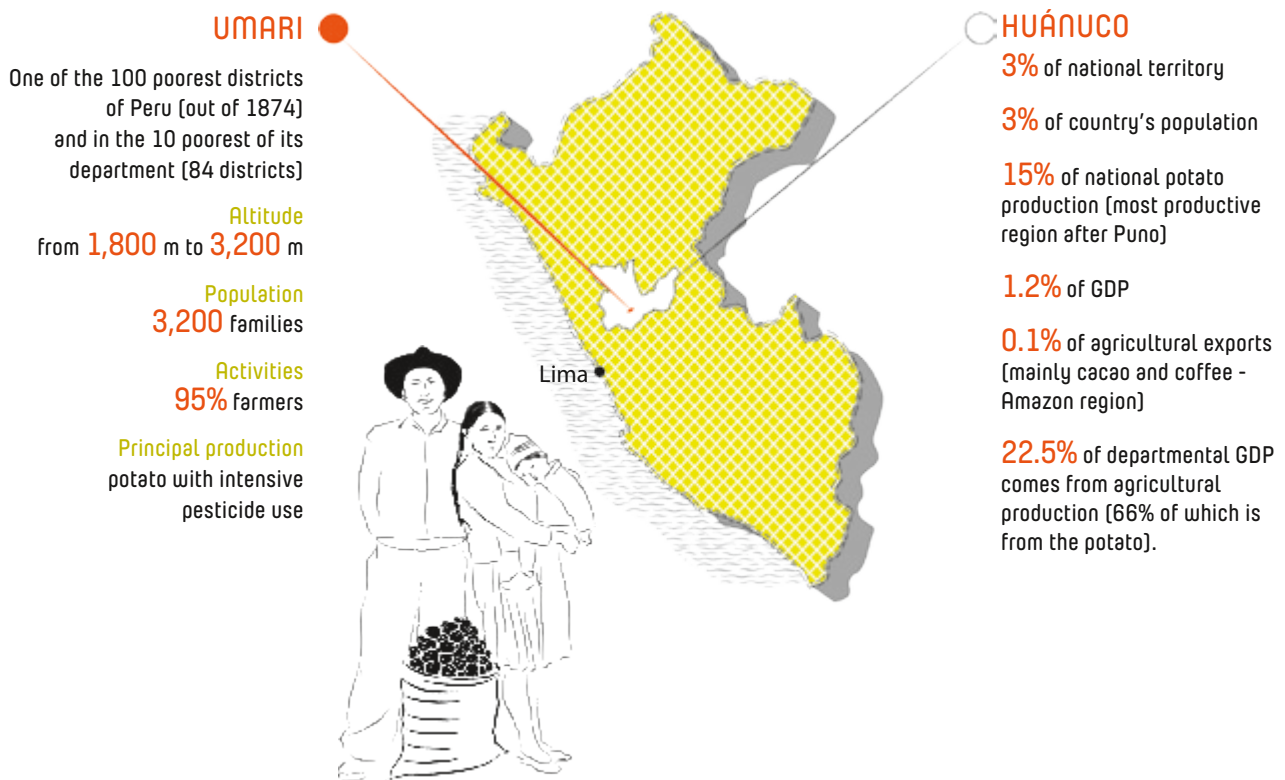


PRODUCER QUOTE

"Agroecological transition is a process. First you have to work on the soil, the pH, avoid using chemicals. There's a whole procedure before you get to be a 100% agroecological producer."

Alvino Pérez





Agroecological transition is a process which takes several years. While it has been planned in three main stages in Umari, it is important to consider it systemically: work to restore soil fertility is inextricably linked to crop diversification, which itself goes hand in hand with ecological disease management. In practice, the stages overlap, and their implementation is interdependent. Therefore, for example, planting hedges or installing insect traps is not enough to restore productive agroecosystems; it is also necessary to ensure the progressive strengthening of ecosystem services. In addition, the sequencing in “stages” was only done for practical reasons when structuring the proposal.

Area data

(pH and OM: average result from 28 samples taken at the start of the programme; fast water infiltration; tests done in a 50-cm cylinder with 20 l water):

