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Interfaces

# A VISION FOR RURAL AREAS

MAP Position Paper



## LONG-TERM VISION FOR RURAL AREAS: CONTRIBUTION FROM 20 SCIENCE- SOCIETY-POLICY PLATFORMS

### MAP POSITION PAPER

GREENPORT GELDERLAND

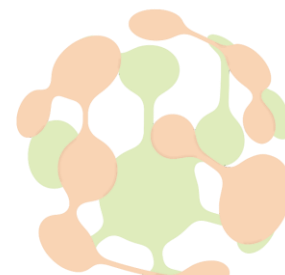
THE NETHERLANDS

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## 1. Headline message

Greenport Gelderland (GG) is the horticultural programme for the River region of the province of Gelderland in The Netherlands. This public-private network organisation stimulates innovation, sustainable development and growth of the horticultural sectors (glasshouse, fruit, nursery stock and mushroom cultivation) in the region.

The way fruit production takes place is changing rapidly, responding to climate change, market competition and changing regulations on pesticide use. Production needs to be more sustainable as well.

The horticultural sector is closely integrated with the rural landscape and society, which means that developments in horticulture, influences the society and vice versa. Developments like increase of the size of farms, more structures inside the fruit orchards to reduce risks from weather, pests and diseases (like hail netting), more robotics (self-driving machinery), seasonal labour from other countries who need housing etc, have serious impact on the surrounding communities in which farms are embedded. On the other hand, the preferences of consumers, inhabitants and tourists visiting the region influence the development of the sector as well. The rural area is becoming more of a multifunctional residential and working environment. This increases the complexity of how the landscape is developed.

**Keywords:** *horticulture, future of farming, rural development.*

## 2. Key scientific evidence

A key trend for the region is that the rural area is becoming more of a multifunctional residential and working environment, instead of only serving as an agricultural area. A few decades ago, most rural inhabitants would either have a direct or indirect connection with the agricultural sector. Today this is no longer the case, which makes the management of the region quite complex. The following statistics endorse this trend:

- In terms of demographic shifts, a population increase of 6% until 2040 is expected for the River region (Companen, 2019). The region has a relatively high population density for a rural area with 355 inhabitants per km<sup>2</sup>. It is closely situated and well connected to major urban areas in the Netherlands (CBS statline).
- Land use competition is a challenge for soil-bound farmers, as farmland prices in Gelderland have been increasing by 4,4% per year on average from 2011 until 2018 (EUROstat) and housing prices in Gelderland have been increasing by 4,6% per year on average since 1995 until 2019 (CBS statline). Nonetheless, the horticultural land use has remained stable in Gelderland and the River region over the past 20 years (CBS statline).
- Change in production of the rural economy: The total farm business income for horticultural businesses in Gelderland (province) has not increased since 2000. However, the number of horticultural businesses has decreased by 60% over the same period, meaning that the average income per horticultural business has increased by 5,2% per year since 2000, with a proportionally larger cultivated area per business (CBS statline) and increasing costs for example for labour and inputs. The increasing average size in terms of land use of fruit production businesses goes hand in hand with the development of different business models, on farm structures and economies of scale to invest in more innovation.
- With the decreasing number of agricultural businesses, more agricultural residences are being used by non-agricultural inhabitants. Non-agrarian inhabitants often have opposing interests in terms of land use and planning compared to agrarian entrepreneurs, resulting in a dichotomy of prioritising landscape vs. production. A part of the agricultural businesses is also diversifying

its business activities with a quarter of the business engaging in related businesses such as direct sales to consumers, renewable energy production, subcontracted work and nature management (Gies & Nieuwenhuizen, 2017).

- In terms of digital connectivity, the region is connected with the fastest internet protocols and mobile networks for rural areas as defined by the EU (Eurostat).
- The average distance to basic services in the region is equal to provincial and national means (CBS statline).

