Policy Research Corporation

Evaluation of a national strategy for sustainable operational programmes in the fruit and vegetables sector

Final report

6 August 2012

At the request of the

FLEMISH GOVERNMENT Department of Agriculture and Fisheries Agricultural and Fisheries Policy Division

~ Policy Research Corporation

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SUMMARY

Within the Common Organisation of the fruit and vegetables markets, an evaluation of the National Strategy is mandatory (article 125 and 127 of Commission Implementing Regulation (EU) No 543/2011 of 7 June 2011, laying down detailed rules for the application of Council Regulation (EC) No 1234/2007 in respect of the fruit and vegetables and processed fruit and vegetables sectors).

The evaluation of the 2009-20 13 Operational Programmes (OPs), which are executed by the producer organisations and the associations of producer organisations in Flanders, refers to the first 3 years of the evaluation period – i.e. 2009, 2010 and 2011– in comparison to the baseline measurement, which is defined as the average of the performances during the years 2006 to 2008. The research questions in this document refer to the use, the effectiveness and the efficiency of the Operational Programmes. Answers are provided with regard to the overall and specific objectives defined by the European Commission.

The combined operational fund for the Flemish producer organisations amounts to more than 100 million EUR each year. Almost 90% of this amount is spent by associations of producer organisations. About 85% of the combined operational fund is used for actions. The other 15% is used for the purchase or other forms of acquisition of fixed assets. Association of producer organisation LAVA focuses on the improvement of the protection of the environment and on the improvement of the simultaneous auction system. Fruitbiz and EFC focus on the further improvement of product quality and research on new product varieties. The small producer organisations in the fresh fruit and vegetable market are still young and therefore generally invest slightly more in fixed assets and focus on the improvement of the quality of their products. This is not surprising taking into account that product quality needs to be guaranteed as a precondition for sales to be optimised. The industry-oriented producer organisations focus mainly on the improvement of product quality, e.g. via improved process controls.

The value of the marketed production decreased in 2009 and 2011. This confirms the fact that the fruit and vegetables sector remains very dependent on external factors such as weather conditions and market actions of retailers and other suppliers in the European market. According to *Policy Research*,

the indicator 'value of marketed production' is not suitable to measure the OPs' effectiveness. A more suitable indicator is the producer's profitability. The profitability per unit area has increased in 2009 and to a large extent in 2010 compared with the baseline situation (Raes et al, 2012). An increase in producer's profitability could potentially demonstrate that producers have gained a stronger position in the market as a result of their producer organisation's activities. In 2012 the average profitability per unit area has most likely declined as a result of unfavourable market conditions.

The organisation rate and the combined marketed production more or less stagnated compared to the base case. The degree of producers participating in the actions was high and amounted to more than 90% for actions aimed at production planning and product quality and to around 60% for environmental and marketing actions. The value of investments amounted to 21.8 million EUR annually on average. Most investments were made for actions aimed at production planning, product quality and marketing improvements. These investments generated a conversion factor of 1 to 1.5, i.e. the ratio of the value of the investments to the expenditures for the purchase of fixed assets. Fewer investments took place for environmental actions, but these investments generated a conversion factor of almost 3.

In the table below the realisation of the overall and specific objectives with regard to this evaluation period have been visualised. A 9 suggests a realisation (or improvement of the situation), A 8 suggests that the objective has not been achieved, while a ~ means that no unambiguous answer can be given. It can be concluded that the producer organisations have successfully concentrated the supply side and that commercial economies of scale have been achieved. The producer organisations have organised actions aimed at achieving a higher bargaining power on pricing, but until now no stability in pricing and income has been achieved. The dominance of the distribution sector in combination with the large supply (and increasing insecurities with regard to globalisation and the climate) complicate price stability and in particular income stability.

Status of the overall and specific objectives

Overall ob	Overall objectives					
a)	Improving competitiveness	99				
b)	Improving the attractiveness of the producer organisation's membership	99				
c)	Maintaining and protecting the environment	99				
d)	Stabilising prices and income	88				
e)	Achieving a higher sector cooperation	99				
Specific o	bjectives					
a)	Promoting concentration of supply	99				
b)	Promoting the placing on the markets of the products produced by the members	99				
c)	Ensuring that production is adjusted to demand in terms of quality and quantity	99				
d)	Optimising production costs	-/8				
e)	Boosting products' commercial value	- /8				
f)	Stabilising producer prices	88				
g)	Promoting knowledge and improving human potential	99				
h)	Developing technical and economic performances and promoting innovation	99				
i)	Specific objectives in the environmental area	99				

Source: Policy Research Corporation

Policy Research provides recommendations for decision makers on a European and Flemish level.

Firstly, *Policy Research* recommends an extended cooperation between producer organisations by encouraging the formation of associations of producer organisations. By doing so, associations of producer organisations can achieve higher degrees of concentration of the supply side. In this context the European Commission should create more clarity about how market dominance is evaluated. Secondly, *Policy Research* recommends that the support to producer organisations should be granted on the basis of a rolling average of the value of marketed production. This measure would increase the stability for producer organisations and producers. Furthermore, in order to further increase the stability of price and income, *Policy Research* recommends that the possibilities for 'crisis prevention and management measures' are enlarged. Finally it is recommended to analyse the common performance indicators and to select the most adequate ones for policy guidance.

With regard to decision makers in Flanders, *Policy Research* recommends to ensure that European permission is received more quickly about activities permitted within the scope of the OPs. Besides, *Policy Research* suggests to perform more accuracy controls on the information supplied by the producer organisations and to provide them with further guidance in this process.

I. INTRODUCTION

The Common Market Organisation (CMO) in fruit and vegetables is intended to stimulate the food horticulture sector to produce in a market-oriented way and to increase the added value. There are overall and specific objectives. The overall objectives involve improving competitiveness, improving the attractiveness of the POs, maintaining and protecting the environment, stabilising prices and income and greater cooperation in the sector. The specific objectives defined by the European Commission are to promote the concentration of supply, to promote the placing on the markets of the products produced by the members, to adjust production to demand in terms of quality and quantity, to optimise production costs, to boost the commercial value of the products, to stabilise producer prices, to promote knowledge and to improve human potential, to develop technical and economic performances and to promote innovations and, finally, to achieve specific environmental objectives.

For this the European Commission makes financial contributions to producer organisations (POs) which play a central role in achieving these objectives. Each of the Member States defines its own strategy and organises evaluations based on a set of evaluation questions and underlying performance indicators. The POs each set up an operational programme (OP) and obtain European subsidies for this. POs have been recognised since 1997 and from 1998 OPs could be submitted to obtain subsidies. An OP also has a specific term determined by the European Commission.

At the request of the Flemish government, *Policy Research Corporation* evaluates the National Strategy for sustainable operational programmes in the fruit and vegetables sector (2012) in order by so doing to check how the national strategy is being implemented, in particular by indicating the extent to which the overall objectives and the specific objectives are (or can be) achieved. This evaluation relates to the most recent OP and covers the years 2009 to 2011.

The report is set out as follows. *Section I* gives a description of the context in which the evaluation must be placed. In this attention is paid to the so-called 'exogenous'

factors specific to the sector and which have a substantial influence on the sector. The POs are also described in this Section. The methodology used to answer the research questions is proposed in *Section I.* In *Section IV* the answers to the research questions are given, prior to a baseline measurement for the evaluation, this being the average for the period 2006-2008. In addition, the ways in which the subsidies are utilised are analysed and compared. The effectiveness of the subsidies is also examined. At the end of this section there is an examination of how efficient the OPs have been in this period. Conclusions and recommendations are formulated in *Section V*.

II. CONTEXT OF THE EVALUATION

II.1. FRUIT AND VEGETABLE MARKET

In this part of *Section I* general information is given about the fruit and vegetable market in Belgium. Here, among other things, the different marketing systems used by the Flemish POs are discussed and the various factors inherent to the fruit and vegetable sector are included, as are external developments taking place in Europe and beyond.

I.1.1. FACTS AND FIGURES (BELGIUM)

In Belgium around 8% of the total agricultural area is used for horticulture (as at 2009). The horticultural sector uses 56% of the area for vegetables, 32% for fruit and 12% for flower growing and other produce. There were 8 259 holdings growing horticultural plants in 2009. Of these, 4 851 holdings grew vegetables and 2 357 grew fruit¹. First the vegetable market is discussed and then the fruit market. The selling system and changes in prices are discussed for both markets (Landbouwrapport, 2010).

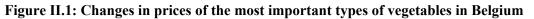
Around 96% of the area under vegetable cultivation is used for field-scale vegetables and the other 4% for vegetables under glass. Flanders accounts for around 67% of the national area of vegetables grown in the open air and 99% of the area of vegetables grown under glass. In particular green beans, green peas and cauliflower occupy a very important place among Belgian crops grown in the open air and tomatoes and cabbage lettuce in Belgian vegetable cultivation under glass (Landbouwrapport, 2010). In the Belgian vegetable sector the produce is sold on the fresh market and on the industrial market (in glass jars, as preserves or frozen). Products intended for the industrial market have a relatively lower risk of not selling than those produced for the fresh market because these vegetables can be stored after

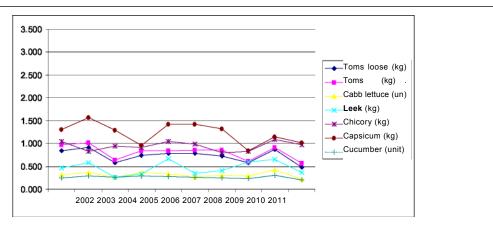
processing.

The other holdings are active in flower growing and are not part of this study.

The price per vegetable is also set contractually. The way it is supplied also varies considerably. For the fresh market the product must have the appearance of a high-quality product and is processed manually to a greater extent, whereas vegetables for the industrial market are more often processed mechanically making pre-sorting easier.

Most POs in the vegetable sector target the fresh market, whereas a number of smaller POs specifically target the industrial market. The system of selling to the industry – in this case the vegetable-processing companies – takes place through fixed-term contracts with a term of one week to one year. On the fresh market there is selling against the clock, selling through brokers and advance selling, which are used in parallel with each other. Selling against the clock at auction is the traditional way of selling on the fresh market and the price of brokerage and fixed-term contracts is partly based on this. In the case of selling against the clock, suppliers and buyers come together resulting in a transparent price, visible to all. Selling through brokers is more frequently requested by customers. In this case a price/volume and a time are agreed beforehand between the buyer and the seller and agreements can be reached about the packaging. In advance selling (also possible against the clock) often high-quality vegetables are sold which can only be harvested within a few days. In this way they can also be put in the correct packaging. The changes in prices of the six most important vegetables in the Belgian vegetable market are given in *Figure I.1.[sic]*



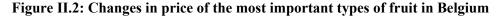


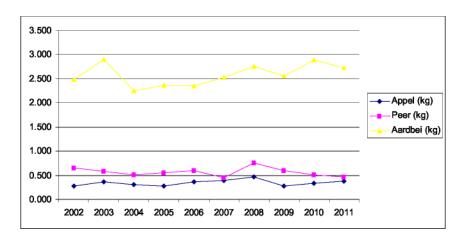
Source: Policy Research Corporation based on data from VBT

[Key to figure: Tomaat los = loose tomatoes; Tomaat tros = vine tomatoes; Kropsla se = cabbage lettuce; Kropsla se (st) = cabbage lettuce per unit; Paprika los = loose capsicum]

The general trend in the vegetable market is that the prices have dropped as a result of a number of crisis years with exceptionally low prices. Years 2009 and 2011 belong to this category. In 2011 there was the EHEC crisis in which consumer confidence in fresh vegetables plummeted. In response to this some countries, including Russia, stopped imports of fresh vegetables, resulting in a further fall in prices. It must be concluded that the evaluation period was an exceptionally bad period for vegetables.

The total Belgian fruit-growing area covers approximately 16 000 hectares (as at 2009). Apples and pears account for approximately 90% of Belgian fruit production (VLAM, 2012). The apple-growing area has been decreasing annually by approximately 3%, whereas the pear-growing area has been increasing (Landbouwrapport, 2010). In this sector too there is the fresh market and the industrial market on the one hand and selling against the clock and contractual selling on the other, co-existing. Brokerage and contract selling occur more frequently than in the vegetable market due to the fact that hard fruit can be kept for a fairly long time and it is therefore not necessary to sell it as quickly as possible. By using ULO (Ultra Low Oxygen) cold stores, hard fruit can be stored for months without any loss of quality. The proportion sold to the industrial market is high, as at each harvest a fixed percentage of products is of too low a quality for it to be sold as fresh fruit. In the case of apples and pears this is referred to as 'rebut' [rejects] and is sold to the processing industry. In the case of apples there is also a fixed percentage of the harvest which is of poor skin quality and this is also sold to the processing industry. *Figure I.2 [sic]* shows the changes in price for the three most important types of fruit in Belgium.





Source: Policy Research Corporation based on data from VBT

[Key to figure: Appel = apple; Peer = pear, Aardbei = strawberry]

Fruit prices are also closely related to European supply and are therefore volatile. It should be said here that the evaluation period under consideration, 2009-2011, is a period where prices were low. Furthermore, in August 2011 exceptionally heavy weather swept across the fruit-growing areas with high losses as regards plant material (sometimes entire orchards) and fruit (damage in both quantitative and qualitative terms).

I.1.2. EXTERNAL FACTORS

In this section the fruit and vegetable market is classified on the basis of the current market trends, the

Evaluation of the national strategy for sustainable programmes in the fruit and vegetables sector dependence on the weather conditions, the effect of supply and demand, the dependence on the European export markets, the dominant position of buyers, the cyclical² occurrence of crises and rising production prices.