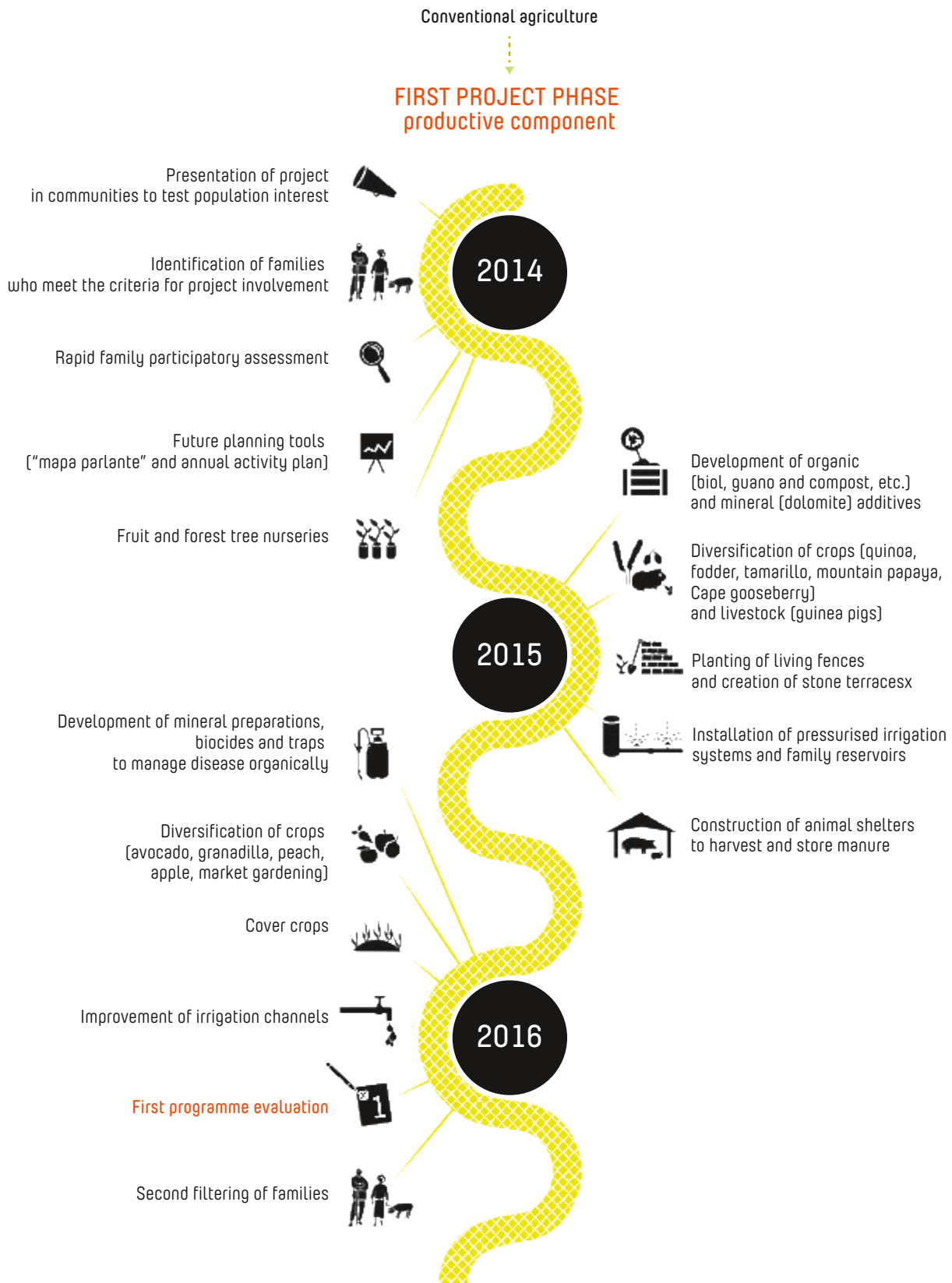


pH: **5.01**
▶ very acidic soil

Organic matter: **2.52**
▶ low level

Water infiltration: **30.6 cm/h**
▶ low soil infiltration capacity

4 Programme Timeline Agroecological Transition Dissected



SECOND PROJECT PHASE
social and commercial component

Start of agroecological market development work:
first basic PGS cells



Family awareness:
gender and division of tasks, living conditions,
environment, diet, health, etc.



Start of quality of life improvements
(better kitchens) and crop planning tools



Introduction of effective microorganisms



Knowledge exchange fair between
farming families



2017

Creation of organic kitchen gardens in schools
(organic fertilisers and biocides)



First PGS organic certifications: 34 producers



Awareness campaigns of agrochemical
product container contamination
and district-level collection



Development of collective plots (organic fertiliser,
biocides, management of disease and
pests with mineral preparations and trichoderma)



Quality of life improvement: housing
(hygiene corner, recycling area, tools,
individual bedrooms) and safe water
(drinking water filters)



Consumer awareness
(cooking workshops, network creation,
video on agroecological transition)



Training of 16 m/f agroecological promoters



Further family awareness
(family organisation, knowledge
consolidation, initiative generation)



Development of agroecological
product fairs (local and regional)



2019

18 basic cells and 55 PGS certified families



Constitution of the first agroecological
cooperative in the region (AGRECU)



Second programme evaluation



2020

Consolidation of family technical training,
association skills, marketing and
empowerment activities to improve resilience



THE MAIN SOIL
IMPROVEMENT
TECHNIQUES USED
WERE



Manure



Compost



Biol
(a liquid, organic fertilizer)



Effective
microorganisms



Bokashi



Liming
(Dolomite)

THE TRANSITION PROCESS

Soil health and fertility recovery

The first, and the main challenge tackled by families and local teams, starting in the first year of the project, was the improvement of soil properties (such as texture, structure, pH, organic matter content, etc.), a key factor in agricultural production. Yields are highly dependent on the fertility and therefore wealth of micro and macrofauna in the soil, so first of all it was necessary to reincorporate organic matter into plots previously farmed conventionally and/or with monocultures.

The use of compost, *biol*, effective microorganisms (EM) and other biological additives (organic or mineral) means that soils which have been degraded and exhausted by pesticides can be brought back to life, and their structure changed at the same time. The use of a combination of several of these techniques is recommended to maximise the effects on crops.

As compost is the easiest to put in place, training on other organic additives was only carried out from the second year of the project. Families also planted cover crops (green manure, mulch, etc.), in particular to reduce soil acidity (which also made it possible to maximise plant cover).

It is interesting to note that, 5 years after the programme start, water infiltration rate tests went from 30.6 cm/h to 53.6 cm/h, which demonstrates a clear improvement in soil structure, resulting from the incorporation of organic matter and increased biological activity, a token of greater porosity.

WARNING - DIFFICULTIES - PRECAUTIONS



1. It remains difficult for the families to produce enough organic matter to meet their requirements on the farm itself. This requires many animals and therefore the use of large areas of pasture (which itself needs, and increases the demand for, organic matter for its own amendment) - which are rarely available to them. There is therefore a tension in the allocation of land between pasture and crops which is difficult for families to resolve.