Based on the MAP visioning exercise (alternative to individual interviews), the following sector related challenges and opportunities were identified:

- The threat of climate change to the fruit sector and the related adaptation measures, such as protected cultivation
- The demand for a more sustainable, circular agricultural production, with the related economic consequences and technical limitations
- Loss of biodiversity, which is both a challenge and opportunity for the fruit sector in the region
- The transition towards smart farming solutions based on precision technology and self-operating machinery and drones.
- Availability of seasonal labour will remain a challenge for the coming years, as long as machines cannot take over more manual tasks. Hand in hand with the continuing need for seasonal labour, social issues arise in terms of (safe) housing and the social integration with local citizens.
- A fair level playing field for farmers between municipalities (in terms of local building restrictions, etc.), at a European level and in the global trade market. A competitive cost price remains crucial for the export market. Different regulations in terms of pesticide use for example among producing countries that serve the same internal European market, result in unfair competition.
- The connection of the fruit sector with the landscape, the region and the society: modern fruit production deviates further and further away from the image of historic orchards with full sized fruit trees.

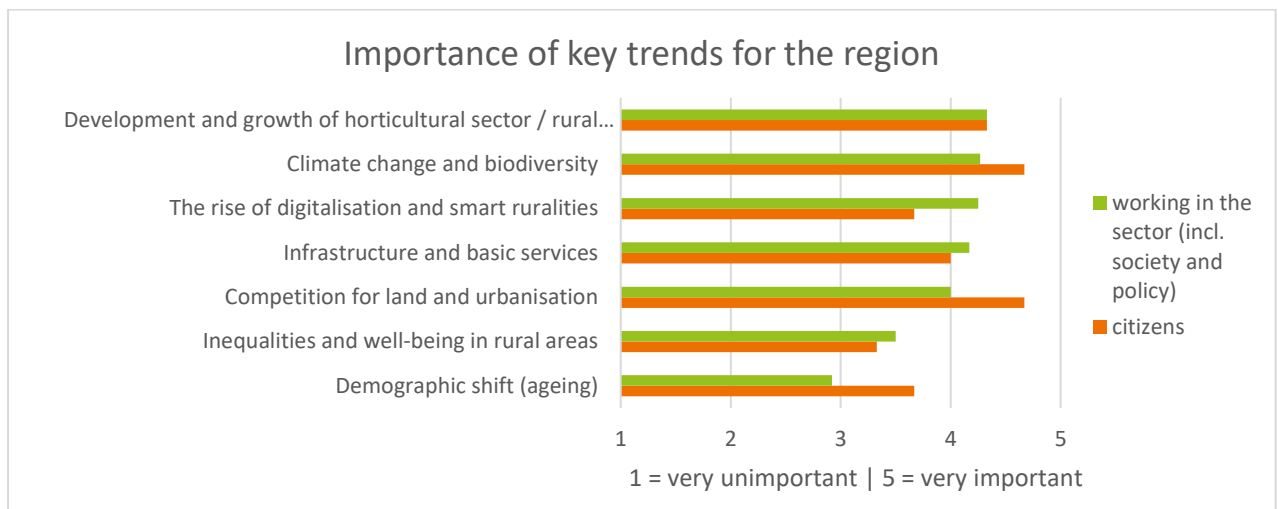
### 3. Summary of the outcomes of the Delphi

| Delphi process | Activity   | Outcomes  |
|----------------|--|---|
| Step 1.        | Desk research  | Shared in Discussion paper  |
| Step 2.        | Live MAP meeting (instead of separate interviews) on future visioning exercise | “Praatplaat” (visual illustration of the 2030 vision for the sector) – shared in discussion paper         |
| Step 3.        | Discussion paper   |   |
| Step 4.        | Survey   | <b>N = 15</b><br>Working in the sector (incl. society and policy): 12<br>Citizens: 3                      |
| Step 5.        | Online MAP meeting<br>23-10-2020   | <b>10 participants</b><br>Society (citizens): 2<br>Society (private sector): 4<br>Policy: 3<br>Science: 1 |

During the first 3 steps, there has been little contribution from citizens or civil society to the outcomes of the MAP process. In the remaining two steps, an attempt has been made to include more citizens, but it has been difficult nonetheless to engage citizens inside the MAP.

