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# EVALUATION OF THE EUROPEAN SCHOOL FRUIT SCHEME



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## RESULTS AND RECOMMENDATIONS



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# EVALUATION OF THE EUROPEAN SCHOOL FRUIT SCHEME (SFS)

## (1) Introduction

Fruit and vegetables consumption in the EU is on a declining trend which might cause a destabilisation of the European fruit and vegetables market, lower agricultural incomes and unhealthy diets of European citizen. Overweight and obesity are major health risks in Europe, in particular for children. Prevalence increases and affects already children at young age.

The fruit and vegetables consumption does **not reach the WHO-recommendation of a daily intake of 400g in many European Member States** which is necessary to maintain health and fight overweight and obesity. This underlines the relevance of change needed in eating habits in order to improve the health status of EU citizen and children.

Taking all these aspects into account, in November 2008 the Agriculture Council of Ministers agreed on a Commission proposal for a **European Union-wide scheme to provide free fruit and vegetables to school children.**

convergence and outermost regions) and the EU funds must be co-financed by national or private funds. **The Scheme started in the school year 2009/2010.**

The European School Fruit Scheme contributes to **changing eating habits while increasing the fruit and vegetables consumption and, in addition, affects other nutrition related shortages**, such as a low carbohydrate and fibre intake or certain vitamin deficits.

Member States participating in the scheme should base their implementation on **national or regional strategies**. Schools participating in the scheme are obliged to carry out **Accompanying Measures<sup>2</sup>** to improve children's knowledge on healthy food and on food production by the agricultural sector. Member States are obliged to monitor and evaluate their School Fruit Schemes on a regular basis to show the impact of the intervention.

**This evaluation assesses the implementation and the impact of the EU School Fruit Scheme (SFS) in the first two school years since its start in autumn 2009.** By means of this evaluation of the School Fruit Scheme the Commission contributes to the reporting obligations to the Council and the Parliament laid down in Article 184(5) of Council Regulation 1234/2007<sup>3</sup>.