2. Farming families often started their agroecological agriculture trials on the least favourable areas of their land, probably because the best plots were generally already in use, but also

to limit the risks. A demonstration plot can be created to showcase the results brought by the techniques being promoted, and to meet the needs of the farmers for whom "seeing is believing".

3. As the effects of organic additives (compost, *biol*, EM) are not as significant in the short-term as those of pesticides, families do not see the benefit directly, with the result that they sometimes abandon them. Significant awareness efforts are crucial at this stage.

Scavengers



Earthworm



Springtails



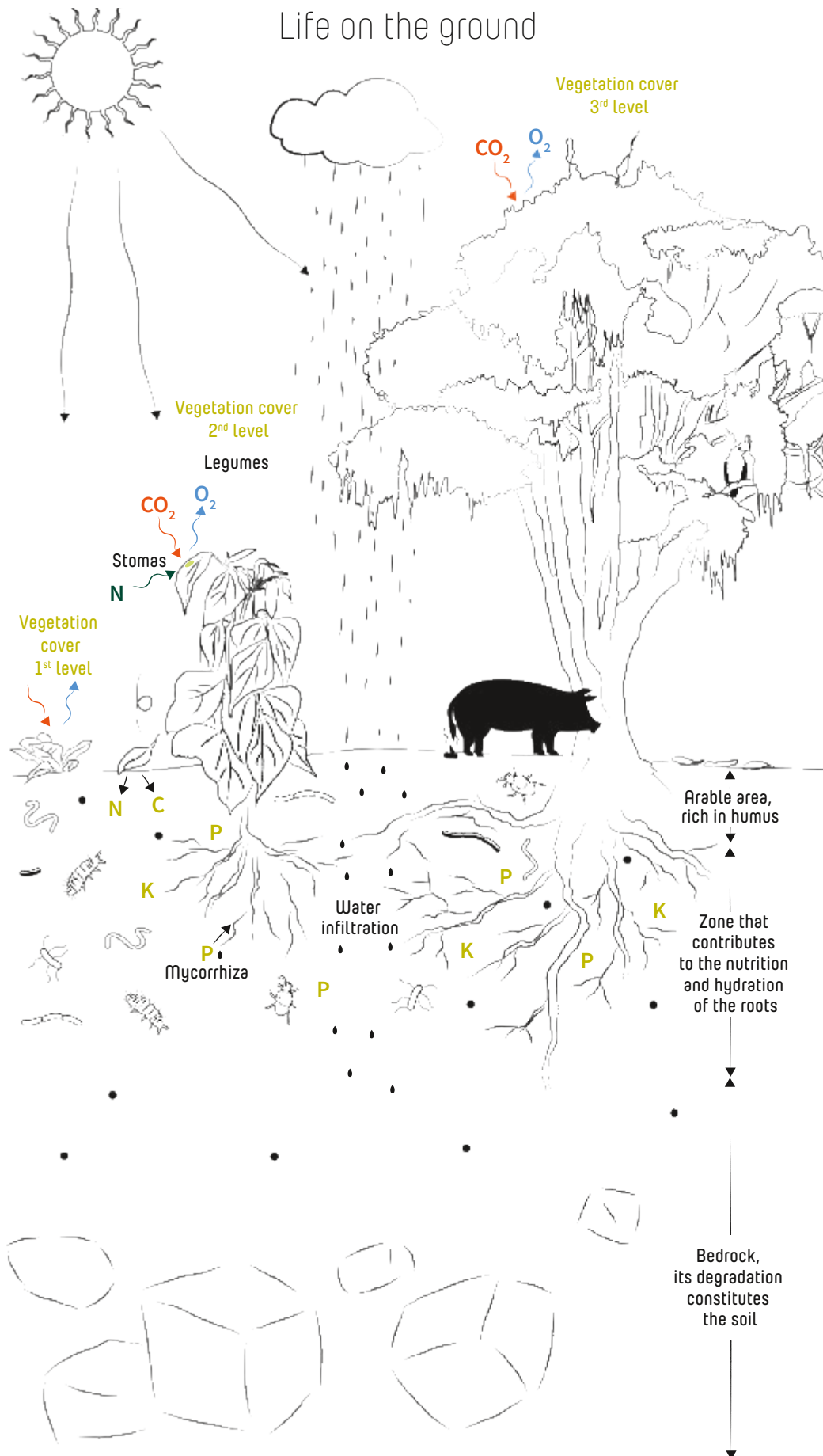
Mites

Decomposers



bacteria
fungi

Life on the ground



PRODUCER QUOTE

“Now that I’m using organic fertilisers, my soil is starting to recover. Areas which were yellow or red before have turned brown. Some places are even black already, which shows how well the soil is recovering.”

Domitila Masgo

THE TRANSITION PROCESS

Crop diversification

In the first year of the project, alternative complementary crops to the main productive crops (potato, granadilla, maize, and bean) were identified and nurseries were set up. These new crops were introduced the following year. As complementarity is necessary for a healthy agroecosystem, diversity was being reintroduced to the farms. This also increased food security for the families while diversifying their revenue streams.

Their introduction was closely followed by the planting of living fences. These made it possible to bring back biodiversity while introducing crop diversification, but also to provide protection from external contaminants and to reduce soil erosion around the plots.