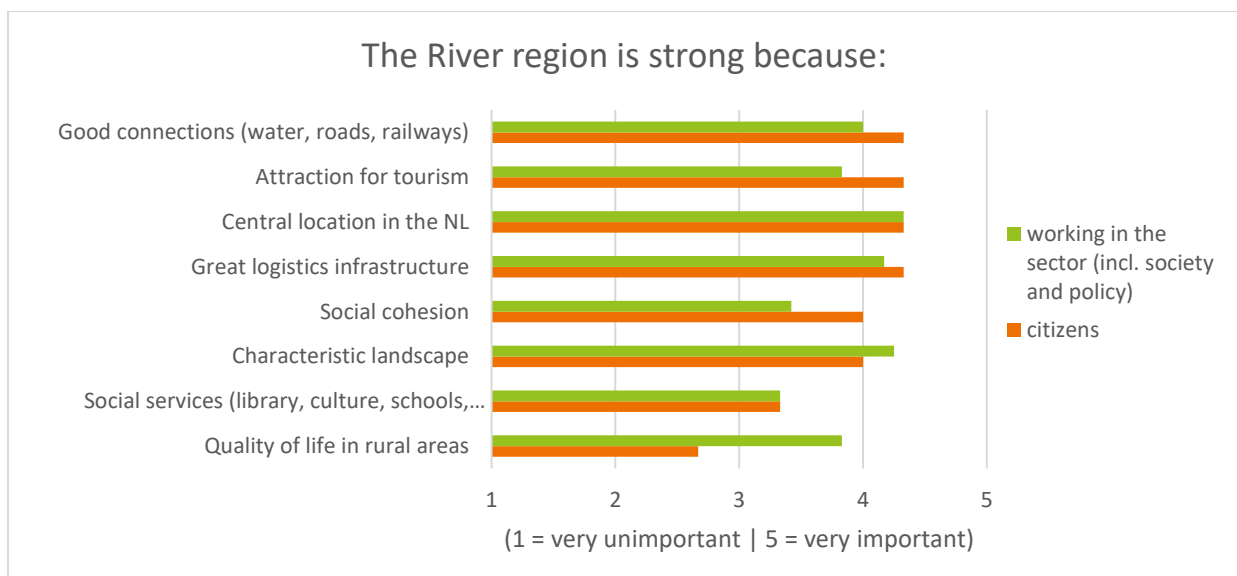
The questions of the survey were based on the issues identified in step 1 and 2. In the survey two additional key trends stood out from the 7 key trends identified, compared to the desk research. In addition to climate change, change in production (referred to as development and growth of horticultural sector in the survey) and land use change (referred to as competition for land and urbanisation in the survey), also the rise of digitalisation and infrastructure and basic services were identified as important key trends for the region in the survey. The identified importance of digitalisation refers for a large part to the increasing role of precision agriculture in the fruit sector.