Policy Research identifies seven key external factors.

Firstly, European market demand will stagnate or only increase slightly in future (ALVB, 2008), in which the demand for high-quality products and for 'convenience' products (the so-called fourth range) will increase (ALVB, 2008). Furthermore, consumer preferences differ from country to country. Whereas in Belgium and France quality is the decisive factor, price is the most important factor in the Netherlands and in Germany.

The production of fruit and vegetables in the open air is very much dependent on weather conditions. For example hard fruit is very vulnerable to hail. Field-scale vegetables are in turn very vulnerable to frost. Poor weather conditions in a certain region can lead to the producers affected not being able to deliver for a certain period. Although this benefits the market price of those who can still deliver³, those who are affected will not have any income.

Thirdly, fruit and vegetable producers are very susceptible to the forces of supply and demand. The European fruit and vegetable sector is in a situation in which there is a structural over-supply (apart from in a few niche markets). As a result, the price is lower than in an equilibrium situation. In addition, the cost price⁴ varies greatly from country to country. For example cheap Eastern European mushrooms have already ousted a large proportion of the Flemish (and other) mushroom producers from the market (VOC, 2008). Because similar products are sold on the same (European) market, an increase in supply in one of the Member States is a disadvantage for another. In addition, the production of fruit and vegetables from non-European countries will increase and a proportion will reach the European markets. This argument is also supported by the fact that on the fresh market almost daily supply and demand are matched anew, with a limited number of buyers and many suppliers of products. Every day suppliers are therefore in competition with each other and, to a large extent, they are at the mercy of 'the market'.

Fourthly, Flemish producers are dependent on the internal market in Europe. Whereas the Belgian market regards quality as the most important reason to purchase, buyers frequently buy in other countries for reasons of price⁵.

Fifth, over the past decade the power of the buyers has risen. They have fallen in number but they have grown in size. This results in the buyers having even more power and their being able to frequently set higher requirements of their suppliers. Therefore they demand a larger and broader supply of produce and it is expected that suppliers can supply throughout the year. They also have stricter requirements than before as regards product quality, pre-sorting, product size, packaging,

 $[\]frac{1}{2}$ It is assumed that on average 1 out of 5 years can be labelled a crisis year.

³ With lower supply the price rises.

⁴ Because of the great differences in labour costs, economies of scale and energy costs between the Member States.

⁵ Therefore it is accepted that in France and Belgium quality primarily determines what is bought, whereas in the Netherlands and Germany, for example, goods are more frequently bought on price.

frequency, speed of delivery and differentiation of the product. Buyers also require suppliers to present quality certificates in which the production of certain products is dependent on ever stricter specifications and traceability throughout the chain. The application of these specifications is not equally strict in each country, on account of which some producers have a high cost price in order to obtain a certificate, whereas other producers have a low cost price because they have been subject to less strict control. Furthermore buyers are in competition with each other and they want to diversity their supply of fruit and vegetables from each other.

- Sixth, the risk of crises is a reality which (potentially) can have a huge impact. The EHEC crisis in 2011 made it clear that consumer confidence can be easily and very rapidly lost with all the consequences of this (VBT, 2011). Flemish (and other) vegetable producers too suffered severely whereas their products were not contaminated. A further consequence of a crisis may be that a certain buyer or a certain country closes the borders and no longer requires any product. Knowing that there are only a small number of buyers, a simple action in the market can already have a very disruptive effect and can be regarded implicitly as a crisis situation.
- Finally, production prices are on the increase. Energy prices in Belgium (and other countries) have risen sharply in recent years. The energy cost of growing hothouse crops and mushrooms, for example, constitutes a considerable proportion of the total costs.

II.2. FRUIT AND VEGETABLE PRODUCERS

I.2.1. PRODUCERS IN FLANDERS

Based on the market circumstances described above, in this part of the report the Flemish producer's position is dealt with specifically.

The most important strong point for the Flemish producer is the great technical knowhow he has in terms of cultivation (ALVB, 2008). Furthermore there is a long tradition of selling products through auctions. Flemish producers know each other and therefore have already worked together frequently. The weak points include the high labour costs in Belgium and the small scale of many producers.

Then there is pressure on the Flemish producer in different areas. Buyers buy in large production quantities, require an extensive range of products and a year-round supply. Buyers have their own requirements regarding quality, packaging, sorting, nutritional value, etc. Due to the structural oversupply (of bulk products), pricing is very dependent on events abroad. This situation means that there is also pressure on a number of cost components for producers: seed and plant costs rise as buyers demand quality, machinery costs rise because buyers want rapid delivery, energy costs rise because fuel prices are rising. In addition, labour costs are already among the highest in Europe.

I.2.2. PRODUCER ORGANISATIONS IN FLANDERS

In this part first of all the main lines of the National Strategy are given. Then the Flemish OPs are described briefly together with the POs.

The CMO for fruit and vegetables came into being in 1997 and is intended to make European fruit and vegetable producers more competitive and to enable them to grow in a more environmentally-aware manner. This strategy from Europe has been translated into a National Strategy for Belgium. A number of elements in the Belgian – or in this case Flemish – strategy are:

Producers must produce in a more market-oriented manner;

Producers must build up knowledge about the economics of business management;

Research in the horticultural sector must take place more collectively and lead to innovative solutions;

More use must be made of ICT in horticulture;

There must be greater cooperation in the horticulture sector between producers, but also with buyers or other partners (ALVB, 2008).

Within this strategy the POs have an important linking function. They can create economies of scale commercially by bundling the supply of many producers. Another solution is to create economies of scale at production level by enabling holdings to expand or come together. In Flanders too the average size of the Flemish producer has increased. The reason for this is that when the activities of a certain farm stop, these areas are bought up by another producer.

POs⁶ have been recognised since 1997 and since 1998 they have been able to submit OPs to the Flemish government. These Flemish POs contain mainly producers from Flanders, Wallonia, Germany and the Netherlands, but they are called Flemish POs because the head office of the PO is situated in Flanders. Each Union of Producer Organisations (UPO) or PO (if this is not a member of a UPO) submits an OP, in which actions in the following action areas are possible:

A. Actions aimed at production planning;

- B. Actions aimed at improving or maintaining product quality;
- C. Actions aimed at improving marketing;
- D. Research and experimental production;
- E. Training actions and actions relating to advisory services;
- F. Crisis prevention and crisis management measures;
- G. Environmental actions;
- H. Other actions.

⁶ See Annex I to consult farm information sheets per PO.

European support constitutes 4.1% (or 4.6% including 0.5% for crisis measures) of the value of the PO's production sold in year N-2, N-1 or an average of the three previous years. Furthermore there is a co-financing rule which states that for each euro of subsidy, the PO must also add at least one euro to the operational fund. This co-financing rule becomes a 40/60 rule when setting up a supply chain is concerned, when it is about transnational actions of a PO, when drawing up a new OP after a merger and for actions relating to organic production.

On 31 December 2010 Flanders had four Unions of Producer Organisations (UPOs) (which include three foreign POs⁷) and seven POs which do not belong to the UPOs. *Table I.1* gives a list of the POs in Flanders⁸. Fruitbiz, LAVA, EFC and In-Co are the four UPOs. In-Co is a UPO within the UPO LAVA. Most OPs have a term of 2009-2013, apart from New Green, Green Diamond and Green Farm⁹ which have an OP for the period 2011-2015.

UPO	PO	VMP (in mill EUR)	Country	Main product	Operational Programme
FruitBiz	Fruit Biz total	193.0	Belgium	Fruit	2009-2013
	Belgische Fruitveiling	121.0	Belgium	Fruit	2009-2013
	Veiling Borgloon	72.0	Belgium	Fruit	2009-2013
EFC	EFC total	201.0	Belgium	Fruit	2009-2013
	Veiling Haspengouw	64.0	Belgium	Fruit	2009-2013
	Koninklijke Fruitmasters Groep		Netherlands	Fruit	2009-2013
	WOG		Germany	Fruit	2009-2013
LAVA	LAVA total	587.0	Belgium	Vegetables	2009-2013
	Coöbra	62.3	Belgium	Vegetables	2009-2013
	REO	156.0	Belgium	Vegetables	2009-2013
	Mechelse Veilingen	227.0	Belgium	Vegetables	2009-2013
	Limburgse Tuinbouwveilingen	10.7	Belgium	Fruit	2009-2013
	Veiling Hoogstraten	104.7	Belgium	Fruit + vegetables	2009-2013
In-C	CoZundert CLTV	26.9	Netherlands	Fruit	2009-2013
	VOC	12.9	Belgium	Mushrooms	2009-2013
	Ingro	61.8	Belgium	Vegetables	2009-2013
	Vegras	34.5	Belgium	Vegetables	2009-2013
	BND	14.4	Belgium	Vegetables	2009-2013
	New Green	7.9	Belgium	Fruit	2011-2015
	Green Diamond	9.4	Belgium	Fruit + vegetables	2011-2015
	Green Farm	2.6	Belgium	Vegetables	2011-2015

Table II.1: Flemish POs and UPOs (as at 2010) 10

Source: Policy Research Corporation based on information obtained from the Flemish government

From *Table I.1* it can be seen that LAVA is the largest player responsible for 52% of the total value of the production (the total value of the production achieved by all POs and UPOs together was approximately 1.12 billion EUR in 2010). LAVA groups vegetable auctions for the fresh market. Fruitbiz and EFC are two UPOs for the fruit market. Together they account for 394 million

⁷ WOG from Germany and the Koninklijke Fruit masters Groep and Veiling Zundert

CLTV from the Netherlands. 8 In addition to the POs, there is also the Verbond der Belgische Tuinbouwcoöperaties (VBT) [the Association of Belgian

Horticultural Cooperatives], a federation which promotes the umbrella interests of the POs. 9 In 2010 New Green, Green Diamond, Green Farm and Greenpartners formed part of Greenbow. This was disbanded in 2010.

Greenpartners and Brava merged in 2011 to become Coöbra and the three others submitted their own OP.

¹⁰ Data for 2011 are used for New Green, Green Diamond and Green Farm.

EUR or 35% of the value of production. Ingro, Vegras and BND are three POs specifically aimed at the industrial market and which are only involved in contract growing. VOC is a mushroom producer and delivers 85% of its products to the industrial market and 15% to the fresh market. Then New Green, Green Diamond and Green Farm deliver to the fresh market. New Green and Green Diamond focus on the European export markets, whereas Green Farm is mainly aimed at Belgium. Apart from New Green, Green Diamond and Green Farm, all UPOs and POs have an OP running from 2009 to 2013. The three POs referred to have an OP running from 2011 to 2015 because they submitted their first individual OP in 2010.

The POs are shown in Figure I.3.

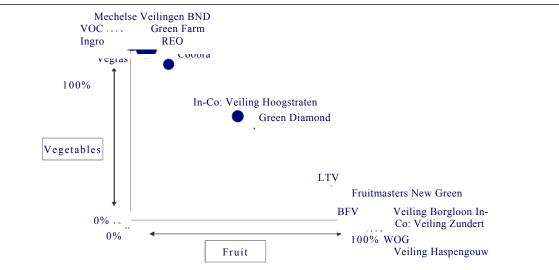


Figure II.3: Distribution of POs in the fruit and vegetable market

Source: Policy Research Corporation based on information obtained from the Flemish government

In *Table 1.2* the POs are grouped into four different clusters, namely Fruitbiz and EFC, LAVA, small POs in the fresh market (New Green, Green Diamond and Green Farm) and POs aimed at the industrial market (VOC, Ingro, Vegras and BND). Here it is important to note that producers which are members of POs aimed at the industrial market are mainly larger holdings which in addition to growing industrial vegetables also do other things, such as growing vegetables for the fresh market, growing arable crops or keeping livestock. The POs in the industrial market work with one price which is set contractually, whereas brokerage contracts are also 'brokered' again. It is also clear that the price against the clock is determined afresh every day. Producers which are members of the POs belonging to LAVA, Fruitbiz and EFC, therefore have three possible selling methods, namely against the clock, through brokerage and through advance selling, whereas producers which are members of the other POs can only market their products through brokerage and contract selling.

Table II.2: Types of POs

	Fruitbiz& EFC	LAVA	Small POs in fresh market	POs in industrial market
Sales	Clock, brokerage & contract	Clock, brokerage & contract	Brokerage & contract	Contract
Product	Fruit	Vegetables	Fruit & vegetables	Vegetables
Volume	Large	Large	Small	Small
Market	Fresh & industrial	Fresh	Fresh & industrial	Industrial
Members	Fruitbiz& EFC	Mechelse Veilingen, Coöbra, LTV, In-Co, REO	New Green, Green Diamond, Green Farm	Ingro, Vegras, BND, VOC
Proportion of total VMP	35%	52%	2%	11%

Source: Policy Research Corporation based on information obtained from VBT

III. METHODOLOGY

In this Section the methodology used to answer the evaluation questions is explained.

III.1. RESEARCH QUESTIONS

The research questions can be grouped to cover three aspects: evaluation of use, evaluation of effectiveness and evaluation of efficiency. Each of these three aspects is explained below.

Evaluation of use

Use is evaluated from the data available from the Flemish government and the POs/UPOs. In concrete terms this involves setting the input indicators (the expenditure (EUR)) and their qualitative interpretation.

From the evaluation of use it becomes clear what significance the different actions have in financial terms.

Evaluation of effectiveness

The analysis of effectiveness mainly requires linking the purpose of the OPs to the overall and specific objectives of the CMO and the National Strategy.

For each of the eight action areas (A. to H.) an answer will be given to the question relating to the extent to which these actions are relevant (aimed at requirements and in relation to other measures).