Diversifying and combining plants has the advantage of promoting soil regeneration, as does crop rotation. Families made a concept map (Spanish: mapa parlante) of their plot to ensure optimal usage of their soil, showing firstly the present (current situation) and then the future (projection of the “ideal farm”). This simple planning tool meant they could organise their transition to an increasingly complete agroecosystem.

Although there is generally a main crop on the farm, families in the process of agroecological transition grow on average 10 - 20 different plants, compared with less than 5 for conventional farmers (potato, maize, granadilla, bean). The most advanced may have up to 80 different crops, only needing to buy staples (sugar, salt, pasta, rice, oil) at the market. Observations on the ground confirm that families in agroecological transition have a significantly more diverse diet than other households (particularly in dietary fibre).



Mapa parlante



PRODUCER QUOTE

“It is important to diversify to preserve seed and plant varieties. It also helps to control pests which attack the plants.”

Damar Ponce Villar

WARNING - DIFFICULTIES - PRECAUTIONS

1. At the start of the programme, families find it difficult to make their future map because they don't have all the agroecological knowledge necessary to make a projection. Technical support is indispensable at this point.

2. As with compost, families sometimes don't understand the point of crop combinations or what they are for. This knowledge gap slows down their uptake, but it can be overcome gradually with technical assistance using tools such as the mapa parlante in particular.

3. It is a case of planting “intelligent combinations” of crops. For example, in the case of the granadilla (*Passiflora ligularis*), which is grown on a vine (at a high level), families have been able to introduce vegetables or berries which benefit from the shade provided. Therefore, granadilla fields now produce multiple crops.



THE TRANSITION PROCESS

Ecological disease management

The use of organic additives (compost, biol, EM) and crop diversification support the restoration and self-regulation of agricultural ecosystems. Nevertheless, pests do sometimes interfere with crops. Families therefore need to undertake integrated pest management, that is a combination of mechanical, biological and, if necessary, chemical (as a last resort) methods. This control strategy allows a soft transition to 100% agroecological management, as it involves preventive measures aimed at limiting (and learning to live with) rather than eradicating pests, building respect for certain tolerance thresholds for pests while restricting the use of agrochemical products.

Thus, the families have access to various natural biocides first of all to control disease. They have been taught about mineral preparations used in organic farming (Bordeaux mixture, lime sulphur, use of lime) and other natural preparations based on local resources (liquid manure etc.) Insect traps (pheromone bottles, sticky tapes, etc.) are also deployed.

Finally, the use of effective microorganisms (EM) and fungi such as *trichoderma* completes the toolkit for agroecological disease and pest control, while also playing its part in the restoration of soil fertility (in particular through phosphorus-fixing mycorrhizae). The next step would be to develop the work in accordance with the lunar calendar, while freeing themselves as much as possible from mineral biocides.



WARNING - DIFFICULTIES - PRECAUTIONS



1. Prevention is key to effective agroecological management. This idea is sometimes difficult to introduce into family practices where they are too used to taking curative action, once a disease has been reported or spread.

2. Disease and pest control remains the main problem for Umari's agroecological families. There have, in fact,

been few investigations carried out into the effects of agroecological methods on the pests of the area. Losing a harvest can have serious consequences, and the temptation to resort to pesticides remains strong. It is important to propose solutions which take into account the various issues (economic, environmental, cultural, health, etc.) surrounding agricultural production.