Figure 1. Importance of key trends for the region



Source: MAP survey

Figure 2. Strength of the River region



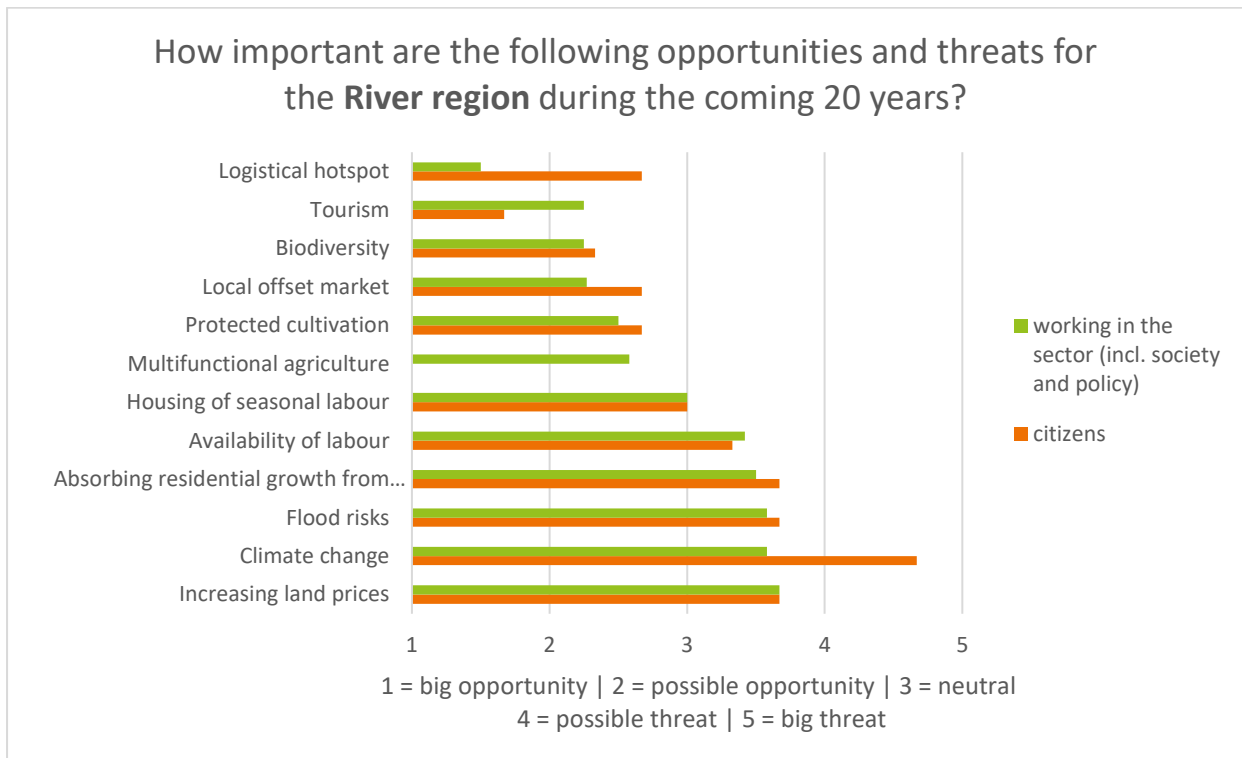
Source: MAP survey

The MAP meeting (step 5) was focused specifically on the issue of modernisation of fruit production for example by use of smart farming solutions and structures in the orchards.

### 3.1. Challenges and opportunities in the next 20 years

#### 3.1.1. Challenges and opportunities for the region and sector in general

Figure 3. How important are the following opportunities and threats for the **River Region** during the coming 20 years?