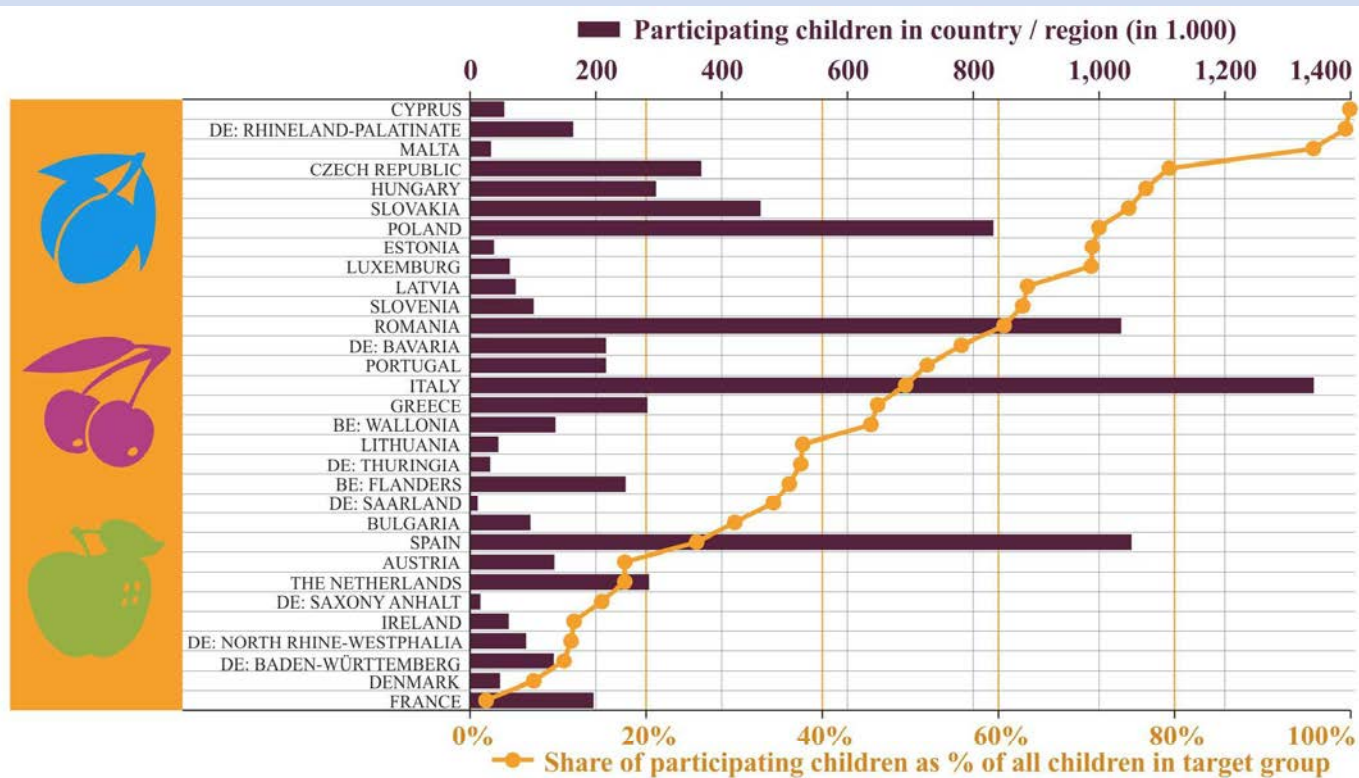


Figure 1: Participating children in 2010/11

This figure shows the absolute numbers of participating children and the share of participating children as % of all children in the target group for the individual Member States / Regions. Cyprus and Rhineland-Palatine reach 100% of the target group. Most children (1.34 million) participated in Italy, which means a ratio of 50% of the target group. **There is still a high potential for an increase as more than half of the participating Member States and Regions reach less than 50% of their eligible children by the scheme.**

The overall annual EU budget for the Scheme is € 90 million<sup>1</sup>. The EU provides financing for the Scheme (50% or 75% for

<sup>2</sup> Accompanying Measures as educational means are meant to improve children's knowledge on healthy food and on the agricultural sector. Examples for Accompanying Measures are lessons on fruit and vegetables, cooking classes, farm visits or school gardening projects.

<sup>3</sup> Council Regulation (EC) No 1234/2007: "Establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation)", Brussels

<sup>1</sup> Detailed rules for the Scheme were laid down in Commission Regulation (EC) No 288/2009





## (2) Objectives and Methodology

This evaluation examines in detail the School Fruit Scheme's **implementation, effectiveness, efficiency, coherence, and relevance.**

The evaluation report is based on

- Scientific literature
- Strategy papers, Monitoring and Evaluation Reports of the participating Member States and Regions
- Case studies exercises
- Qualitative expert interviews carried out in 10 participating Member States and Regions as well as in the United Kingdom, being a non-participating Member State.

## (3) Results of the Evaluation

### IMPLEMENTATION OF THE SCHOOL FRUIT SCHEME

- **24 Member States participate** in the scheme of which 21 apply a central organisational structure at national level and 3 (Germany, Belgium, Spain) a decentralised structure at regional level.
- Compared to the initial school year 2009/10 the scheme's scale has been **significantly increased in 2010/11.**
- In 2010/11 290 million portions were distributed to **8,146,290 children** (25% of all children in the focused target group within the participating countries) in **54,267 schools**. In the school year 2009/2010 4.7 million children in 32,273 schools were reached.
- An **additional demand on fruit and vegetables of 43,730 tons** has been created in 2010/11 in the EU27. This accounts for 0.06% of the total gross net supply in the EU27 fruit and vegetables market.
- The frequency of distribution strongly varies. Only nine Member States / Regions report a daily fruit distribution. **The majority supplies only 1 to 2 times per week, which is considered as not sufficient to reach the goals of the programme.**
- In 2010/11, the extent of the scheme in terms of budget used according to the Annual Monitoring Reports remains below the available EU aid. **EUR 55,418,259<sup>4</sup> (61.6%) of the total EUR 90 million was used,** leaving 38.4% of EU funds unused.
- The **public co-financing on national level is EUR 39,538,991, parental co-financing amounts to EUR 1,992,043 and other private institutions co-finance EUR 2,998,544** of the School Fruit Scheme in 2010/11.
- **In total up to EUR 100 million<sup>4</sup>** are spent in 2010/11 of which 95% are spent on fruit and vegetables, while only 5% are spent on Accompanying Measures.
- **Just 4 out of 31 Member States / Regions decide on a parental contribution to financing.**
- The **School Fruit Scheme does not expand in regions where public contribution is limited** and private funding needs to be organised by participating schools. This can be noticed e.g. for Baden-Württemberg (4% public contribution) since the