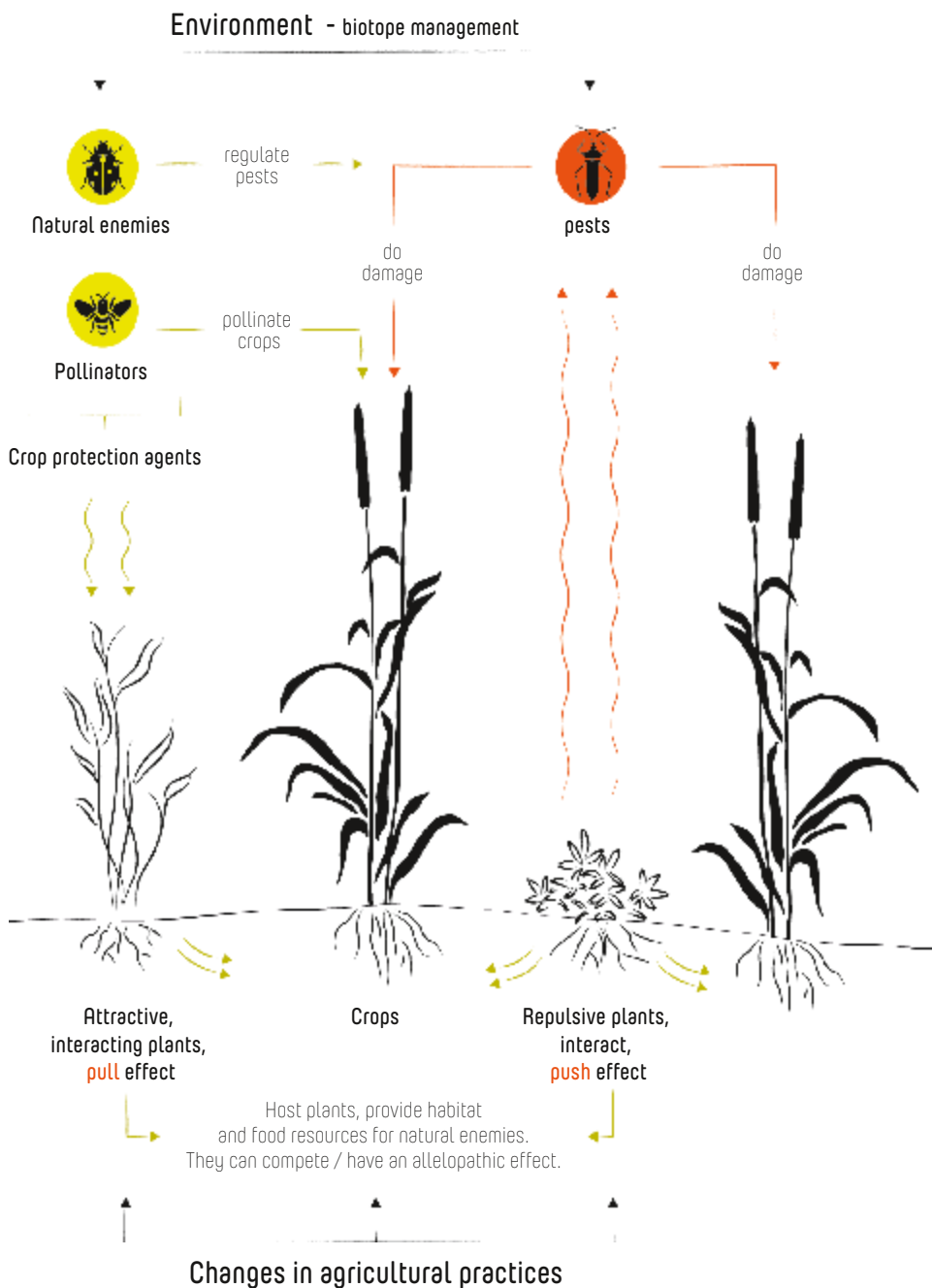


Biological control through habitat conservation and management

PRODUCER QUOTE

“As farmers we are used to using agrochemical products on our crops, mainly potato, to combat mildew and to produce more. We didn’t realise what we were doing, we didn’t know that we were damaging the environment and our health. (...) It’s more expensive to farm with these products because we have to invest in pesticides to fight against different pests. When we farm naturally, making our preparations using plants, it’s free, because we’ve got everything at hand.”

Diamar **Ponce Villar**



D

THE TRANSITION PROCESS

Taking social factors into account

Having focussed on the agroecosystem and production during the first phase of the project, it quickly turned out to be essential to work on the social aspects, with a strong focus on gender, quality of life and association skills



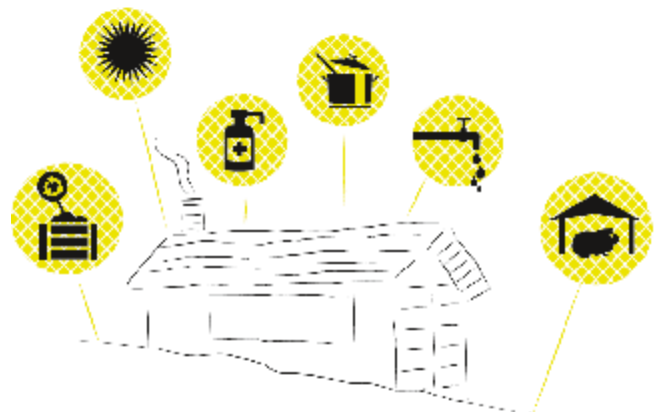
Family awareness

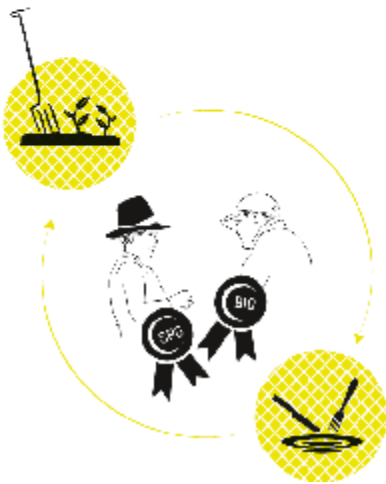
- ✗ Attention given to self-esteem, gender equality, distribution of the burden of work within the family and the empowerment of women.
- ✗ Work on social responsibility and respect for the environment, diet, health and living conditions.
- ✗ Exchange trips to other agroecological production regions.

- ✗ Workshops in schools (kitchen gardens, organic fertilisers, etc.).
- ✗ Campaign to collect agrochemical product containers.

Improving living conditions

- ✗ Housing conditions (storage, natural light well, etc.).
- ✗ Better kitchens: installing a source of drinking water in the home (within the residence), ecological refrigerator, smoke outlet chimney for the wood-burning stove, and raising guinea pigs in a suitable location away from the kitchen.
- ✗ Sanitation.
- ✗ Access to reliable water supply with drinking water filters.
- ✗ Recycling areas.





Producer organisation

- ✕ Setting up around 15 basic PGS*² cells (local groups).
- ✕ Supporting PGS certification for those who wish it.
- ✕ Launching the first agroecological cooperative in the region (AGRECU).
- ✕ Promoting the agroecological market.
- ✕ Organising knowledge exchange fairs between farmers.

The sixth year of the programme consisted of consolidating producer organisations and reinforcing their ownership of agroecological knowledge and techniques, with the aim of making them as autonomous as possible. It is not just a question of learning and applying the techniques for the duration of the programme, but rather of gradually building the families' motivation to remain involved in agroecology over the longer term. This challenge is as great as it is essential in a particularly difficult context.

2 PGS: Participatory Guarantee System, a participatory agroecological certification system based on self-monitoring by groups of farmers set up as basic cells



PRODUCER QUOTE

"We, the farmers, learned about agroecology thanks to the institutions who supported us. At the beginning, we didn't get any technical help from the municipality."