Furthermore the extent to which the actions have contributed (per action area) to creating the objectives of the POs in these areas will be assessed.

An important basis for the evaluation can be found in the output, result and impact indicators.

Evaluation of efficiency

Efficiency – provided that the action is effective – is qualified by looking at how the input and output indicators relate to each other (and how the process worked between them).

The outcome (result and impact) will also be considered, where relevant, in connection with the input and output indicators in order to obtain a picture of the relationship between the resources used and the effects achieved: how do the financial resources used compare with the effects achieved?

In particular for the analysis of (context-dependent) effectiveness and efficiency, fifteen discussions are being held with the government, POs (distinguishing between POs aimed at fresh production and POs aimed at processing) and producers' trade unions, not least in order to be able to give a balanced interpretation (interpreting indicators, identifying reasons why objectives really could not be met, etc.)¹¹. Of course this also made it possible to note other, for example, process-related matters and take them into consideration.

III.2. PERFORMANCE INDICATORS

Figure I.1 shows the connection between the different elements in the evaluation. From an analysis of the starting or baseline situation, the process from input to output and outcome is evaluated in succession.

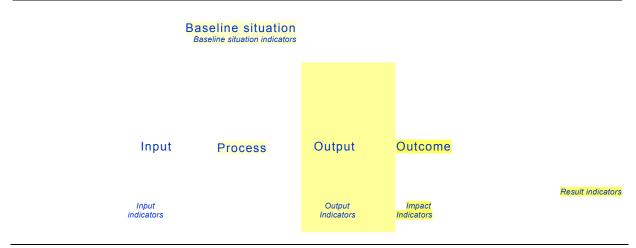


Figure III.1: Evaluation steps

Source: Policy Research Corporation

11 Annex I gives a summary of the discussion partners.

To start with the baseline situation (or baseline measurement) is described. The baseline situation is taken to be the average for the period 2006-2008, as intended by the European Commission (*see Section IV.1*). Then there is an examination of how the POs have distributed their operational fund over the various action areas. The input indicators are used in this and this analysis can be found in *Section IV.2*. The output, results and impact indicators are analysed in the discussion on efficiency in *Section IV.3*. Then the output is combined with the input in order to be able to discuss efficiency. This analysis is the subject of *Section IV.4*.

The evaluation is based on the system of common baseline situation indicators, input indicators, output indicators, result indicators and impact indicators, proposed by the European Commission, followed unambiguously¹². The information collected on the basis of the common performance indicators is always interpreted in the light of the qualitative and quantitative data on other factors which influence the success or failure of the programme.

a/ Baseline situation indicators

The baseline situation indicators serve to establish the situation at the beginning of the programme period (so that the changes in the programme period can be standardised).

There are three 'summarising' indicators (per PO/UPO and added up over all PO's/UPO's) which form the 'baseline value' for measuring the impact (change compared with the baseline value):

Total value of marketed production of the PO/UPO (EUR);

Number of fruit and vegetable producers which are active members of the PO/UPO in question;

Total fruit and vegetable growing area of the members of the PO/UPO in question (ha).

For some of the action areas a number of additional baseline situation indicators are also given. These are listed below.

Actions aimed at production planning/product quality/marketing:

Total volume of marketed production of the PO/UPO (tonne) marketed;

Total value of marketed production/total volume of marketed production (EUR/kg);

Quantity of marketed production which meets the specifications of a specific quality regulation, by the main types of quality regulation (tonne).

Training actions:

Number of people who have followed all training activities/the full programme in the past three years (number);

¹² These baseline indicators are included in *Annex IV*.

Number of holdings which are members of a PO/UPO using advisory services (number).

Environmental actions¹³:

Area with lower use/better management of fertilisers (ha);

Area with water-saving measures (ha);

Area with organic production (ha);

Area with integrated production (ha);

Area on which other actions to protect the habitat and biodiversity are applied (ha);

Estimated annual energy consumption for greenhouse heating;

Estimated annual energy consumption for internal transport.

b/ Input indicators

The input indicators measure the finances involved (the use – the annual expenditure) in the various actions, generally the purchase of fixed assets, other forms of acquisition of fixed assets (such as hiring and leasing) and other actions.

For each of the eight specific action areas, the (annual) expenditure (EUR) is used as the input indicator.

c/ Output indicators

For each of the eight specific action areas, on the one hand the *number of holdings participating in the actions* and on the other hand the *total value of the investments* (EUR) are used as the output indicator.

In addition, for actions aimed at improving the marketing and crisis prevention and crisis management measures, the *number of actions* is also used as an indicator. Where relevant, the *number of hectares* is also used as an indicator for research and experimental production and environmental actions.

Finally, for training actions and crisis prevention and crisis management measures, the *number of training days received by the participants* is also used as an indicator.

d/ Result indicators

The result indicators shown for the different action areas differ and are listed below for the separate action areas.

Actions aimed at production planning:

Change in the total volume of marketed production (tonnes);

Change in the value per unit of product of the marketed production (EUR/kg).

¹³ Not relevant for Flanders: Area threatened by soil erosion.

Actions aimed at improving or maintaining product quality:

Change in the volume of marketed production which complies with a specific quality regulation (tonnes);

Change in the value per unit of product of the marketed production (EUR/kg);

Estimated impact on the production costs (EUR/kg).

Actions aimed at improving marketing:

Change in the total volume of marketed production (tonnes);

Change in the value per unit product of the marketed production (EUR/kg).

Research and experimental production:

Number of new or improved techniques, processes and/or products since the beginning of the operational programme.

Training actions and/or actions aimed at promoting access to advisory services:

Number of people who have followed all training activities/the full programme;

Number of holdings using advisory services.

Crisis prevention and crisis management measures:

Total quantity of products taken out of the market (tonnes);

Total area for green harvesting and non-harvesting (ha);

Estimated change in the quantity of marketed production of products for which marketing promotion/communication activities have taken place (tonnes);

Number of people who have followed all the training activities/the full programme;

Total value of the insured risk (EUR);

Total value of the mutual funds set up (EUR).

Environmental actions:

Changes made in the OP.

Other actions:

Change in the total volume of marketed production (tonnes);

Change in the value per unit of product of marketed production (EUR/kg);

Estimated impact on the production costs (EUR/kg).

e/ Impact indicators

The impact indicators are rather more general than the result indicators (and rather added up over all actions). The European Commission 'defines' the impact as the (positive or negative, expected or unexpected) effects of the measures carried out on top of the immediate consequences for those directly benefiting from them.

Summarising the action areas, three 'summarising' indicators are to be measured:

Estimated change in the total value of the marketed production;

Change in the total number of fruit and vegetable producers who are active members of the PO/UPO in question (number);

Change in the total fruit and vegetable growing area of the members of the POs/UPOs in question (ha).

The result indicators are used for the environmental actions, but then in total figures (therefore not per tonne or per hectare as in the result indicators).

IV. Answers to the evaluation questions

In this section the answers to the evaluation questions put are given. To start with the baseline measurement is described in *Section IV.1*. This was set by the European Commission as the period 2006-2008. The period 2009-2011 will be evaluated against this baseline measurement. *Section IV.2* is about the use of the operational fund of the POs. In this part an analysis is carried out of how the POs have utilised their operational fund over the three years of the evaluation period. *Section IV.3* is the largest part and is about the effectiveness of the OPs. Different ways are used to examine to what extent the OPs have reached their objectives. Finally in *Section IV.4* the efficiency of the OPs is examined.

IV.1. BASELINE SITUATION

The baseline situation for the evaluation is the average for the period 2006-2008.

The baseline situation indicators are as follows:

Overall objectives

The total value of marketed production (VMP) of all members of a PO or UPO was on average 1.1 billion EUR for the period in question;

The total number of active members belonging to a PO or UPO was 10 564;

The total fruit and vegetable area of members belonging to a PO or UPO was 61 336 ha.

Specific objectives

The total volume was 1.88 million tonnes;

The volume which complies with a certain quality regulation: 100% meet the legal standards and approximately 55% of the total products traded meet extra-statutory standards;

The average unit price was 0.59 EUR/kg.

Training activities

Number of people who followed all the training activities/the full training programme over the past three years: 1 551¹⁴;

Number of member holdings using advisory services: 4 766¹⁵, this corresponds to 45% of the member holdings.

Specific environmental objectives

Protection of habitat and biodiversity:

- Number of hectares in organic production: 660 hectares¹⁶, this is about 1% of the total area of members belonging to a PO;
- Number of hectares in integrated production: 25 928 hectares¹⁷, this corresponds to 42% of the total area of members belonging to a PO; it should be pointed out here that this indicator does not appear to be unambiguously filled in by the POs and that, according to the discussions with the discussion partners, this percentage is far higher than 42%;

Other indicators:

o The other indicators are not or are insufficiently described by the POs or UPOs. It should be said that most POs and UPOs have already enjoyed support from Europe since 1998 and every year have had a fixed budget for environmental actions.

The average annual production of fruit and vegetables in Belgium for the years 2006-2008 was 2.2 million tonnes (VLAM, 2012). A good proportion of this comes from Flemish POs and UPOs¹⁸. The full production meets the statutory standards and more than half comply with extra-statutory quality regulations. Almost half of the member holdings used advisory services at least once a year.

Some comments need to be made about these baseline indicators. In 2008 the level of membership in Belgium was around 90%. This figure is far above the European average of around 35%. It must also be said that in terms of the VMP, the baseline measurement is unrepresentatively high because the three years examined were exceptionally successful years without crisis situations, whereas two years in the evaluation period to be considered, namely 2009 and 2011, were crisis years in the

not filled in.

¹⁴ EFC, Vegras, BND and Rijke Oogst are not included because these indicators were

¹⁵ Fruitbiz is not included because this indicator was not filled in.

¹⁶ Rijke Oogst, Vegras and BND are not included because the performance indicators were not filled in.

¹⁷ Vegras and Ingro are not included because the performance indicators were not filled in. The performance indicator has been considerably under-estimated for a number of the POs, because only the area which was cultivated was recorded via a specific specification for integrated stone fruit growing.

¹⁸ There is no full overlapping as Belgian production also includes the production from Wallonia and the production of the Flemish UPOs also includes that of foreign POs or foreign members.

fruit and vegetable sector. This will be kept in mind when interpreting the results of the evaluation.

The baseline measurement for the recognised POs (at the time) can be seen in Table IV.1.

Table IV.1: Baseline measurement (average for the period 2006-2008)¹⁹

UPO*	РО	Total value of	Total			Numbe Membe		To	tal
			(tonnes))	(EUR/kg)	Manna	re	(ha	i)
Fruitbiz		175 580 398	287		0.61		494	9	366
	Belgische Fruitveiling	109 217 979	196		0.56	1	858	6	428
	Veiling Borgloon	66 362 419	90	975	0.73		636	2	938
EFC		189 873 180	344	509	0.55	2	106	12	637
	Veiling Haspengouw	58 024 378	103	636	0.56		581	3	628
	Koninklijke Fruitmasters Groep	103 987 737	188	011	0.55		815	6	485
	WOG	27 861 066	52	862	0.53		710	2	524
LAVA		580 602 471	632	981	0.92	3	734	12	606
	Brava	58 870 282	60	900	0.97		470	2	235
	REO	161 348 017	212	650	7.59	1	562	6	279
	Mechelse Veilingen	239 136 787	260	038	0.92	1	089	2	553
	Limburgse Tuinbouwveiling	10 753 550	17	094	0.63		147		495
	Veiling Hoogstraten	88 308 171	73	809	1.20		331		663
In-C	oZundert CLTV	22 185 665	8	490	2.61		135		382
	VOC	12 599 626	14	778	0.85		7		5
	Ingro	54 504 985	292	369	0.19		960	11	363
	Vegras	21 333 006	127	459	0.17		484	6	753
	BND	16 180 391	67	086	0.24		286	4	555
	Rijke Oogst	10 600 000	34	300	0.31		338	2	600
	Greenbow	50 086 920	77	998	0.64		155	1	450
	Total	1 111 360 977	1 879	073	0.59	10 క	564	61	336

Source: Policy Research Corporation based on information obtained from the Flemish government

After the description of the baseline measurement at combined level, more detailed examination is carried out at UPO or PO level. Both qualitative information (relating to the performance of the PO) and quantitative information (relating to the performance indicators) are provided.

Fruitbiz and EFC

These players sell large quantities of fruit to large retailers and warehouses. Fruitbiz is always looking for new niches and new markets and has invested in a central pre-sorting machine. Member producers can still decide when to bring their products to market. In order to remain competitive on the European markets, Fruitbiz and EFC are endeavouring to bring the right varieties onto the market, which can be priced higher on average than bulk products. Bulk products can indeed be produced at a cheaper price in

¹⁹ The number of members belonging to BFV numbering 1 858 should be lower according to ALVB. In the absence of more accurate data, this figure will continue to be used.

other Member States. In the Belgische Fruitveiling (BFV) 60% of the sales are done against the clock and 40% via brokerage or contracts. At EFC the POs sell almost all products via brokerage and contracts and the PO has more of a say over when harvested products of the member producers are marketed, than Fruitbiz, which on the other hand also assists the producers in choosing the correct time to market. EFC and Fruitbiz actively seek opportunities for vertical integration with buyers at home and abroad.

Table IV.2 makes it clear that, on the basis of the performance indicators filled in, approximately threequarters of the production of Fruitbiz meets the extra-statutory quality standards and that approximately 60% of the number of hectares complies with integrated production. For EFC between 37% and 55% meet extra-statutory quality standards and 41% of the number of hectares is for integrated production. From discussions with officers of the POs it is concluded that the proportion of integrated production is far higher than the percentages given and also because many producers already follow other quality systems such as Globalgap or IKKB. It can be concluded from this that both Fruitbiz and EFC are already working in the baseline situation with high-quality products and are environmentally aware.