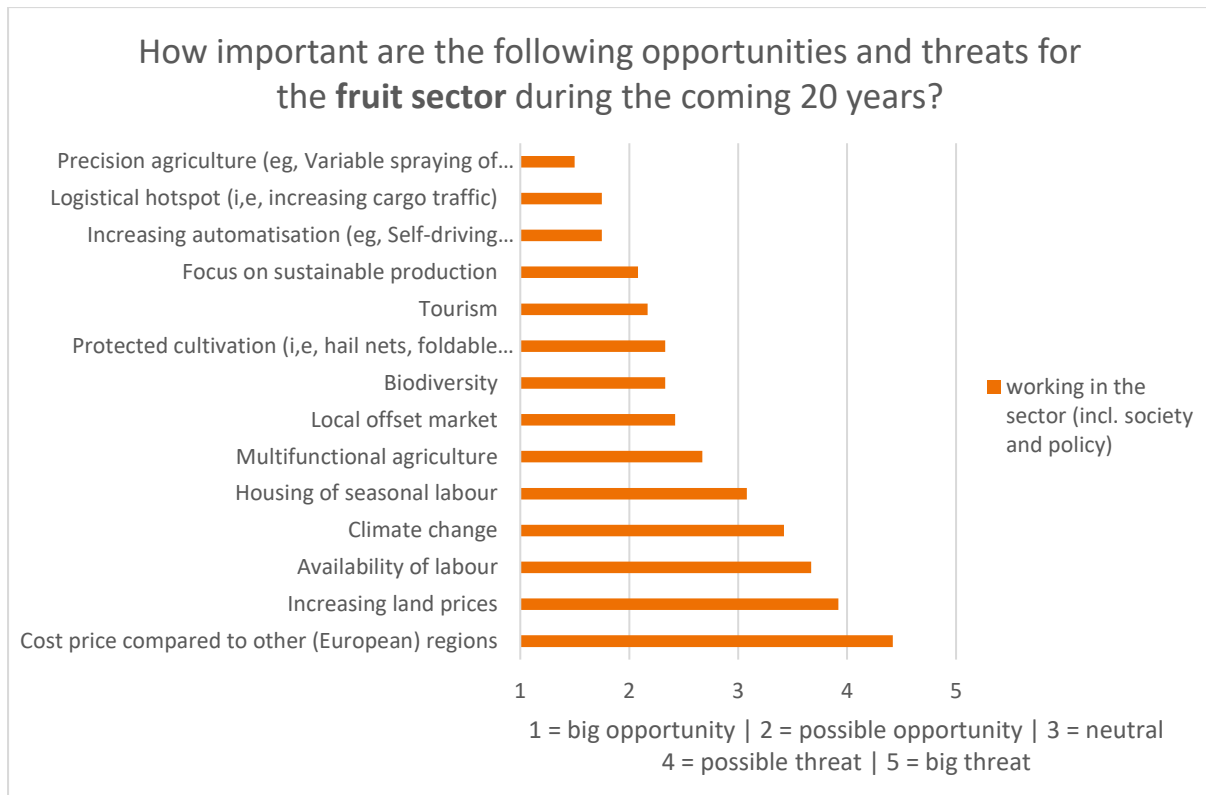


Source: MAP survey

The survey mostly confirms the outcome of the vision exercise conducted in step 2 and summarised in chapter 2 of this position paper. The importance of the logistical hotspot, tourism, biodiversity (sustainable agriculture), protected cultivation as opportunities is confirmed. The role of the local market was considered a bigger opportunity than during the vision exercise (step 2).

Also, the challenges previously identified are confirmed both by the private sector and citizens. Only the housing of seasonal labour is not seen as a challenge, nor as a threat by both citizens and the private sector.

Figure 4. How important are the following opportunities and threats for the **fruit sector** during the coming 20 years?



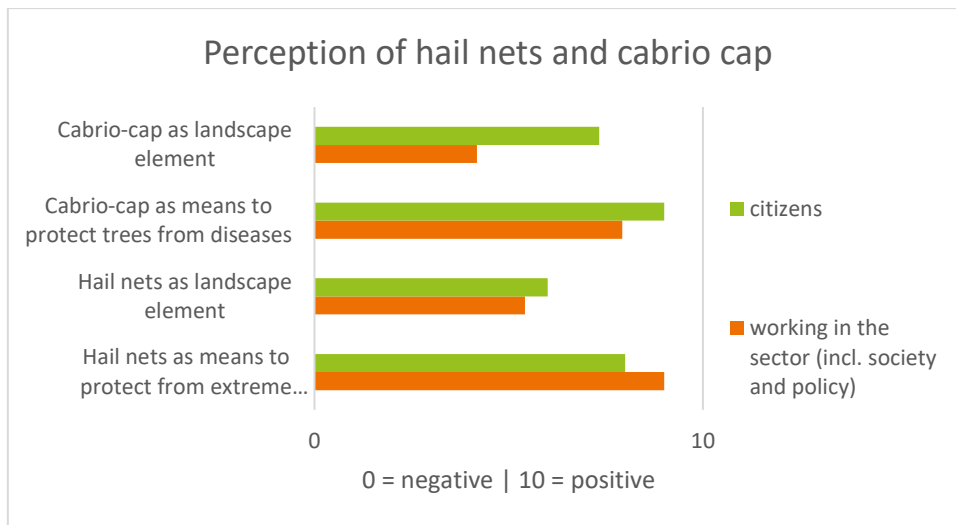
Source: MAP survey

### 3.1.2 Challenges and opportunities for the development of protected cultivation, precision agriculture and increased automatisisation