Alvino Pérez

WARNING - DIFFICULTIES - PRECAUTIONS



1. As with many cooperative programmes, the main difficulty lies in the long-term adoption of new views, habits and practices by the families, in addition to a change of paradigms. They are used to the quick solutions of conventional agriculture, so it was necessary to go through a deconstruction of their understanding of agricultural production. This involves getting rid of a short-term way of thinking, and learning to prioritise long-term (especially economic) choices. It is also a case of reviving the value of traditional knowledge.

2. It was essential to work on notions such as participation, self-esteem, reinforcing the social fabric and restoring a climate of confidence within the rural communities. The historical background of the area and the country (colonial era, armed conflict in the 80s and 90s, corruption and inappropriate policies) has generated a great deal of apathy among the population. As a result, many families have lost their belief in their ability to be the agents of their own development (particularly since they are never consulted when political decisions are taken). This is why the involvement of the State in these fundamental changes of agricultural model is essential. It should begin with strengthening association skills rather than the competitive spirit which characterises ultra-liberal systems.

5

Final situation: accomplishments/results

Taking stock

In 2018, 5 years after programme launch

2018



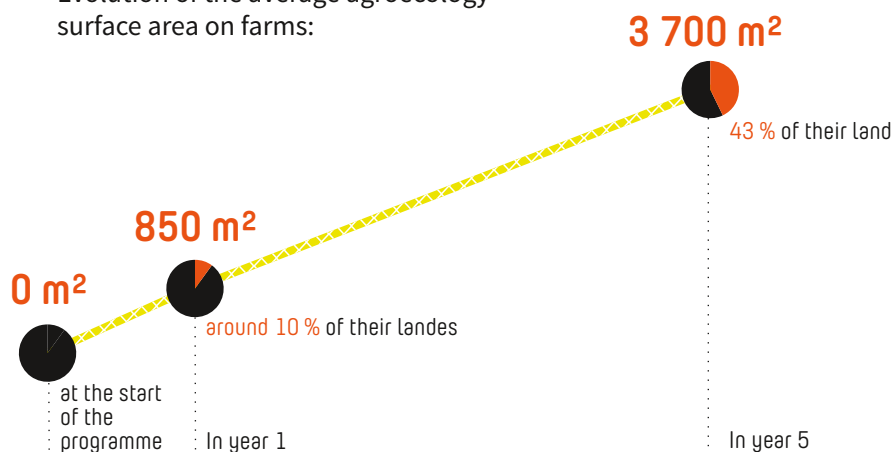
OVERALL

- ✕ 250 families are now presented as examples. They have diversified their diet and improved their health and their living conditions. Other families in the region travel to visit them.
- ✕ The group had around a dozen drop-outs, but 45 new participants, that is other families who started using agroecological techniques on their own initiative.
- ✕ + than 90 hectares under agroecological cultivation today in Umari
- ✕ 1/5 families certified through the PGS label
- ✕ 18 basic PGS groups set up (i.e. more than 200 farming families)
- ✕ 1 agroecological cooperative set up: AGRECU
- ✕ + than 400 consumers made aware of the benefits of agroecological products through cooking workshops
- ✕ interest and involvement from local authorities and municipal teams in agroecology (follow-up and budget allocation)