Table IV.2: Baseline measurement of Fruitbiz and EFC product quality and maintaining the environment

		Fruitbiz	EFC	
Product	% that complies with integrated production	74%	3	37%
quality	% that complies with a specific certified quality regulation	75%	5	55%
	% hectares in organic production	1%)	2%
the environment	% hectares in integrated production	59%	4	41%

Source: Policy Research Corporation based on information obtained from the Flemish government

LAVA

LAVA opts in this OP for further horizontal integration of its member (vegetable) auctions by investing more in an infrastructure for simultaneous selling and by centring brokerage activities at LAVA level. Of course work is also carried out to achieve vertical integration with buyers. In addition, LAVA wants the POs and producers to make further efforts to produce in an ever more environmentally-friendly way, as customers are asking for this more and more.

Table IV.3 shows that a very high percentage of the products supplied to LAVA already comply with the extra-statutory quality regulation. Again it should be said here that the proportion that meet the integrated production levels given in *Table IV.3*, as stated in the performance indicators, appear to be lower than the actual quantity. The 4% only indicates the quantity

which meets the 'integrated production of stone fruit²⁰' specification. The majority of the producers also follow other quality guidelines, on account of which almost all producers use integrated production.

Product
quality% that complies with integrated productionLAVAProduct
quality% that complies with a specific certified quality regulation4%Maintenance
of the
environment% hectares in organic production2%% hectares in integrated production78%

Table IV.3: Baseline measurement LAVA product quality and maintenance of the environment

Source: Policy Research Corporation based on information obtained from the Flemish government

Ingro, Vegras, BND and VOC

These four POs are aimed at the industrial market and work with contract prices. VOC lost a large share of the market in the '90s and '00s because Polish mushroom holdings were able to market products at a lower price. Since then VOC has aimed at the industrial market together with guiding the growing process in such a way as to make it less labour intensive. BND aims specifically at the preserves and glass jar market and works together in a one-to-one relationship with buyers in the form of a supply chain. Vegras does this in the frozen market. Ingro does not specifically work in a supply chain but this PO has more buyers than Vegras or BND. *Table IV.4* shows that – logically – lower percentages comply with the extra-statutory quality regulation in comparison with Fruitbiz, EFC and LAVA. Here too it can be said that these four POs do indeed comply with integrated production and other quality regulations, but that these quantities are not included in the performance indicators.

Table IV.4: Baseline situation of POs aimed at industry, product quality and maintenance of the environment

		VOC	Ingro	Vegras	BND
	% that complies with integrated production % that complies with a specific certified quality	0%	0%	0%	100%
		100%	0%	0%	0%
Maintenance of	% hectares in organic production	0%	0%	0%	0%
	% hectares in integrated production	0%	0%	0%	34%

Source: Policy Research Corporation based on information obtained from the Flemish government

New Green, Green Diamond, Green Farm

In the baseline situation these three POs formed part of Greenbow. Greenbow disbanded in 2010 and since then these POs have operated as independent entities. These POs supply specific niche markets in

²⁰ Some producers belonging to LAVA also produce fruit, but this is only a small percentage and elsewhere in this document has been left out.

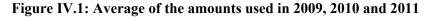
the fresh market, mainly for export. New Green is a PO aimed at the (hard fruit) fresh market abroad and is looking for closer cooperation through the development of a new supply chain. Green Diamond does the same but then for hard fruit and leeks, whereas Green Farm focuses on 4th range products, such as cutting up or washing fresh products.

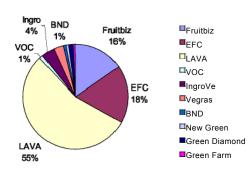
IV.2. EVALUATION OF USE

In this part the use of the operational fund of the Flemish POs and UPOs is discussed. To start with the size of the POs' operational funds is discussed. Then the UPOs focus of use is examined. Thirdly the POs which are members of LAVA are looked at specifically. Finally the four categories of POs are examined in closer detail as regards use.

a) Total operational fund of the POs

Figure IV.1 gives the distribution of the operational funds by POs and UPOs. The sum of the operational funds of the three largest UPOs constitutes approximately 90% of the total. The amounts invested for 2009, 2010 and 2011 are approximately 102 million EURO, 104 million EURO and 107 million EURO respectively and the average over the three years is 104 million EURO²¹.





Source: Policy Research Corporation based on information obtained from the Flemish government

Combined over all POs, 14% was dedicated to expenditure on fixed assets, 1% to expenditure on the other acquisition of fixed assets and 85% on expenditure on actions. The reason for the rather low amount on expenditure on fixed assets is that the POs have already been investing for years in fixed

²¹ In calculating the total operational fund of 2009 and 2010, Greenbow and Rijke Oogst were not taken into consideration because they were disbanded before the end of the evaluation period. In the 2011 calculation the indicators of New Green, Green Diamond and Green Farm were included.

assets at PO level. As the most interesting projects have already thus been carried out, there has been a shift from expenditure on fixed assets to expenditure on actions. This pattern of spending is fairly uniform over the POs, with the exception of Vegras, Green Diamond and Green Farm, which invested 33%, 54% and 37% of their resources in fixed assets respectively.

b) Focus of the largest UPOs

From *Figure IV.2* it can be seen that the most resources used are in action area G. (environmental actions). In addition, a large proportion of the use is in action areas B. (actions aimed at product quality) and C. (actions aimed at improving marketing).

Fruitbiz focuses its use on product improvement with approximately 50% of its operational fund, whereas EFC regards both product improvement and promotion as the most important action areas. In action area B. both Fruitbiz and EFC concentrated on actions aimed at controls and refrigeration capacity. LAVA uses almost 45% of its resources on environmental actions. All POs pay a great deal of attention to environmental actions and obtain 10% or carry out 2 environmental measures. At LAVA this proportion is far larger because of the combining of actions in the area of environmentally-friendly management and multiple packaging with other environmental actions. Consequently LAVA accounts for 82% of the total use on environmental actions. LAVA focuses mainly on environmental actions in order to obtain ever more external certification for its products. During the previous Ops, product quality improved enormously and therefore the emphasis now is on improving the environment in order to meet the requirements of the 'Flandria label'. Environmental improvements can also be obtained through some actions from action area B. (Product quality)²²: certain actions benefit both the environment and product quality.

22 For actions in G., only specific costs can be included, whereas for action in B., the

total cost can be included.

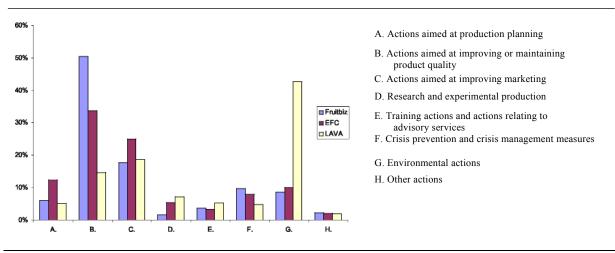
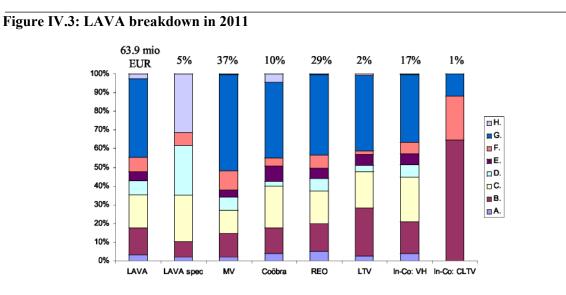


Figure IV.2: Focus of the UPOs Fruitbiz, EFC and LAVA

Source: Policy Research Corporation based on information obtained from the Flemish government

c) Use at LAVA level

Figure IV.3 gives further details on the use within LAVA. Mechelse Veilingen and Veiling REO are the two largest POs within LAVA. The use made by the POs is almost the same with a strong focus on environmental actions (G.). Only the pattern of use for 'LAVA-specific' and for In-Co: Veiling Zundert CLTV is different. This is understandable for LAVA-specific because LAVA carries out coordinating actions for the member POs. In-Co: Veiling Zundert CLTV is a small auction in percentage terms, therefore the small amounts make great differences in terms of percentage.



Source: Policy Research Corporation based on information obtained from the Flemish government

d) *Focus on the different types Figure IV.4* shows the differences in the pattern of use between the four types of POs/UPOs.

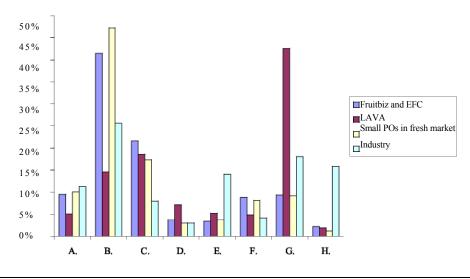


Figure IV.4: Difference in use between POs (average for 2009-2011)²³

Source: Policy Research Corporation based on information obtained from the Flemish government

Fruitbiz and EFC aim mainly to improve product quality and promotion. They try to deliver all year round and therefore invest in refrigeration capacity. They also look for niche markets on the fresh market and industrial market and it is important to discover and to develop unique varieties and to promote them.

LAVA spends almost 45% of its budget on environmental actions. It can also be said that there has already been a great deal of investment in product quality. LAVA also pays a great deal of attention to optimising the simultaneous system and brokerage sales (promotion).

The small POs in the fresh market are relatively young and therefore spend most of their budget on improving product quality. This is certainly a PO's prime task: to bring product quality up to the required standard. Promotion is also an important factor as they want to take part in active selling. After all they are looking for niche markets and in doing so supply products tailor-made to the customers and to a number of buyers who demand high quality.

The POs aimed at the industrial segment have a very scattered pattern of use. They invested the majority in B. (Product quality). In the glass jar, preserves and frozen segment of the vegetable market too the end consumer demands high quality. It is also noticeable that less was dedicated to promotion (C.). There are various reasons for this. For example there is often very close collaboration with buyers. The prices of contract crops are, moreover, set contractually. Marketing plans are also frequently discussed with the buyers in December, as a result of which they are in theory²⁴ fixed for the rest of the year. Finally, processed industrial vegetables can be stored. In times of over-production the industrial buyers can therefore keep products in their stock in order to

²³ For holdings in small POs in the fresh market, only data for 2011 is available. ²⁴ These sowing and harvesting plans are adjusted according to the weather conditions.

sell them when the price rises. The promotion expenditure for POs that produce for the fresh market is higher because they have a fresh product which is perishable in a short time. Therefore resources are used to prolong the life of the product or to look for market outlets.

e) Conclusion

The combined operational fund for Flemish POs amounts to more than 100 million EURO per year. Approximately 90% of the resources used go to UPOs. The resources are mainly used for actions given that, already during the previous OPs, most POs invested in the most interesting projects in fixed assets. LAVA focuses on environmental actions in order to meet customer demand and because their product quality is already of a high standard. LAVA also invests a great deal in optimising the simultaneous system. Fruitbiz and EFC mainly direct their activities at improving product quality and at looking for new varieties. The small POs in the fresh market are still young and therefore invest on average more in fixed assets and in improving product quality. This is logical and plausible given that first and foremost it must be possible to guarantee product quality before being able to optimise sales. The POs aiming at the industrial segment also concentrate mainly on promoting product quality.

IV.3. EVALUATION OF EFFECTIVENESS

The effectiveness of the OPs can be evaluated in different ways. First the output indicators are analysed. Then conclusions are drawn from result and impact indicators. This analysis shows at a combined level how effective the OPs have been always with reference to the baseline situation. Summary tables are also added to this. After this there is an analysis of the impact for a producer of belonging to a PO. Finally the development in the number of foreign producers who are members of the Flemish POs can be seen as an indicator of the effectiveness of the OPs.

IV.3.1. Analysis of the output indicators

In this part the effectiveness is analysed on the basis of the output indicators. In this a distinction can first be made between actions for acquiring fixed assets (see *Figure IV.5*) and other actions (see *Figure IV.6*). Then extra analyses are carried out on training activities and environmental actions.

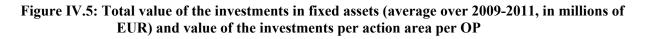
Figure IV.5 shows that in the context of the OPs, on average 21.8 million EUR of value in fixed assets was created by all POs together. Between 70% and 100% of the value of the investments is realised in action areas A. (production planning), B. (product quality) or C. (promotion). A few examples of these investments are given below.

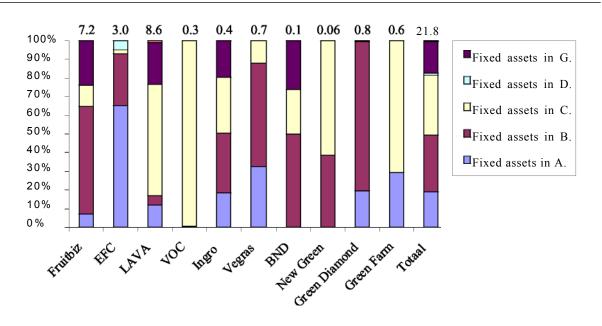
The value of the investments in fixed assets for Fruitbiz in the product quality action area is in completing the cold chain and the investment in ULO cold stores. In this way Fruitbiz can supply hard fruit all year round.

The high value of EFC's investments in production planning is in collecting market data and developing the Kanzi label. By doing so EFC is seeking a high-quality product in which the supply can be controlled through licenses and there is less dependence on market forces than in traditional varieties (which are now mostly volume markets).

LAVA invested in creating the simultaneous system in which products of the member vegetable auctions can be sold simultaneously against the clock. On account of this the buyers no longer need to be physically present but they can buy products online (remote buying).