#### Challenges identified during online MAP meeting:

- The sight of protected cultivation in orchards can clash with the interests of tourism and recreation.
- Who will pay for maintaining characteristic orchards (without protected cultivation), which no longer serve an economic purpose for a farmer?
- Innovation can solve several problems, but the choices about which innovations to apply are generally limited by regulations set externally. Due to both local, regional, national and European policies.
- Investments in protected cultivation, precision agriculture and increased automatisisation are long-term investments, necessary to adapt to for example the changing climate. However, this is very difficult for an entrepreneur by changing policies.
- It is important to understand where resistance to new technologies such as protected cultivation or self-driving machinery comes from. Often it started from misinformation and/or from a few individuals, rather than most of the inhabitants.
- Nuisance is mostly caused by light and sound, according to the citizen representation and less by how an orchard looks.
- Innovations develop so fast, that it is difficult to keep up as an entrepreneur.

Figure 5. Perception of hail nets and cabrio cap



Source: MAP survey

Figure 6. Picture of a hail net shown in the survey



Figure 7. Picture of an (open) Cabrio-cap shown in the survey



Due to the low response to the survey, it is difficult to draw any conclusions from the response to the perception of hail nets and the cabrio cap. Initial responses indicate a more positive perception by citizens than people working in the sector themselves.

### 3.2. Desirable future for 2040

The desirable future that was visualised during the vision exercise (step 2), still is an accurate summary of the outcomes of the Delphi exercise.

Figure 8. Fruit farm of the future. (Fruitpact, 2020)



“A picture is worth a thousand words.” The figure summarises all the elements that were identified by the MAP to be included in the vision for a « fruit farm of the future ». It shows the way a region can combine the different functions of tourism (two walkers at the top), nature and biodiversity (represented with flowers, bees and birds), sustainability (wind energy but also the use of resistant varieties), local products for sale (at the bottom on the right), new technologies with harvesting robots, protected cultivation (netting and greenhouse type structures over the orchards), logistics (at the bottom separated lanes for different kinds of traffic), housing of temporarily workers at the fruit farms and on farm facilities and structures in rural areas.

### 3.3. Enablers to achieve the vision

How the vision for the future of the region can be put in practice, has been the focus of the MAP process. Important enablers to achieve the vision are:

- “window-dressing””: keeping the visible parts of orchards ‘attractive’, based on the traditional image of orchards
- Identifying zones within the region: zones for tourism/recreation with more limitations in terms of landscape changing structures for protected cultivation and production zones with reduced limitations compared to the current legislation.
- More attention and focus to local inhabitants and consumers on why protected cultivation is necessary to keep the sector viable. Cultivate understanding of the advantages such as less pesticide use fewer crop losses, in other words a ‘license to produce’.
- Create more connections with tourists (both ‘locals’ and people from outside the region), which can also be an alternative income source.



- Continue to innovate. In the future it may be possible to build structures for protected cultivation that are transparent or also include extra functions such as solar panels.
- There is no one-size-fits-all solution: tailor made solutions are needed per area and entrepreneur

The most important actions that came out of the MAP discussion (step 5) are to:

- Create more dialogue between the different parties (producers, sector supporting parties, local governments, citizens)
- Invest in the relationship both with politics as well as citizens/neighbours in order to stay connected
- Continue to innovate
- Learn from other European fruit growing regions, such as the Bodensee/Sud Tirol: which is also a multifunctional region with tourism and fruit production using protected cultivation in the form of hail nets.
- Continue to respond to changes in a changing market and policy arena.
- Consistent and clear policies, in order to have a clear and level playing field between municipalities within the region
- Find solutions to the increasing cost price of fruit production.