programme is not as well implemented as in its direct neighbourhood (Bavaria and Rhineland-Palatinate).

- Comparing the original National Strategies sent to the Commission and their factual implementation as documented in the Annual Monitoring Reports shows that **many changes occurred between the implementation plan and the factual implementation itself.** The main causes for these deviations are related to the starting phase of the scheme and to the fact that the strategies were formulated months before the implementation period.
- Member States / Regions try to **expand the scheme to include as many children as possible.** For this reason, however, some reduce the frequency of distribution per week or the programme duration.

### PARTNERSHIP BETWEEN EDUCATION, HEALTH AND AGRICULTURE & INVOLVEMENT OF PRIVATE, PUBLIC AND CIVIL ACTORS

- **Cooperation between the partners is intensive,** especially during the phase of developing the conceptual design and strategy, as well as when adapting the scheme to the national or regional framework. The intensity and form of the cooperation vary among Member States. Partnerships at the school level are less developed.
- **The partnership objective would need further promotion** in order to take more advantage of the available capabilities. Therefore, the national and regional authorities should discuss how to support schools better and more in the process of building partnerships with stakeholders outside the schools.

### EFFECTIVENESS OF THE SCHOOL FRUIT SCHEME WITH RESPECT TO IMPROVING THE EATING HABITS OF CHILDREN AND PARENTS AS WELL AS INCREASING THE EU CONSUMPTION OF FRUIT AND VEGETABLES.

- **In their qualitative evaluation analysis the majority of Member States / Regions has observed a positive impact of the scheme on children's fruit and vegetables consumption** and indicates an increase of consumption beyond the fruit and vegetables distributed to the children. It can therefore be concluded that the Scheme contributes to **increasing the fruit and vegetables consumption of children in the short-term.**
- The question whether this impact will also lead to **improved eating habits over time can only be evaluated after a longer implementation period of the Scheme** than the two years that are taken into account in the present evaluation. Since a sustainable change in eating patterns is related to long-term behaviour, an evaluation of such change requires measurements long after the intervention.
- Although an increase in consumption has been qualitatively observed for most Member States / Regions, **the precise quantity of additionally eaten fruit and vegetables due to participation in the scheme could be measured only in a few Member States / Regions.** Most of the National Evaluation Reports and the interviews with the parents did not produce information that is robust enough to quantify the positive effect of the scheme on children's consumption.
- Since some of the results found for children indicate that fruit and vegetables consumption in school and at home are closely linked, further **research on parental consumption** is needed in particular on the role of parental income and eating habits.

<sup>4</sup> Reporting date: 31<sup>st</sup> March 2012. Expenditure can still evolve due to the gap between allocation and payment of the aid. At the date of publication of this report the uptake might reach up to 65% (EUR 58 million).