A number of POs have invested in setting up and developing a supply chain.





Source: Policy Research Corporation based on information obtained from the Flemish government

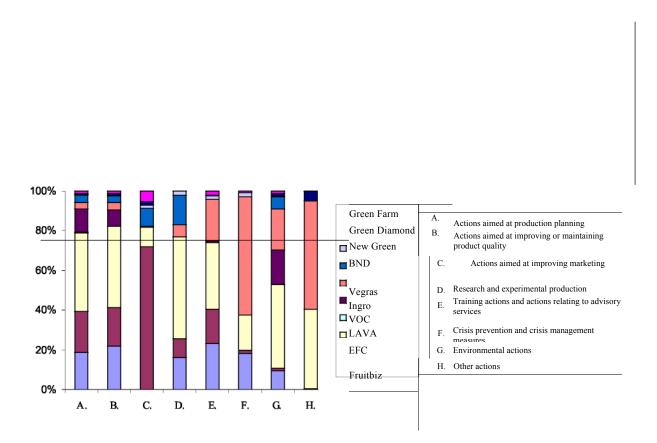
Figure IV.6 gives the number of holdings involved in the actions per action area. From this it can be deduced that in actions areas A., B. and E. most holdings participate in the actions. For production planning (A.), data about the production of the members and POs is collected and processed centrally. For the product quality action area (B.) the actions mainly involve controls and inspections in order to gain external certification. The actions relating to improving marketing are mainly about promotional

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actions, active brokerage, setting up the simultaneous system (LAVA) and setting up a supply chain. It can be concluded that most holdings, that are members of a PO, have participated in at least one action in action area A. and in action area B.

Figure IV.6: Average number of holdings taking part in the actions per action area²⁵

8 249 7 919 2 088 1 852 5 792 993 4 848 757



Source: Policy Research Corporation based on information obtained from the Flemish government

Figure IV.7 relates to action area E. Training actions. It can be concluded that training days are organised mainly for 'integrated production' and 'product quality'. Then we also see that LAVA and

Evaluatie nationale strategie voor duurzame programma's in de groente- en fruitsector BND are the most involved with organising training days.

25 Double counting occurs for action areas F. and G. because a number of holdings carry out combined actions. The number of holdings using advisory services is given for action area F.

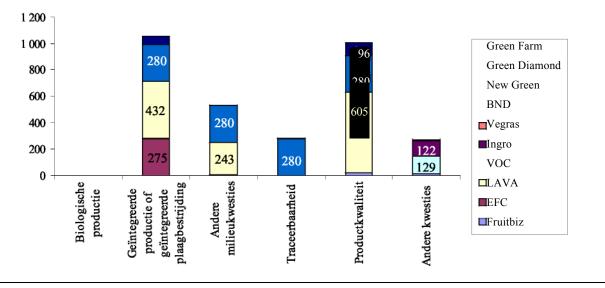


Figure IV.7: Number of training days per activity and per PO/UPO (average for 2009-2011)

Source: Policy Research Corporation based on information obtained from the Flemish government

[Key to figure: Organic production; Integrated production or integrated pest control; Other environmental issues; Traceability; Product quality; Other matters]

A final analysis of the output indicators is about the number of hectares on which environmentallyfriendly growing methods are used. *Figure IV.8* shows how many hectares use environmentally-friendly growing methods per PO or UPO. In total, environmentally-friendly cultivation takes place on about 24 000 hectares, with integrated production being the main activity²⁶.

Evaluation of the national strategy for sustainable programmes in the fruit and vegetables sector

actual number of hectares for Flanders should be higher than given.

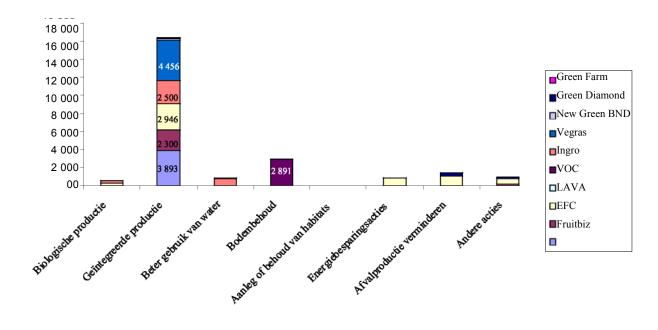


Figure IV.8: Number of hectares of environmentally-friendly cultivation per PO/UPO (average 2009-2011)

Source: Policy Research Corporation based on information obtained from the Flemish government

[Key to figure: Organic production; Integrated production; Better use of water; Soil conservation; Habitat creation or conservation; Energy-saving actions; Reducing production of waste; Other actions]

IV.3.2. Analysis of the result and impact indicators

In order to be able to analyse at aggregate level whether the OPs have born their 'fruit', it is appropriate to examine the developments in the VMP, production, the quantity of production which meets extrastatutory quality requirements, the number of members and the quantity of area belonging to POs or UPOs. From *Figure IV.9* it can be seen that the VMP in the first year of the evaluation (2009) fell slightly and rose in 2010, and that this generally remained constant. No figures are yet available for 2011 but everything points to the VMP falling further in 2011 – due to market conditions $-^{27}$. It should also be noted here that the contributions from Greenbow and Rijke Oogst in 2009 and 2010 have not been added, although these POs have brought their production onto the market in a concentrated

²⁷Here it should be said that VMP is not the same as turnover. Compensation for taking products out of the market and for crisis situations is included in the VMP.

had already disbanded before the end of the interim evaluation.

In 2009 the value of the production of Fruitbiz and BND (belonging to industry) dropped and that of the

fashion. The reason why this is not included in the evaluation period is that Greenbow and Rijke Oogst

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rest rose. In 2010 the VMP of all types of POs rose, with the exception of the cluster of 'POs aimed at industry', which fell slightly. The total turnover of all auctions which are members of VBT fell by 16% to a total of 685.5 million EUR in 2011. The greatest falls in turnover were recorded in the vegetable auctions which fell on average by 24% compared with 2010. Mechelse Veilingen and REO Veiling saw a drop in turnover of almost 27% (VBT, 2011). A direct cause of this fall in turnover was of course the outbreak of the EHEC crisis and the subsequent fall in consumer confidence, the fall in consumption and the import barriers imposed by third countries.

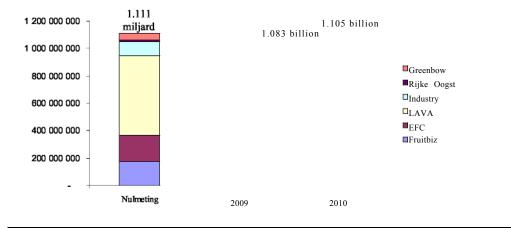
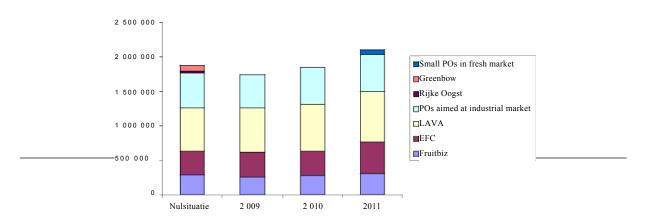


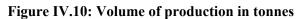
Figure IV.9: Value of marketed production (VMP)²⁸ in EUR

Source: Policy Research Corporation based on information obtained from the Flemish government

[Key to figure: miljard = billion; Nulmeting = baseline measurement]

Figure IV.10 shows the development in production volume. In 2010 and in 2011 production rose to 2.1 million tonnes.





Source: Policy Research Corporation based on information obtained from the Flemish government

[Key to figure: Nulsituatie = baseline situation]

28 The official value of the production for the year 2011 has not yet been passed on by the POs. This graph does not show the data of the small POs in the fresh market as these OPs only run from 2011 and therefore have not yet been processed by the Flemish government.

In addition it can be seen from *Table IV.5* that the number of members with EFC and LAVA dropped during the first two years of the evaluation period. As the production volume remained approximately the same, it may be assumed that the holdings of the member producers have become larger. The number of members in POs aimed at the industrial market, on the other hand, has risen because producers who were not members before have become members over the years.

	Baseline	2009	2010
Fruitbiz	N.A.	1 330	1 365
EFC	2 106	2 081	2 037
LAVA	3 734	3 391	3 278
POs aimed at the Industrial market	1 737	1 982	1 969

Table IV.5: Changes in the number of member	s with
⁻ POs ²⁹	-

Source: Policy Research Corporation based on information obtained from the Flemish government

All POs apart from Ingro and VOC insure part of their harvest. The total value of the insured harvest fluctuated between 247 million EUR in 2009 to 201 million EUR in 2011. In 2009 on average 23% of the total VMP was insured and in 2010 17%³⁰. BND and Vegras insured approximately half of the VMP, LAVA around 30% and EFC and Fruitbiz around 10%. The possibility of introducing risk premiums is therefore appreciated by many member producers.

Finally, the CMO also examines an increase in the proportion of production with extra-statutory status. *Figure IV.11* shows that the three categories³¹ each rose during the three years examined. The enormous rise in certified organic production from 2009 to 2010 is due to a radical improvement by LAVA. The main contribution of certified integrated production is mainly from Fruitbiz, EFC, BND and LAVA. The third category concerns the production which is recognised by external quality standards. Half of this production comes from LAVA whereas rather less than the other half comes from Fruitbiz and EFC. The other part comes from New Green, Green Diamond and Green Farm which also supply the fresh market.

for Fruitbiz cannot be given.

²⁹ In the absence of more accurate data, to be on the safe side, the baseline situation

³⁰ As the VMP for 2011 is not yet known, the percentage of the VMP that is insured cannot be calculated either.

³¹ These categories (certified organic production, protected geographical designations, certified integrated production and specific certified quality regulations for products) are given as such by the European Commission. The second category is left out, because it has not been filled in by the POs.

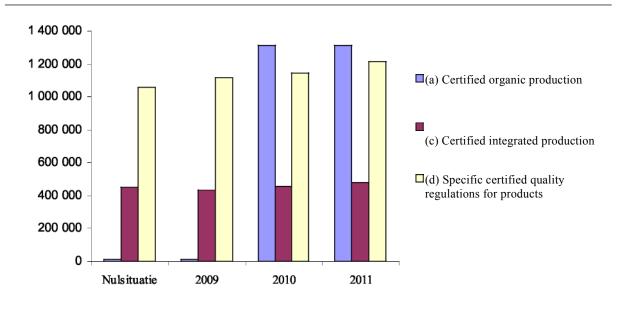


Figure IV.1 1: Quality regulation: change in the main categories.

Source: Policy Research Corporation based on information obtained from the Flemish government

Then *Table IV.6 and Table IV.7* can be regarded as summaries for 2009 and 2010. Not all information for 2011 is available yet.

UPO	PO	Total value of production and the number of members per PO in 2009	Number of members
Fruitbiz		172394 925	1 330
	Belgische Fruitveiling	106700 017	787
	Veiling Borgloon	65694 908	543
EFC		200431 459	2 081
	Veiling Haspengouw Koninklijke Fruitmasters Groep WOG	58552 524	556
LAVA		585142 699	3 391
	Brava	55982 852	501
	REO	156043 098	1 462
	Mechelse Veilingen	239303 317	928
	Limburgse Tuinbouwveiling	10977 437	127
	Veiling Hoogstraten	100377 995	238
In-Co	Zundert CLTV	22458 000	135
	VOC	19150 372	14
	Ingro	58505 711	1 125
	Vegras	35138 535	557
	BND	12459 161	286
	Total	1 083222 862	8 784

Table IV.6: Total value of the production and the number of members per PO in 2009

Source: Policy Research Corporation based on information obtained from the Flemish government

UPO	PO	Total value of production (in EUR)	Number of members	
Fruitbiz		192 959030	1	365
	Belgische Fruitveiling	120 989030		814
	Veiling Borgloon	71 970000		551
EFC		201 370103	2	037
	Veiling Haspengouw Koninklijke Fruitmasters Groep WOG	64 095000		512
AVA		587 677000	3	278
	Brava	62 353000		412
	REO	156 041000	1	409
	Mechelse Veilingen	226 967000		910
	Limburgse Tuinbouwveiling	10 740000		110
	Veiling Hoogstraten	104 705000		302
In-C	OZundert CLTV	26 871000		135
	VOC	12 920000		13
	Ingro	61 845000	1	130
	Vegras	34 468000		548
	BND	14 365000		278
	Total	1 105 604133	8	649

Table IV.7: Total value of the production and the number of members per PO for 2010

Source: Policy Research Corporation based on information obtained from the Flemish government

IV.3.3. IMPACT OF THE OPS FOR MEMBER PRODUCERS

The effectiveness of the OPs can also be measured in another way, namely by looking at the change in the situation of the member producers. It can be assumed that POs help the member producers by reducing the pressure both on yields and costs (see *Section I.2* for a discussion of the various types of pressure that are exerted on the producers).

In the area of yields, POs offer some degree of price stability, certainty of sales (or market access) and certainty of payment and they also provide more opportunities for innovation. Although the volume of fruit and vegetables from Flemish POs is too small to take on a position as a main supplier for a European country (outside Belgium), Flemish fruit and vegetables are seen as being of high quality and Flemish POs are valued for their flexibility and speed of supplying in the European market. The way in which this is achieved depends on the type of PO.