## Annex 1. Methodology used in the MAP

| Delphi process | Activity   | Outcomes  |
|----------------|--|---|
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### Methodology Step 2:

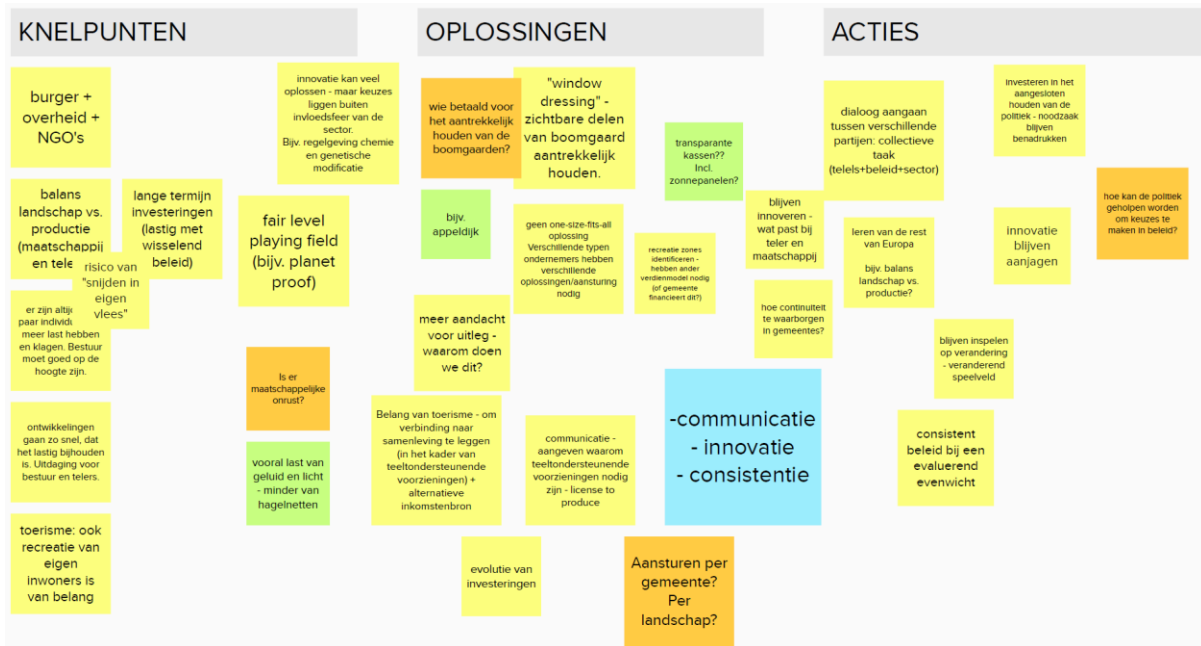
In order to achieve the “Praatplaat” with the 2030 vision, several meetings were organised by the MAP. Three meetings were organised: with local government (chosen members), local officials and fruit growers. Each group had a tour at the Research garden in Randwijk in order to see new developments and innovations for the sector, followed by a discussion. These discussions resulted in a draft “praatplaat” which was discussed with a group of fruit growers, followed by the discussion in the MAP for the final version of the “Praatplaat”.

### Methodology Step 5:

The online MAP meeting the MAP members discussed in three groups and two rounds about the challenges, opportunities, questions, uncertainties and concerns of protected cultivation in orchards (like hail netting) and other support systems like self-driving machinery and the use of drones. In the first round the groups were based on the background of the members: citizens, fruit growers or related industry. Within each group, the main challenges, opportunities, questions, uncertainties and concerns were discussed from the respective perspective. This intra-perspective round was followed by a inter perspective round in which each group had mixed participants: each group had participants from all three backgrounds. This way it was possible to have a constructive and participatory discussion in each of the breakout rooms separately, in which there was room for all the participants to speak. The results of the discussion of each group were summarised back in the main room and sorted by challenges, enablers and action to be taken by the MAP in order to reach the vision. While the points were shared, they were summarised on a digital flip chart (see below).

The feedback of the online MAP meeting was very positive. The participants appreciated the ability to participate actively and to work with tools such as the break-out rooms and the digital flipchart. This helped to create a sense of sitting together as in a live meeting, according to one of the participants.

Figure 9. Results from the digital flipchart during the online MAP meeting



## Annex 2. References

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