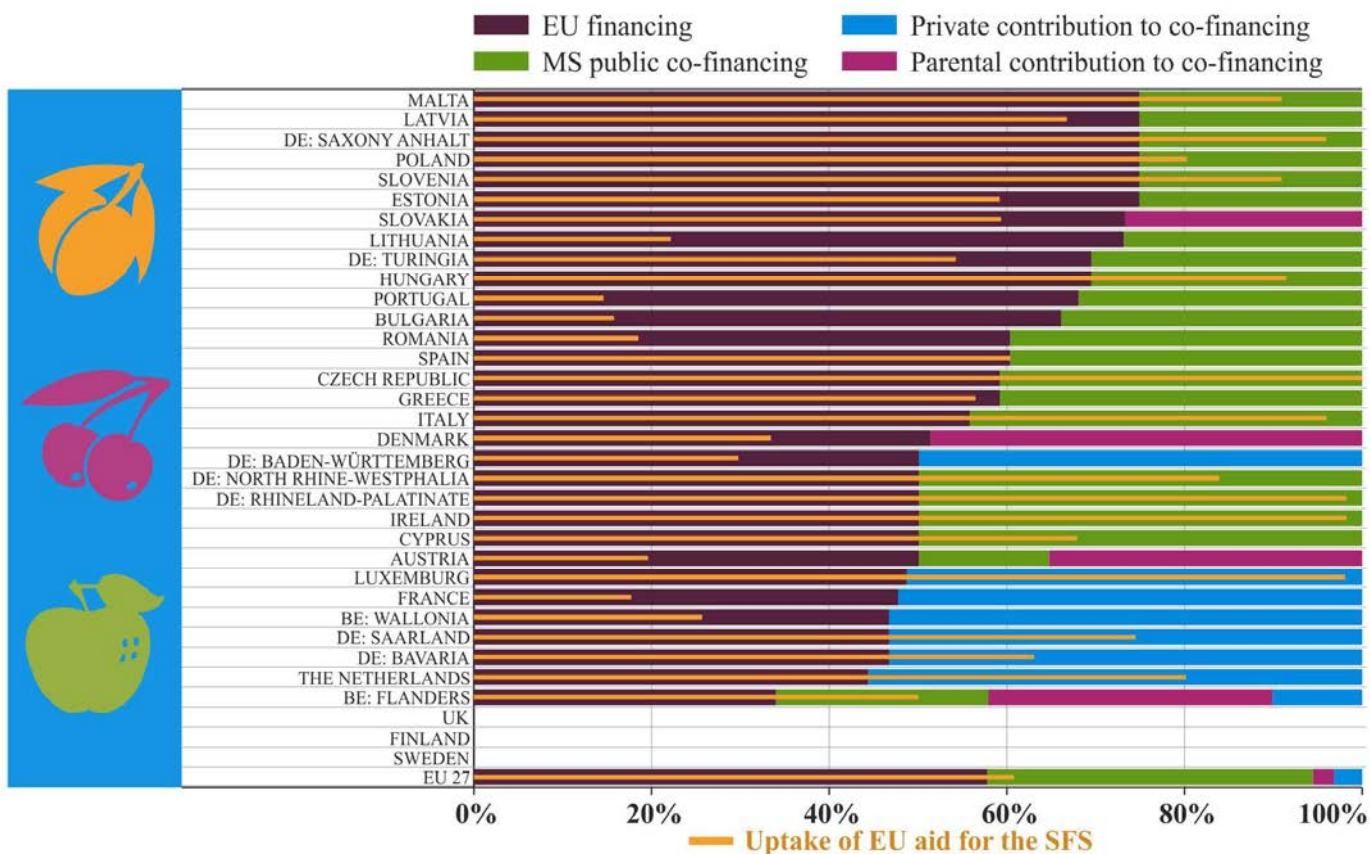


Figure 2: Financing shares and uptake of EU aid of participating Member States (school year 2010/2011) <sup>4</sup>

This figure visualises an overview of the EU financing and the Member States' co-financing shares in the total budget spent for the School Fruit Scheme in the school year 2010/2011 (excluding spending for Accompanying Measures). The blue and grey pillars signalise which sources the overall funding of the scheme is based on in the individual Member States – EU aid and public, private or parental co-financing (in %). The yellow pillars represent to what extent the individual Member States / Regions have taken up their final allocation of EU aid in the school year 2010/2011 which was available in accordance with the Commission Decision of 29<sup>th</sup> April 2010. One can observe that the total EU aid was only used to about 60% (EUR 54 million) in the sum of all participating Member States / Regions in the school year 2010/2011.