Sales with LAVA are concentrated both on selling against the clock at auction and also on brokerage sales. LAVA organises all brokerage sales, with as an internal guideline that a maximum of 30% of the available volume can be brokered. Centralisation such as this has a number of advantages; better organisation is possible, customer requirements can be met better and in a more market-oriented way and the buyer has a less dominant position than used to be the case when there were various parties who offered vegetables. With the use of the simultaneous system, buyers, present at the member vegetable

Evaluation of the national strategy for sustainable programmes in the fruit and vegetables sector auctions or online, can buy vegetables from any auction. With this form of concentration of supply, buyers lose some of their dominance in the market because now they do not know who is still present³², whereas previously this was clear. Also the POs that are members of Fruitbiz use the same simultaneous system. By centralising supply, production data can also be maintained better and analysed and at the same time, time and money is made available to gather market information. The combination of the two means that now POs can guide their producers more regarding the choice of crop, the time of harvesting, etc. The condition for this bundling of supply is the guarantee that uniform products are sold at the various member auctions. The Flandria label guarantees this uniform quality. These specifications are managed and adapted centrally and are used by all producers who are members at the vegetable auctions.

The same applies for EFC and Fruitbiz. As UPOs, both centralise supply from a number of fruit auctions. But they both work in different ways. All selling in EFC is through brokerage and EFC has a big say about the time when the harvested products are put on the market. In this way EFC can plan sales in a very organised way. With Fruitbiz the producers can decide when they want to sell their products, but in this they are helped and advised by the POs. This is also why the clock system is seen as an important selling system by Fruitbiz. Moreover, the selling of their soft and hard fruit takes place simultaneously with the supply of the POs of LAVA. By organisation into a UPO, more data is available and market information can be gathered in a more focused way and as a result producers will be able to grow in a more market-oriented way. Another example of increasing market access through organisation into UPOs is the cooperation between WOG and Veiling Haspengouw in EFC. Veiling Haspengouw can sell its pears in the German market in Germany. It can be said that for LAVA, EFC and Fruitbiz, who supply big buyers directly, it is the right strategy for achieving as great a concentration as possible. The organisation into UPOs is very instrumental in this.

Through a close cooperation between POs and buyers, a win-win situation is created in the form of vertical integrations. In this, the producers produce these products in those sizes and packaging that the buyers want. These buyers are often export companies that have a great deal of knowledge about the market. The advantage of working together like this for the producers is that they produce market-oriented products and know that they can sell their products. The advantage of this cooperation for the buyer is that he can be sure that he will get the products he wants. He must be able to respond quickly to new demands from the market and changing customer preferences. This is achieved with both large and small POs.

³² In an auction with only a small number of buyers, it is possible for buyers to make price agreements or to make agreements between themselves. With the introduction of anonymity in the system, this is made impossible. Cf. Milgrom (Journal of Economic Perspectives, 1989).

The bundling of supply also takes place in the small POs in the fresh market in a similar way, with the POs seeking closer cooperation with customers.

POs aimed at the industrial market have often grown from the need of a vegetable-processing company to provide itself with a stable supply of raw materials. The CMO regulation meant that they had to start with an initiative for bundling these producers into a PO to maintain this supply of raw materials. This is because the legislation forbids producers from being a member of more than one PO, unless what is involved are distinguishable product categories for which the producer's PO is not appropriate or of which this product category accounts for only a marginal part of the PO's turnover. The PO Ingro makes it possible to bundle the supplies of producers and then to supply different buyers. Vegras and BND chose a one-to-one relationship. The CMO regulation resulted in there being better cooperation between the producers, the PO and the industrial buyer. The industrial buyer has information about the market and knows when he has to sell what quantities, while the PO has the concentrated knowledge of what the producers can produce. As a result, the PO can guide the member producers in the choice of crops and the time of harvesting, as a result of which a situation of over- supply is avoided and crops can be grown in a market-oriented way. Cooperation such as this can only yield its benefits if there is no dominant party involved in the cooperation between the POs, the producers and the buyers. In the area of innovation, POs can both create ideas themselves and also provide support for the development of ideas.

A PO can create the financial support for innovations and can help producers by spreading the risk and, where relevant, support them. For example, a PO helped a certain producer with his innovation. The producer wanted to put on the market small chicory sticks in special packaging. Although there was already an agreement between this producer and a certain buyer, the producer found himself in a situation in which there was still too much uncertainty. Through the support of the PO the innovation became a success. Another PO wanted to set up a supply chain with an industrial buyer for the production of apple slices for the patisserie sector. Although this enterprise did not start up³³, it can certainly be said that POs, through their product knowledge and close cooperation with buyers, can initiate innovations.

As a member of a PO, producers can also make a number of cost savings. By working in a PO or a UPO, economies of scale can be achieved in various areas. These cost components will be discussed one by one and the way in which POs can help to reduce them. The following cost components are important here: cost of sales, purchasing of seeds and plants,

³³ The investment was not considered to be worthwhile.

machine costs, costs for crop protection, energy costs, cost of buildings and land, labour costs and research costs.

The cost of sales includes: the cost of selling, sorting, packaging and information gathering and distribution. With the CMO regulation, the cost of sales for member producers is less because selling is organised jointly at the level of the PO. Because information is shared by a number of producers, a greater amount of information is available. Therefore the grouping into a PO is more efficient as regards this cost component than if the producer is independent. Consequently, the sorting and packaging costs also form part of this component. Many POs organise the sorting of harvested fruit or vegetables at PO level. In this way these costs are also less for members. Also, the combined costs of packaging fall the greater the number of members there are because greater economies of scale can be achieved.

In the area of the buying of seed and plants, the members of some POs can contribute to the additional cost of resistant varieties. Some producers of hard fruit can also contribute the royalties of certain branded trees. In this way, producers are encouraged to work with seeds and plants that are of high quality.

In the area of machinery costs, some parts of the growing process are taken on by the PO. For the purposes of improving quality, the PO may for example invest in certain sowing or harvesting machines. The sowing process can, for example, be carried out by a special sowing machine. An individual producer does not have the financial resources to buy such a machine and does not have the knowledge to work with it. The same applies in the harvesting process. This cost component also includes the refrigerating of products. This is often done at PO level and for this reason this cost is lower for member producers.

In the area of crop protection, member producers are given incentives to apply the principles of sustainable integrated pest management, or IPM, on their holdings. Through the organisation into POs, a number of stakeholders are reached in the organising of training activities in that area. On the other hand, member producers can contribute additional costs for the use and the installation of organic crop protection agents. In this way, the ever-increasing environmental requirements of buyers are addressed. Specifications, for example, can be managed and adapted centrally. Other forms of saving, such as the reduction in the ecological footprint, can also be entered under this cost component.

The cost of fuel is reduced by the centralisation of a number of functions with the PO. In many POs, energy devices are already very efficient and environmentally friendly. For example, in the previous OPs a great deal has been invested by the POs in solar panels. This investment has been very successful in most POs.

The POs have passed on their experiences to their producers and in this way they have stimulated many producers to make this type of investment in their own business.

In the area of buildings and land, the reduction in costs consists of the joint storage of products at PO level.

In the area of employment and paid staff, a number of cost savings can be seen. For example, external inspections for obtaining certificates are organised, prepared and financed by the PO. Also, various training sessions are given by the PO, some of which have the aim of improving working efficiency. The greatest disadvantage for Belgian producers is the high cost price of staff compared with their Eastern European competitors. After an analysis of the process, one PO concluded that the harvesting process is the most labour-intensive. To reduce this cost, harvesting would have to be carried out on a centralised basis. This PO has invested in central processing units that have made the harvesting process more mechanical and more worker-friendly and therefore the crops can be produced at lower cost.

Finally, it can also be said that research costs can be reduced. The financing of research projects can be spread over a large number of members and the results are shared with each of the members. This too is an example of the economies of scale that the PO achieves for its member producers.

In conclusion it can be said that both in terms of yields and costs, POs can reduce the pressure on producers. The PO creates economies of scale in various cost components, but particularly in the area of selling. On the other hand, the PO offers market access that the producer does not have individually because among other things what he can supply is not of sufficient volume. In all kinds of ways, POs and UPOs improve the profitability of a member producer. Therefore an improvement in the profitability of the member producers can certainly be expected. *Figure IV.12 and Figure IV.13* show the changes in the gross balance of four important types of vegetables from the baseline (average of 2006-2008) and the first two years of the evaluation period for Flanders. Gross balance means the yields minus the variable costs and is expressed in EUR/surface unit.

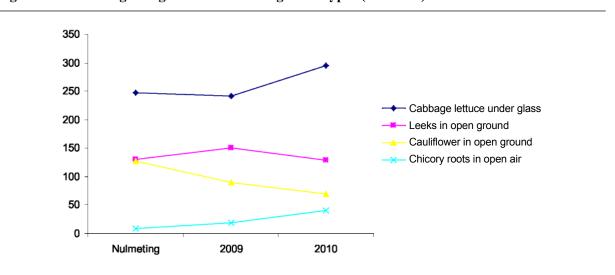
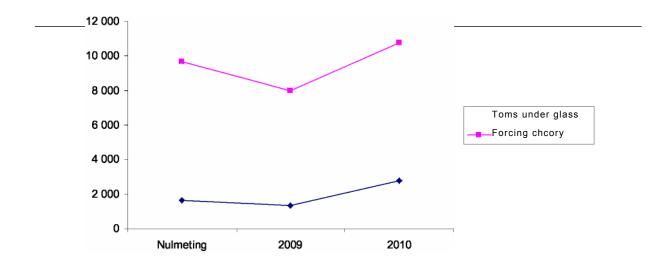


Figure IV.12: Changes in gross balance of vegetable types (EUR/are)

Source: Policy Research Corporation based on Raes et al., 2012

[Key to figure: Nulmeting = Baseline]





Source: Policy Research Corporation based on Raes et al., 2012

Only leeks and cauliflower in open ground show a negative development, while cabbage lettuce under glass, chicory roots in the open air, tomatoes under glass and forcing chicory have been increasing. It can also be concluded that 2010 was a better year than 2009 (Raes et al, 2012).

For specialist companies growing vegetables under glass, yields rose slightly and costs fell slightly in the period under consideration (2006-2010), with as a result that in 2010 the net operating result was

Answers to the evaluation questions

positive for the first time in 5 years with a yield of 130 EUR/are. For specialist field-scale vegetablegrowing companies, yields rose by more than the costs that were incurred. For this reason the net operating result in the period under consideration rose to a high point in 2010 of -7 EUR/are (Raes et al, 2012).

Figure IV.14 shows the changes in the gross balance of the three main types of fruit in Flanders. It can be said that 2009 was a less profitable year for fruit producers in Flanders, but 2010 was (slightly) more profitable than the baseline for apples and pears, which together make up the bulk of Flemish fruit production. Strawberry production under glass has been falling in terms of gross balance. This is due to the fact that it was very profitable in 2008. The gross balance in 2010 is, however, higher than the gross balance in 2006 (Raes et al, 2012).

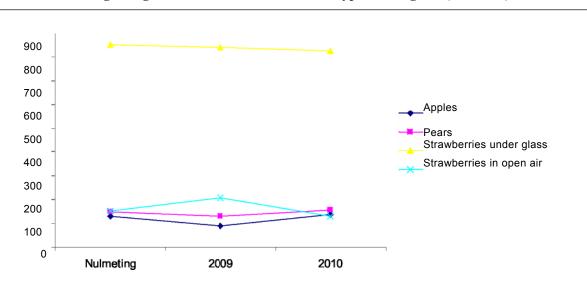


Figure IV.14: Changes in gross balance of the main fruit types in Belgium (EUR/are)

Source: Policy Research Corporation based on Raes et al, 2012

IV.3.4. Changes in the number of foreign members

Finally, the effectiveness of the OPs can be measured on the basis of the changes in the number of foreign members belonging to Flemish POs. It could be said that a good policy attracts more producers and that a bad policy would put producers off. The more foreign producers are members with Flemish producers, the better the policy and the organisation of the National Strategy and of the POs. *Table IV.8* shows the development in the number of foreign producer members belonging to a Flemish PO. Compared with 2008, this number has been increasing over the last few years.

	2008	2009	2010	2011
Netherlands	432	549	735	618
France	393	343	377	471
Germany	38	43	54	57
Czech Republic	1	2	2	2
Luxembourg	-	-	-	1
Poland	-	-	1	1
Total	864	937	1 169	1 150

Table IV.8: Changes in the number of foreign producers belonging to Flemish POs³⁴

Source: Policy Research Corporation on the basis of information from an analysis by the Flemish government

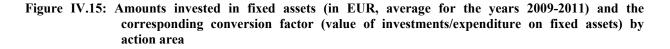
IV.4. EVALUATION OF EFFICIENCY

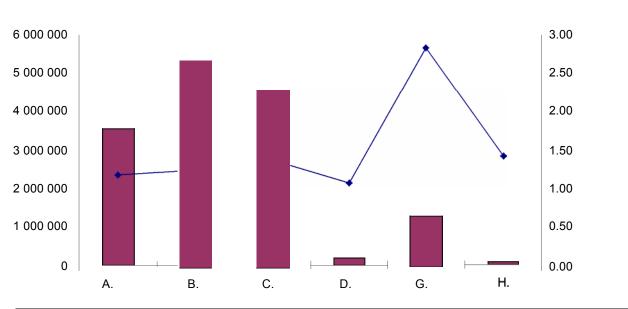
In discussing the efficiency of the OPs, the effectiveness of the activities is linked to use. The output, result and impact indicators are compared in relation to the input indicators. It should be pointed out that the number of members and the total area does not show any structural changes and is fairly stable. Also, the fluctuations in VMP per PO are above all 'externally driven' and are not a direct consequence of the CMO. For this reason it is less possible to express efficiency in quantitative terms.

In discussing efficiency, just as with discussing effectiveness, a distinction is made between the efficiency of investments in fixed assets and the efficiency of actions, and also a distinction between action areas A. to F. and G. to H.