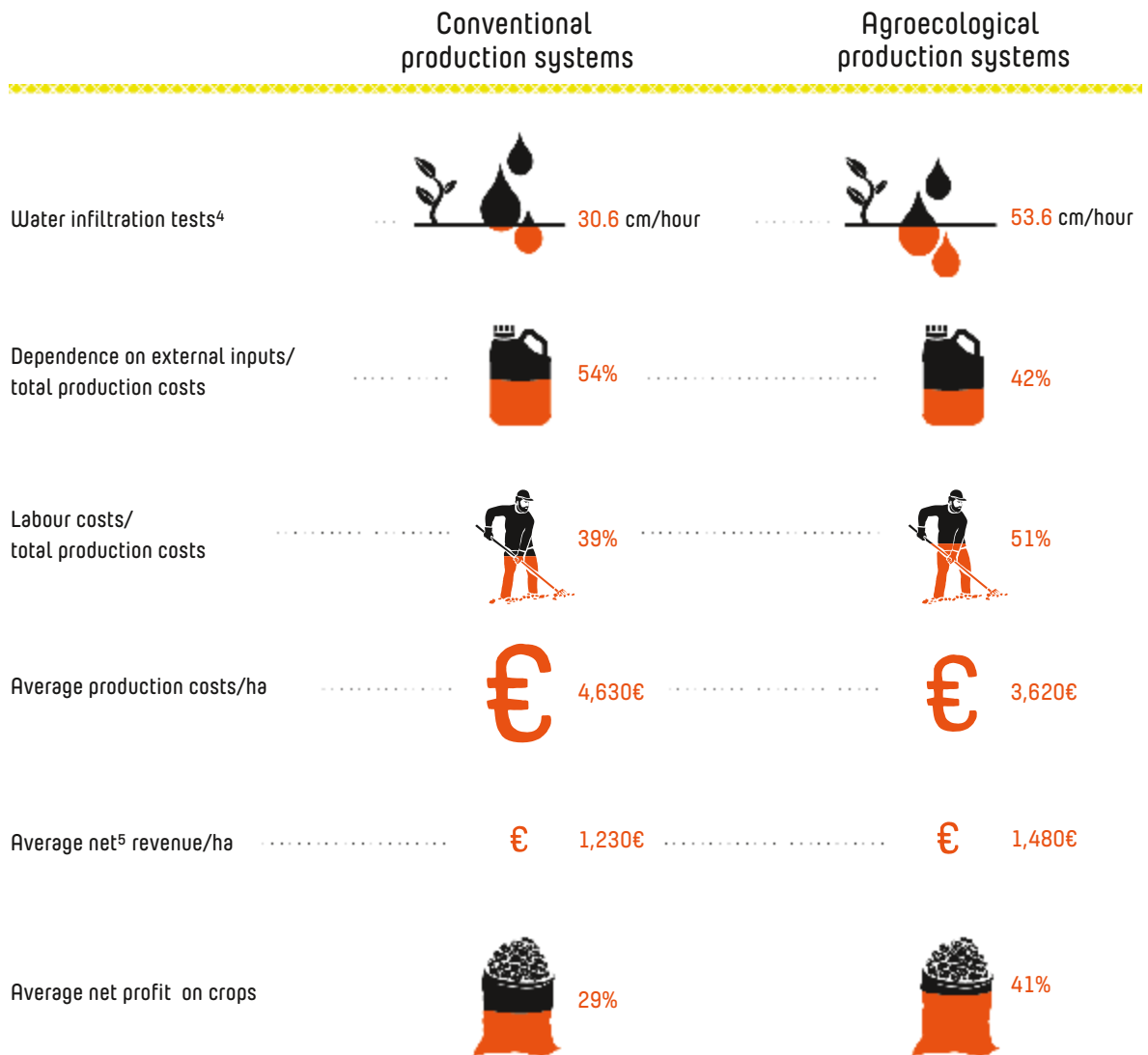


ON THE FARM

- ✕ Evolution of the average agroecology surface area on farms:



COMPARISON³ WITH CONVENTIONAL FARMS



The average revenue for agroecological families is 20.3% higher than that of families farming conventionally (including labour costs).

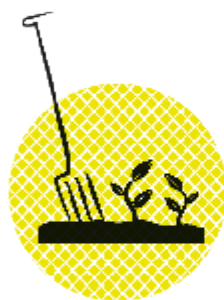
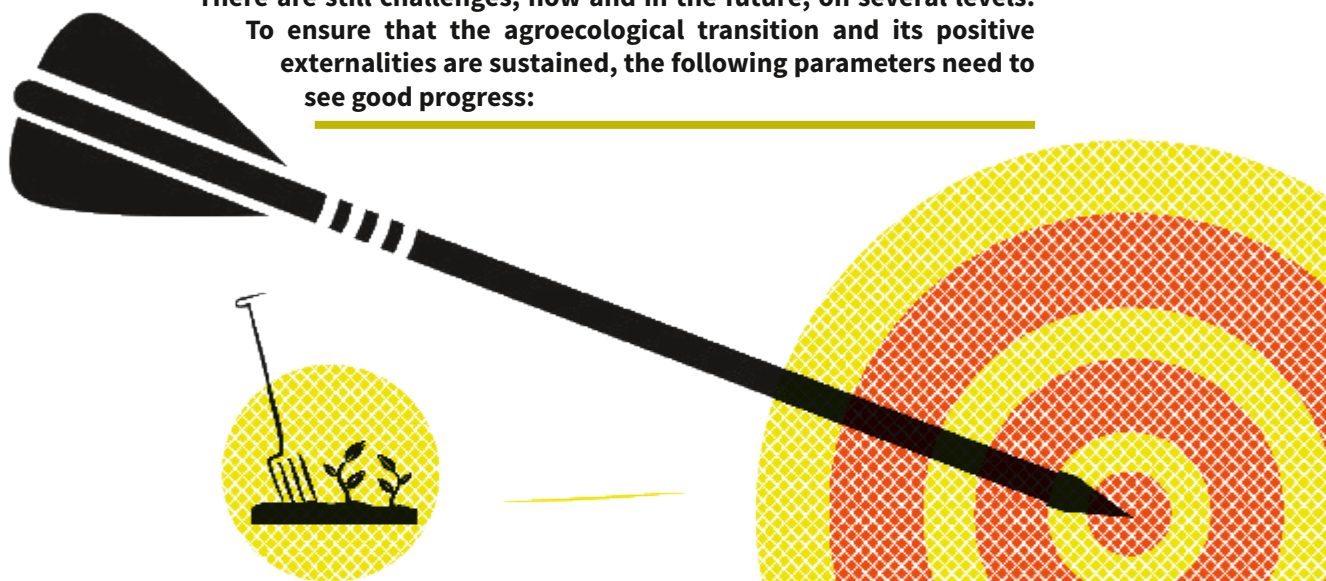
3 Based on a comparative study (dissertation M. Llanto Aldava, Sep. 2019, Umari) looking at 10 farms and 7 crops (potato, pumpkin, pea, rocoto pepper, physalis, tomato and granadilla).