**IMPACT OF THE EU CONTRIBUTION ON THE TOTAL COST OF THE SCHEME AND THE TOTAL BUDGET AVAILABLE ON THE SCHEME'S EFFECTIVENESS**

- The EU aid - the financing share as well as the available absolute EU budget - has a positive or even essential impact in two ways.
- On the one hand, the EU funds are found to be essential for the realisation of nation (or region) wide School Fruit Schemes in nearly all participating Member States. Furthermore, the ex post evaluation analysis suggests that an increase of the EU financing share, provided that other funding remains constant, leads to a higher uptake and a larger scale of the scheme.
- On the other hand, the EU wide School Fruit Scheme has provided extra credibility and importance to the national and regional schemes which has improved the feasibility of the latter. The involvement of the EU gave more weight to national and regional schemes in the eyes of the public. The Scheme was also found to improve in general the reputation of the EU and increase awareness of the importance of the work of the EU.
- Currently, most Member States / Regions use exclusively public funds for national co-financing and the uptake of EU aid is very different (on average 60% of final allocation in 2010/2011<sup>4</sup>). Private contribution to financing (sponsoring) can

be a positive opportunity to extend the scheme's scale but a continuous implementation can be challenging. Parental contribution to financing is seen critical in most Member States as children from a less privileged social background might be excluded from the scheme since their parents might not be able to pay for it.

**IMPLEMENTATION PARAMETERS OF THE SCHOOL FRUIT SCHEME WHICH HAVE CONTRIBUTED MOST TO ITS EFFECTIVENESS**

- The wide range of products is an important success factor. Usually, at least 5 to 10 different products are offered in order to keep children's interests. As children should explore different tastes and textures of fruit and vegetables a big variety is needed. However, a conflict occurs between a wide choice and a regional or seasonal choice of products which is basically more limited. To ensure an individual selection based on children's preferences this decision should stay at school level.
- The high frequency of offering fruit and vegetables is also very important. It can be concluded that a once-a-week distribution is neither sufficient nor sustainable. In general, all Member States state that the more often fruit and vegetables are offered the higher is the positive impact as a higher frequency leads to an increased probability that the scheme will have a sustainable impact on the children's nutrition behaviour.