Figure IV.15 shows the amounts invested by all POs in fixed assets and also the corresponding 'conversion factor' for each action area³⁵. It can be seen that most is invested in action areas A., B. and C. For these action areas the conversion factor is between 1 and 1.5. This means that for each euro from the operational fund (which equates to about half a euro of European support) that is used for investments in fixed assets, between 1 and 1.5 euros of value is created. It can also be seen that on average, investments in action area G. produce a conversion factor of almost three.

³⁴ The members of Zundert, Fruitmasters and WOG are not included in this table. ³⁵ Conversion factor means the ratio between the value of the investments and the expenditure on fixed assets.





Source: Policy Research Corporation based on data obtained from the Flemish government

Figure IV.16 shows the efficiency of the OPs running from 2009 to 2013, at the time of the evaluation.

It can be seen that most of the use (about 55%) goes to actions in the action areas A. to F. These actions reach most of the members. Also, about 30% goes to actions in G. to H. It is mainly holdings that are members of LAVA that take part in these actions. It can be concluded that there is a great deal of participation by members in the activities of the PO.

The conversion factor for investments in action areas G. to H. is on average 2.7. This means that for each euro of the operational fund that is invested (or what equates to about half a euro of European support), a value has been created of 2.7 EUR. It should be pointed out that the amount invested in fixed assets in these action areas is very low. Therefore it can be concluded that a small number of very efficient investments have been made by the POs in this action area.

The conversion factor for investments in action areas A. to F. is 1.3 and so is lower than that for investments in areas G. and H. A possible reason for this is that the most needed and efficient investments were already carried out by the former POs during the previous OPs. Also, sometimes it is the strategic choice of UPOs or POs to hold back a larger amount of the resources for actions.

se focus	Input indicators	Output in	dicators
-	Approx. 14.0 m	Approx.18.0 m	Conversion
	EUR in Fixed	EUR in Fixed	factor:
	Assets	Assets	1.3
A to F: approx. 71 mln EUR	I I	1 1	1 1
per year in input		Holdings take part in	n just
	Approx. 57.0 m		
		under half of the	
		under han of the	
	EUR in Actions		
		action areas A. to F.	
	Approx. 1.4 m	Approx. 3.8 m	Conversion
	EUR in Fixed	EUR in Fixed	factor:
G to H: approx. 33 mln EUR	Assets	Assets	2.7
per year in input			
		About 50% of the ho	oldings
	Approx. 31.6 m		
		took part in one or m	nore
	EUR in Actions	environmental action	ıs

Figure IV.16: Efficiency of OPs 2009-2011

Source: Policy Research Corporation based on data obtained from the Flemish government

V. CONCLUSIONS AND RECOMMENDATIONS

This part sets out conclusions for the evaluation of the OPs. Three important issues are discussed. To start with, in *Section V.1* the answers to the evaluation questions are set out. A brief analysis is given of how the use is organised. Then the effectiveness of the OPs is examined. Finally, the efficiency of the OPs is discussed. *Section V.2* details what overall and specific objectives have been achieved, and which have not been achieved. To conclude, the findings are formulated into recommendations in *Section V.3*.

V.1. Answers to evaluation questions

This section gives answers to the evaluation questions. First, use is discussed, followed by effectiveness and finally the efficiency of the OPs. *a) Use*

The combined operational fund for the Flemish POs is more than 100 million EURO annually. Of this use, about 90% goes to UPOs. This indicates a high level of organisation. Most – about 85% - of the use goes to actions, and the rest to the purchase of and other forms of acquisition of fixed assets. It may be noted that the spending pattern varies between (types of) POs. LAVA focuses on environmental actions to meet customer demand. Other actions are given relatively less weight because product quality is already at a high level due to actions that have been carried out in the past. LAVA also concentrates on improving the simultaneous system. Fruitbiz and EFC direct their activities primarily at further improving product quality and looking for new varieties. The small POs in the fresh market are still young and therefore on average invest more in fixed assets and in improving product quality. This is reasonable because first and foremost product quality has to be guaranteed before selling can be optimised. The POs aimed at the industrial sector also concentrate mainly on promoting the quality of the products, such as efforts aimed at process controls.

b) Effectiveness

In the analysis of the effectiveness of the OPs, an answer has been given in four different ways, namely by the analysis of the output indicators, the analysis of the result and impact indicators, the analysis of the profitability of the producers and by looking at the number of foreign producers who belong to Flemish POs.

Most (about 93%) of the active member producers took part in actions in action area A. (Production planning), about 90% in area B. (Product quality), about 65% in area E. (Training actions) and about half in area G. (Environmental actions). It can therefore be concluded that most of the member producers took part in the actions. The investments in fixed assets were mainly in action areas A. (Production planning), B. (Product quality) and C. (Promotion). In the three years of the evaluation period the value of the investments financed by the operational fund was, on average, 21.8 million EUR per year. Based on the result and impact indicators it can be concluded that the VMP fell in 2009 and 2011. This shows above all that the sector is dependent on external factors and market actions by buyers and other producers in an open European market. Nevertheless, UPOs and POs are more able to cope with periods of crisis than individual producers. It can also be said that about 90% of Flemish producers are members of a PO. In addition, there are four UPOs in Belgium that include three foreign POs.

The third way of evaluating the effectiveness of OPs is by analysing the profitability of the producers. An increase in profitability may potentially indicate a strengthening of the position of the producer due to actions of the PO or UPO. Cabbage lettuce under glass, chicory, tomatoes under glass, apples and pears became more profitable in 2009 and 2010 (Raes et al, 2012). So Flemish POs successfully enabled yields to increase and/or were able to lower certain cost components for member producers.

Fourthly, the number of foreign producers has increased compared with 2008. The fact that foreign producers are interested in joining Flemish POs appears to indicate that the Flemish POs are attractive beyond the borders of the country.

c) Efficiency

In terms of efficiency it can be said that with an input of 57 million EUR annually in actions in action areas A. to F., on average every holding took part in actions in about 2.6 different action areas. In addition, about half the holdings take part in the environmental actions. The conversion factor for the investments is between 1 and 1.5 for all action areas, except for action area G. where the conversion factor is even almost 3.

V.2. OVERALL AND SPECIFIC OBJECTIVES

In this part answers are given concerning the overall and specific objectives formulated by the European Commission. The overall objectives concern the improving of competitiveness, the improving of the attractiveness of POs, maintaining and protecting the environment, price and income stability and greater cooperation in the sector. The specific objectives that the European Commission identifies are the promotion of the concentration of supply, the promotion of the marketing of products of the members, adjusting production to demand in terms of quality and quantity, optimising production costs, increasing the commercial value of the products, the stabilising of producer prices, promoting knowledge and the improving of human potential, the development of technical and economic performance and the promotion of innovations and, finally, specific environmental objectives.

Overall objectives

The achieving of the overall objectives is described below.

a) Improving competitiveness

It can be said that producers' competitiveness has improved since the beginning of the OP. Nevertheless, whether this objective has or has not been achieved cannot be measured on the basis of the development in VMP, because this is influenced by too many external factors. After all, by bundling supply, the producers in the large POs can produce in a more market-oriented way and sales are arranged at the level of the PO. The (different types of) POs bring this about in their own way.

Sales with LAVA are made in a very centralised way. LAVA organises the whole of the brokerage selling process of the member POs, as a result of which suppliers now deal with a central supply compared with the individual quantities of the POs. In addition, there is greater anonymity in the simultaneous selling process, with buyers no longer having to be physically present when buying vegetables. These two ways of selling enable supply to be very centralised and therefore the competitiveness of the member producers is improved. In addition, the POs of Fruitbiz use the same simultaneous system for their selling against the clock of soft and hard fruit. The great concentration of supply on both sides means that producers have become more competitive because buyers cannot have the individual auctions bid against each other. LAVA now concentrates primarily on increasing environmentally-friendly cultivation³⁶ in order to be able to continue to guarantee the highest quality in order, in this way, to be able to get the best possible price from the market for its member producers.

Because of the great bundling of supply, Fruitbiz and EFC have a stronger position in the market than before. Through the creation of one centralised supply, buyers lose some degree of power because otherwise they can compare prices between the different

³⁶After all, product quality is already among the best in Europe.

POs. EFC sells (almost) all its products through brokering and endeavours to have a greater say in the decision about the time when the harvested products are marketed. Both UPOs have invested in specialist refrigeration units enabling them to keep products for a long time. In this way they are less dependent on temporary over-production and low prices. Its focus is now on looking for new, market-oriented varieties that on average can get higher prices from the market.

It has already been noted that consumer preferences vary greatly and that retailers also have different requirements from each other. The strategy followed by many Flemish POs is specifically to meet the customer requirements of a number of customers. In this way close cooperation develops between the buyer and the PO. The advantage for the member producers is that they produce to meet the needs of the market and know that they can sell their products. The advantage for the buyers is that they have a secure supply of raw materials that meet certain characteristics. Also, the buyer does not have to look for new suppliers every year. The cooperation is strengthened by the setting up of a supply chain. In this, the buyer shares its knowledge of the market with the PO. In this way, producers produce products that meet the needs of the market. Often, buyers such as this are willing to pay a higher price for these products.

The smaller POs in the fresh market do not have the scope of the bigger players, but also set up a number of close cooperative ventures with a number of buyers.

The POs aimed at the industrial market usually work for one or a few large buyers³⁷. They also grow specifically to satisfy the preferences of a number of buyers. Since the CMO regulation there has been closer cooperation between the industrial buyers and member producers. For these POs the price and the volumes are about fixed every year and finished products can be kept (see *I.2*) as a result of which they are less dependent on temporary over-production and lower prices.

b) Improving the attractiveness of POs

About 90% of Flemish producers are members of a PO. There are four UPOs that together include three foreign POs. It can be seen from this that already for a long time membership of a PO has been very attractive in Flanders.

It can also be concluded that the number of members belonging to most POs in the industrial market increased in the first three years of the last OP. On the other hand, the number of members of large POs in the fresh market for fruit and vegetables has been falling annually, but this is often due to the discontinuing of the activities or the retirement of a producer. It should be noted that it is only rare for producers to 'switch' between POs.

³⁷With the exception of Ingro, which has a number of industrial processors as

customers.

c) Maintaining and protecting the environment

Much has already been achieved in maintaining and protecting the environment and steps are being taken to make further improvements. LAVA, which accounts for 52% of the total VMP, devotes almost 45% of its operational fund to environmental actions. Increased environmental requirements are included in ever more rigorous specifications because buyers are demanding this more and more.

d) Stabilising of prices and income

This objective has not yet been achieved. The profitability of the producers in Flanders improved in 2009 and 2010. In 2011 it is very likely that it will have been lower. The sector is and remains very dependent on external factors, which means that the (day) price fluctuates very greatly and above all is determined exogenously. But price and income stability has improved in two ways.

Producers who are members of LAVA, Fruitbiz and EFC are able to market their products using different systems, namely with the simultaneous system, by brokerage and by advance selling. It is this wide range of selling possibilities that means that producers are not dependent on prices potentially being low in one sales channel.

Secondly, many producers have registered for harvest insurance and hail insurance. Producers in Flanders (and in Europe) are vulnerable to weather conditions. By registering for harvest insurance, producers can cover themselves against these risks. The CMO regulation has encouraged many producers to do this.

As regards the producers' income, finally, it is important to note the heterogeneity of producers in Flanders. The costs between producers can vary enormously because of decisions that have been made in the past concerning the choice of crop, the size of the holding, investments, etc.

e) Greater cooperation in the sector

A great deal of cooperation has been achieved in the sector. About 90% of Flemish producers are members of a PO. Also, 80% of the member producers are also members of a UPO. In addition, three foreign POs are members of Flemish UPOs. Cooperative ventures such as this also have very concrete advantages. The selling of Flemish pears in Germany is made easier because a German PO that is a member of the same UPO has more specific market knowledge and has access to the market in Germany. Already in December, POs aimed at the industrial sector can see in general terms what the orders will be for the coming year. This means that they can plan their sales at a very early stage. A number of POs have also set up vertical integration with buyers. As a result, the POs obtain more knowledge about the market and they can produce in a more oriented way to meet the needs of the

buyer.

There are also cooperative ventures between UPOs. The soft and hard fruit produced by producers who are members of the POs of Fruitbiz and of LAVA is sold jointly through the same simultaneous system.

Specific objectives

The European Commission has put forward various specific objectives. The objectives that apply for Flanders are discussed below.

a) *Promoting concentration of supply* Great concentration of supply has been achieved in the Flemish POs and UPOs.

The simultaneous system used by the LAVA and Fruitbiz POs has been further extended so that customers can buy vegetables online (home selling) and from all the member auctions. The condition for this great concentration of supply is a uniform level of quality of the vegetables that are sold. This guarantee is provided through the quality label that is used by all the member POs, namely Flandria. The Fruitbiz POs also coordinate their quality requirements for fruit with each other. In addition, Fruitbiz and EFC have been able to concentrate their supply by merging several POs with which they work together.

b) *Promoting the placing on the market of members' products* The promoting of the placing on the market of members' products has improved since the beginning of the OP.