4 Tests in 50-cm diameter cylinder with 20-l water capacity

5 Understood as the ratio of revenue to production costs per ha, as a %..

6 Current and future challenges

There are still challenges, now and in the future, on several levels. To ensure that the agroecological transition and its positive externalities are sustained, the following parameters need to see good progress:



Production

- ✗ Continue to improve production system efficiency
- ✗ Optimise management of natural, human and cultural resources
- ✗ Increase surface area given over to agroecology
- ✗ Reassert the value of ancestral knowledge
- ✗ Continue to improve irrigation systems
- ✗ Recover and preserve local farming seeds



Marketing

- ✗ Strengthen farmers' organisations and associations
- ✗ Improve the connection between supply and demand
- ✗ Diversify marketing channels
- ✗ Spread the PGS agroecological certification system
- ✗ Develop product processing procedures
- ✗ Raise consumer awareness to give farming families a fair price



Social, economic and cultural dimensions

- ✘ Encourage families to play a leading role in the agroecology development process
- ✘ Strengthen farming communities and develop agroecological farming networks (experience and knowledge exchanges)
- ✘ Promote agroecology in educational institutions
- ✘ Enhance the appreciation of agriculture with the younger generations
- ✘ Promote the role of women in agroecological transition and raise male awareness of the need for a fair distribution of tasks
- ✘ Promote family home consumption to strengthen their food sovereignty and their resilience
- ✘ Consolidate the adoption of preventive health measures (dietary habits and access to water improved, toxic products removed, etc.)



Role of the State

- ✘ Enforce national policies in favour of family farming
- ✘ Regulate/ban the use and advertising of pesticides
- ✘ Grant a more prominent role to agroecology in the education system and technical services (e.g. by adapting technical training)
- ✘ Strengthen local government involvement in agroecology support (creation of agriculture offices, management training, etc.)
- ✘ Improve transport infrastructure
- ✘ Move from a project implementation mindset to a mindset aimed at results
- ✘ Fight corruption

7 Recommendations and good practice

Project management

- ✘ Involve both families and local government and other state departments along with all other actors in the project from the very beginning, i.e. from the initial assessment (briefing and consultation sessions with public hearings, collective intelligence workshops, forums for dialogue, etc.)
- ✘ Make sure that the team in charge of implementing the project has deconstructed their idea of agriculture as it is most often taught and that they have genuinely understood agroecology
- ✘ Regularly update the agroecological knowledge and skills of stakeholders involved in the project
- ✘ Plan for systems to facilitate effective involvement and connection for the various actors in the area

Families

- ✘ Require active, particularly economic, participation from the beneficiaries (the whole family), except where services are too expensive (laboratory soil analysis, certain hard-to-access inputs or equipment, etc.)
- ✘ Raise families' awareness of environmental protection. Focussing on food security, health and responsible use of resources has given better results than leaning on awareness of the global risks, which are far from families' everyday concerns and pressures.
- ✘ Revive the value of traditional knowledge, combining it with scientific expertise. Many consider agroecology to be the meeting point between farmers' knowledge and academic expertise. However, a number of cultural factors on both sides often distort this meeting. It is important to adjust educational insights and materials on agroecology to the context of the families so they can easily understand it on a practical level.
- ✘ Facilitate experience sharing and exchanges between farming families (e.g. via the Campesino a Campesino movement), training each other, visiting plots, to help arouse interest in families, to see what is possible and how to improve.
- ✘ Develop the equally fundamental agronomic and social parts in parallel, not forgetting to raise consumer awareness from the beginning of the project in order to promote the link between supply and demand in agroecological production.

8

A documentary to learn more

“Time for an agroecological transition in Umari” is a 32-minute documentary⁶ produced by Iles de Paix in Peru. The film is intended to be a resource to inspire the creation of similar projects, to document and promote exchange around the process of agroecological transition.

From the different stages of the transition to the challenges of marketing, via health and the role of the State, this documentary provides a panoramic overview of the issues of agroecological transition when applied in a particular Andean context.

How to use this resource

Do you want to open a dialogue around agroecological transition? Approach the restoration of soil fertility or another specific topic in a visual way with a group of students, experts, the curious or neo-rural? This case study documentary gives you a basis to reflect and inspire, to think about agroecological transition in a way that suits your context, at the level of the farm or the region.

IF YOU ORGANISE A SCREENING AND DISCUSSION, HERE ARE SOME KEY QUESTIONS TO FUEL THE SUBSEQUENT DEBATE:

- › In Umari, three main stages marked the process of agroecological transition. What lessons can you draw from this approach for agroecology support programmes?
- › Where are we in our transition process? What stage has our/this project's agroecological transition reached?
- › What other agroecological techniques do you know to regenerate the soil? To manage disease organically? To improve the social fabric?
- › What were our great-grandparents' agricultural practices in this area?
- › How do we get organised to produce organic matter? Where do we get organic matter?
- › How can we persuade farmers to take up agroecology? Why do they resist it? How can we support them better?
- › What obstacles to the development of agroecology were seen in Umari?
- › What are difficulties are we encountering in our transition process? Are there similarities between the difficulties encountered by the Umari farmers and those here?
- › What could we do to resolve our current difficulties and anticipate future ones? What would the first steps be? What actors would be involved?
- › What specific difficulties are linked to marketing? What might their solutions be?
- › How do we raise consumer awareness?
- › How do we involve and work with the public authorities?
- › What agroecology support networks exist in the region?

You can also choose to focus discussion on a specific chapter of the film, based on the following script:

- × 00:00
Introduction
- × 04:30
Agroecological transition phases
- × 13:45
Agriculture and health
- × 15:55
Omnipresence of conventional model
- × 21:25
Role of the State
- × 23:15
Marketing challenges
- × 29:10
In conclusion

6 Available on Iles de Paix YouTube channel: <https://www.youtube.com/user/ilesdepaix>



ILES DE PAIX asbl

37 rue du Marché, 4500 Huy - Belgique
T: +32 85 23 02 54 F: +32 85 23 42 64 info@ilesdepaix.org <https://www.ilesdepaix.org>
ISSN 2684-5520