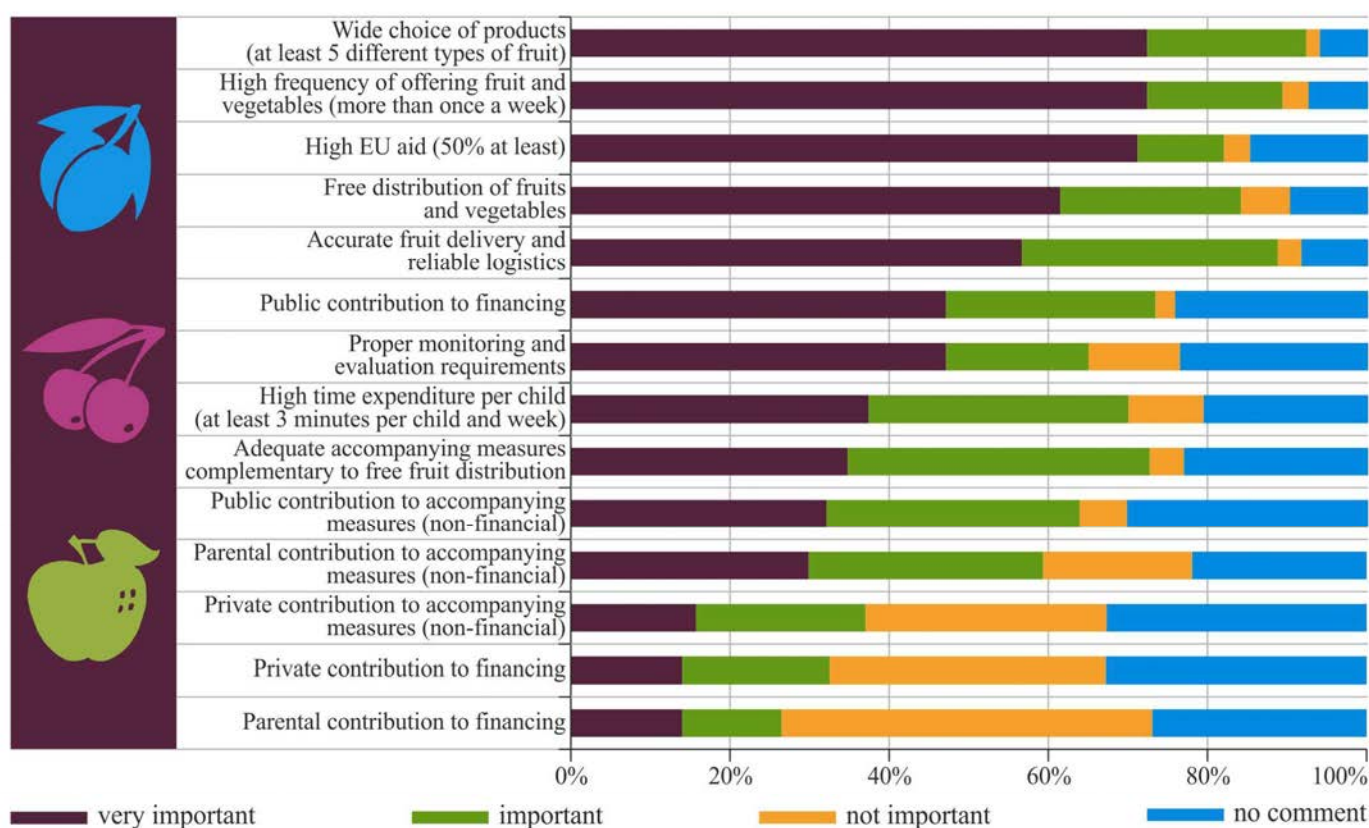


A frequency of at least 3 times a week seems to be recommendable. A daily frequency over a long intervention period is most effective. However, the number of supplies needed and the organisational costs involved make a high frequency challenging. Therefore, national steering groups and schools should be encouraged to **find creative solutions in order to ensure the highest frequency possible**, e.g. by arranging fruit supply in a two-day pattern for a daily distribution.

- In addition to a high frequency, the **continuity is also of high importance** as participation for several school years is expected to increase the sustainable impact of the scheme.
- **Free distribution** of the fruit and vegetables has been identified as another success factor in the evaluation analysis carried out.

consumption as a result of participation in the Scheme. On the other hand, recent academic research in schools in Rome revealed that shops near schools in **richer neighbourhoods sold significantly less unhealthy snacks after the introduction of the Scheme**, whereas no significant change was observed in poorer neighbourhoods.

- It should be noted that in many countries, participating in the EU School Fruit Scheme **no special attention is given to the socio-economic background of the children in the National Strategies**. The Strategies of Hungary, Bulgaria, Slovakia and North-Rhine Westphalia give special attention to the socio-economic background.



**Figure 3: Main determinants for success of the EU School Fruit Scheme**

The weighting of the different success factors resulting from the executed survey is displayed. According to the interviewed parents, school headmasters and Control Authorities, the factors which are evaluated to be most important and therefore the main drivers for the success of the project are (1) wide choice of products (at least 5 different types of fruit), (2) high frequency of offering fruit and vegetables (more than once a week) (3) high EU aid.