Producer members with both large POs and small POs can produce in a more market-oriented way. The smaller POs aimed at the fresh market and at the industrial market have been given the opportunity to set up a supply chain with buyers. A number of POs have also established this in their OP. A supply chain like this enables producers to work more closely with buyers. In this way specific market knowledge is transferred so that the products that are marketed meet the expectations of the buyers. The varieties, packaging, quantities and the time of harvesting can be agreed more easily between the PO and the buyer. Producer members with large POs, such as those with EFC, Fruitbiz and LAVA, can grow in a more market-oriented way because they also set up vertical integrations and because market information is shared between the parties. There are agronomists who pass this market information on to producers so they can grow the right types of fruit and vegetables. In addition, the Flemish POs have acquired a European status as POs that provide high-quality products, are flexible and can supply quickly. However, Flemish POs are not the main suppliers to other European markets in fruit or vegetables because the volumes that are produced are too low.

c) Adjusting of production to demand, in terms of quality and quantity

Production is now better adjusted to demand than since the beginning of the OP. There are two reasons for this. Closer cooperation with buyers has been achieved, with market information being collected and disseminated centrally. Also, specifications have become more rigorous and applied more by the members.

The closer cooperation with buyers in the form of a supply chain means that producers can produce in a more market-oriented way in terms of quantity and quality. In addition, due to greater cooperation of POs among UPOs, market information is managed centrally and can be disseminated easily among the members. The large UPOs can indeed supply the volumes that the buyers ask for, while at PO level this is not always possible.

In addition, specifications are managed at UPO or PO level. This means that they can be adapted rapidly to new laws, customer requirements or results of research. In this way producers keep up-to-date. The amount of production marketed that meets specific extra-statutory quality regulations is also increasing every year. After all, it is important for the Flemish POs, that produce at a relatively higher cost price, to get the highest price from the market. This is achieved with, among other things, the Flandria label of the LAVA auctions. Nevertheless, for a number of identical target segments little added value can be expected from specific quality regulations in addition to the statutory requirements.

d) Optimisation of production costs

Production costs have fallen compared with at the beginning of the OP. This has happened in two ways. On the one hand, economies of scale have been achieved at commercial level through the organisation of many producers into POs. On the other hand, production companies have become larger, as a result of which, in theory, crops can be grown with greater economies of scale.

To begin with, there are various functions and activities that can be organised and carried out at PO level, as a result of which joint costs are lower than the sum of the individual costs per producer. These activities are, among others, the organising of selling, the drawing up and disseminating of specifications, the carrying out of research, the collecting and disseminating of data, quality controls, the joint purchasing of assets, production planning and administration. These greater economies of scale result in cost savings in the cost of sales, seed and plant costs, storage and refrigeration costs, machine costs, labour costs, etc. In general it can be concluded that through the CMO regulation and by the organising of producers into POs, time and resources have become available for carrying out studies into, among other things, lowering costs.

Secondly, Flemish producers have become bigger and should in theory be able to work with greater economies of scale. Also, there is the trend that industrial vegetable producers are specialising more in certain crops, which also brings with it a certain lowering of costs.

The study by Raes et al. also concluded that in the period between 2006 and 2010 for most types of fruit and vegetables there was a definite increase in profitability per unit area (Raes et al, 2012). Profitability probably fell in 2011 compared with 2010 because of the unfavourable market conditions. It should be noted that energy costs are continuing to rise for producers and that labour costs are among the highest in Europe.

e) Boosting of the commercial value of marketed production

The combined commercial value (VMP) of all POs and UPOs fell in 2009 and 2011. There are two reasons for this. First of all, prices are set on the market where demand and supply are matched. The actions and the supply from other players (other European suppliers or buyers) in the European market influence pricing. The total supply of fruit and vegetables from Flanders accounts for between 2% and 3% of the total supply in the European market. So it can be said that Flanders as such cannot be a price setter, but the pricing in Flanders can however be seen as representative. Secondly, the market has been severely disrupted by crises and weather conditions. The thunderstorm that struck the Flemish growing areas in August 2011 devastated many orchards, as a result of which these products could only be sold as industrial fruit and therefore at a lower price. Also, the EHEC crisis, which resulted in the closing of markets and a sharp fall in consumer confidence, meant that fewer products could be put on the market, which also brought down the commercial value of the products that were marketed.

However, by organising producers into POs and UPOs a higher commercial value can be created for producers' products. This can take place by looking at the activities of POs.

EFC and Fruitbiz can keep their harvested fruit longer in special ULO cold stores, which enables them to bridge periods of low prices. Also, they look for new varieties for which they can get a higher price than the price of bulk products. Kanzi, Greenstar, Belgica and SweetSensation are good examples of this. After all, the supply of these types of fruit can be controlled more, with the result that on average a higher price can be obtained in the market.

LAVA is always tightening the specifications for vegetables with higher environmental requirements. In this way LAVA puts on to the market vegetables that are of high quality and have been produced taking environmental concerns into account, for which a higher price can be asked. The Flandria label is the biggest label in Europe. In this way a certain form of differentiation can be achieved compared with bulk products. Also, producers can make use of the support of a PO to realise their innovations. Thirdly, some dealers who work with POs are willing to pay a higher price for products that are produced to meet particular requirements. Their costs for looking for fruit or vegetables in the right size, the right packaging and the right varieties are after all reduced by a greater form of cooperation with POs.

f) Stabilising of producer prices

A stabilising of producer prices has not been achieved, but the POs and UPOs respond to market fluctuations in the right way.

There is great pressure on fruit and vegetable prices because a small number of buyers dominate the market. In Europe too there is a structural over-supply of fruit and vegetables. In addition, producers from other European member states put products on the market that often are produced at a lower cost price. Thirdly, in some European member states the main purchasing criterion is still the price and quality is only a secondary consideration. This disadvantages many Flemish POs that supply products of high quality. Then, due to weather conditions, types of fruit and vegetables can be damaged, which means they cannot be sold at the highest price³⁸.

Flemish POs and UPOs respond to these problems. EFC and Fruitbiz allocate resources for research into and the marketing of new varieties for which a higher price can be asked and by investing in cold stores that can keep their products for a long time. LAVA pools the supply, as a result of which buyers can no longer play the individual POs off against each other. POs also work closely together in vertical integrations and produce to order for a number of buyers, who are willing to pay a higher price for this. The prices for industrial vegetables are fixed in contracts. This enables the industrial vegetable producers to optimise their production mix and plan better. They are advised in this by the PO.

Finally, producers that are members of LAVA, Fruitbiz and EFC are able to market their products using different systems, namely with the simultaneous system, by brokerage and by advance selling. It is this wide range of sales possibilities that means that producers are not dependent on prices potentially being set at a low level in one sales channel.

g) Promoting knowledge and improving human potential

The human potential in the member producers has increased during the OP. The number of member holdings using advisory services has increased from 4 766 in the baseline period to 5 792³⁹ members in the evaluation period. It has also been found that most of the member holdings take part in the actions that are organised at PO level.

³⁸ This applies for producers throughout Europe, not only for Flemish producers.39 As already discussed, double counting can occur in this calculation (both in the baseline and in the evaluation period).

h) *Developing of technical and economic performance and promoting of innovation* Since the beginning of the CMO various innovations have been made and a great deal in the way of technical and economic performance has been achieved.

Firstly, a PO can provide the support for innovations to be developed. Often an individual producer has good ideas, but does not have enough knowledge of the market or the capacity to develop such innovations. A PO can help individual producers with this and can share in bearing the risk for innovations. In this way other producers are also encouraged to consider innovations themselves and are spurred on by the PO.

Secondly, POs themselves can also be initiators of innovations. By pooling the strengths of various producers in a certain PO, the PO has the capacity to carry out research into, for example, reducing costs.

Thirdly, the vertical integrations that various POs have set up with their buyers can be regarded as being innovative actions because specific niche markets have been found, and exactly those products are grown that these buyers require.

Finally, it can also be said that some POs and UPOs (such as EFC and Fruitbiz) are carrying out technical and market research into new varieties of fruit that can be sold for a higher price.

i) Environmental objectives

There is little quantitative data that can provide clear evidence that environmental objectives have been achieved in this OP. In practice, often it is too difficult to calculate the indicators that have been given. On the other hand, it can be noted that of the eight action areas, area H. (environmental actions) has the greatest share of total use and that there is a high level of participation in these actions. Likewise, in the previous programmes a great deal has been invested in fixed assets in order to enable the activities at PO level to be carried out very efficiently and sustainably.

Table V.1 summarises the overall and specific objectives and on the basis of the information given for this determines to what extent the objectives have been achieved in the evaluation period. A 9 means that the objective has been achieved, an 8 means that it has not been achieved and a - means that no clear answer can be given.

Table V.1: Status of the overall and specific objectives

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Overall objectives	
a) Improving competitiveness	99
b) Improving the attractiveness of membership of producer organisations	99
c) Maintaining and protecting the environment	99
d) Stabilising of prices and income	88
e) Greater cooperation in the sector	99
Specific objectives	
a) Promoting concentration of supply	99
b) Promoting the placing on the markets of the products produced by the members	99
c) Ensuring that production is adjusted to demand, in terms of quality and quantity	99
d) Optimising of production costs	-/8
e) Increasing of the commercial value of the products	-/8
f) Stabilising of producer prices	88
g) Promoting knowledge and improving human potential	99
h) Developing technical and economic performance and promoting innovation	99
i) Environmental objectives	99

Source: Policy Research Corporation

V.3. RECOMMENDATIONS

A number of recommendations are given in this section.

V.3. 1. Recommendations at European Level

The recommendations for the European strategy relate to further encouraging to concentrate supply and greater clarity in connection with the concentration of supply, a change in the way in which Community support is given, a widening of the measures for crisis situations, the development of a more useful set of performance indicators and greater guidance in the use of uniform quality controls in the free European markets.

Firstly, the primary aim of the CMO is to bring about a greater concentration of supply. Further steps can be made towards this by further encouraging the cooperation of POs under one UPO. After all, as a UPO greater supply is created than by the various POs separately. As a positive consequence of this, greater economies of scale can be achieved as regards information, research, promotion and other areas. This can be encouraged in two ways. For example, greater Community support could be given to UPOs. On the other hand,

an additional parameter could be included in the reporting by each member state, namely 'the number of POs'. Hitherto, in the comparison of the concentration of supply between the member states only the degree of membership has been used. This parameter does not show exactly to what extent the supply is concentrated. After all, with a high degree of membership with a large number of POs a concentration of supply is not really shown, but these POs are in competition with each other. Only in the case of a high level of membership and a limited number of POs is a great concentration of supply achieved.

The creation of POs or UPOs whereby fruit and vegetables are made available jointly seems to be an avenue that should be explored because this meets the demand from the distribution sector. The selling of soft and hard fruit from Fruitbiz and LAVA is already being carried out jointly and successfully with the simultaneous system.

Another element that should be considered is competition law. The question is to what extent is it permissible to pool the supply: What is the relevant market in geographical terms and from the point of view of product-market combination? The European Commission would have to establish greater clarity about how it intends to assess market dominance in this respect.

A second recommendation at European level concerns the extent of Community support for POs. It is in the nature of the sector that the VMP can fluctuate greatly from one year to the next. In view of the fact that the annual support is calculated on the basis of the VMP of one or two years ago, the extent of the support for POs also fluctuates greatly. This is not conducive to the working of the POs and the execution of the OPs. After all, every year the POs have to adjust their budgets per action area to this, and this means that they cannot carry out some of their actions because a certain minimum amount is not obtained. This problem could be solved by indicating to the POs more the possibility of giving Community support on the basis of a rolling average. This promotes its stability and also how it is used and meets the needs of an objective that has not been achieved yet.

Thirdly, the use of crisis prevention and control measures should be investigated further. After all, the fruit and vegetables sector is often hit by crises caused by external factors, resulting in low prices and/or a poor harvest. It is for these reasons, among others, that the overall objective of 'price and income stability' has not been achieved. Increasing the attractiveness of the use of actions in action area F. (Crisis prevention and crisis management measures) or an extending of the possible actions available in this action area could help immediately in improving the situation. A coordination of crisis measures between POs and/or UPOs (even transnationally) should be possible without infringing competition rules.

Fourthly, it would be worthwhile looking at the performance indicators more closely and analysing what additional indicators should be added and what really are superfluous. Most of the POs say that

filling in the performance indicators raises a great many questions. According to *Policy Research*, only a very limited number of the current indicators actually fulfil a management guidance function. The

Conclusions and recommendations

number of performance indicators should be reduced and the selection of the useful indicators should be made in consultation between Europe, the government and the sector. In this way more specific performance indicators could be listed. A remaining point is also that market fluctuations influence the VMP to such an extent that only very long-term periods of time will really enable certain changes to be identified.

Finally, there should be greater control on the correct use of uniform quality systems and food safety controls in the European markets for fruit and vegetables. These are free markets in which a great diversity of products are traded. Quality controls prevent crisis situations and ensure genuine competition. If there are stricter controls in one country than in another country for obtaining one and the same certificate, POs in the latter country can supply cheaper products than the first-mentioned country. Uniform controls could prevent this form of unfair competition.

V.3.2. Recommendations at flemish level

The recommendations at Flemish level concern better coordination between European and National legislation and the introducing of a greater form of cooperation between the government and the POs concerning the actions in OPs and the reporting of performance indicators.

Firstly, there needs to be greater control and guidance beforehand on the National Strategies of the member states by the European Commission. Member states formulate their own National Strategy and the POs and UPOs of that country take as a basis the National Strategy of that country. If there is a discrepancy between the National and the European Strategy (or the interpretation of what can and what cannot be done), then the situation can arise that a PO complies with the National strategy and legislation, but on evaluation (sometimes years afterwards) does not comply with the European strategy. An improvement in this area could result in POs being given an approval or refusal more quickly regarding the implementing of certain actions or investments.

In the case of a PO being refused at a late stage, the European Commission would have to give this PO a certain period in which the PO has the opportunity to reorganise itself internally and find solutions so that it can nevertheless satisfy the actions or investments in fixed assets for POs in Europe.

Secondly, the cooperation between government and the POs could be further improved by closer guidance and control concerning the information that is to be provided, concerning, for example, the indicators.