#### IMPACT OF SOCIO-ECONOMIC FACTORS ON THE EFFECTIVENESS OF THE SCHOOL FRUIT SCHEME

- Regarding the influence of socio-economic factors the evaluation **found different conclusions** both in the literature review and in the evaluations of the Member States. Some Member States are convinced that these factors influence the effectiveness of the scheme (e.g. Netherlands, Latvia, Saxony-Anhalt and North Rhine-Westphalia) while others state the opposite (e.g. Ireland, Italy).
- North Rhine-Westphalia carried out an in-depth evaluation analysis concluding that **children from less privileged socio-economic backgrounds show a relatively high interest in the scheme** and therefore a higher increase in fruit and vegetables

#### IMPACT OF ACCOMPANYING MEASURES ON THE EFFECTIVENESS OF THE SCHOOL FRUIT SCHEME

- Accompanying Measures within the scheme **differ among the Member States / Regions and are mostly planned and carried out at school level**. While in all participating countries Accompanying Measures are formally obligatory the evaluation analysis shows that two types of programmes can be differentiated: those in which Accompanying Measures are “the” central element of the intervention, e.g. Ireland, and those in which Accompanying Measures are integrated as “extra”, e.g. France and the Netherlands. **Most Member States / Regions point out that they mainly focus on the distribution of fruit and vegetables**. Few Member States / Regions consider



adequate Accompanying Measures very important for the success of the scheme.

- It has to be mentioned that the impact of Accompanying Measures is currently not sufficiently analysed. Scientific literature and the case study report in this evaluation show that their impact on the scheme's **effectiveness is highly dependent on their methodological design**. Therefore, the ways in which Accompanying Measures contribute to the scheme as well as the question which designs are most effective need further analysis.
- In order to examine the effectiveness of particular Accompanying Measures it is essential to **improve their documentation**. Problems regarding the measurement of effectiveness of Accompanying Measures occur in particular if these measures cannot be clearly distinguished from regular school education.

### EFFICIENCY OF THE SCHOOL FRUIT SCHEME'S IMPLEMENTATION

*The EU Financial Regulation (Article 27,2) defines efficiency as the best relationship between resources employed and results achieved in pursuing a given objective through an intervention.*

- Such a **straightforward measurement of efficiency cannot be applied in the EU School Fruit Scheme** given the difficulty to measure in a harmonised way the overall result of a particular scheme. Even if the sustainable quantitative effect of the scheme could have been measured, which is not the case, the question would be whether reaching more children with a lower consumption increase would be a better result than reaching fewer children with a higher consumption increase. This means that efficiency of the EU School Fruit Scheme can only be evaluated in an approximate way. Relating different impact indicators of effectiveness (such as density and target group coverage of the distribution) to the budget spent allows such an approximate evaluation of efficiency.
- **The ratio between the amount of fruit and vegetables distributed and the budgets used - one of the possible ways to approximate the efficiency of a scheme - shows a high variation among Member States**. This is partially due to different accounting procedures for distribution costs and product cost across the Member States / Regions. Comparative analysis of the schemes' efficiency performance **shows no significant correlation between the number of participating children and the total budget spent**.
- Correlating the achieved density of distribution and the budget spent on fruit and vegetables Estonia's scheme turns out to be most efficient in this respect with a low amount of money spent on products (EUR 0.91 per kg fruit) for a relatively high frequency of distribution (2.6 portions per week). Other countries spent far more money on products without reaching a high density of distribution, namely Italy, Spain and the Netherlands. **High distribution efficiency can partly be explained by a low price of fruit and vegetables per kg**.
- Efficiency is also approximated in this evaluation by calculating the ratio between the number of children in the target group reached and the budget spent per child. Eight Member States / Regions have reached a share of participating children in the target group of more than 60%. **This result is in most cases due to the lower than average amount spent per child**.
- In general Member States / Regions with very **high spending per child reach only a small percentage of children in the target group** with some exceptions like Hungary (77%) and Greece (63%). The high percentage for Hungary can be

explained by the fact that only one kind of fruit is distributed (apples).

### COHERENCE OF THE SCHOOL FRUIT SCHEME WITH RESPECT TO GENERAL COMMON AGRICULTURAL POLICY OBJECTIVES AND EUROPEAN POLICY PRINCIPLES

- **The SFS is coherent with the targets of the Single CMO** as part of the CAP. The scheme intends to contribute to the stabilisation of the EU market for fruit and vegetables by promoting the consumption of agricultural products, in particular of vulnerable groups like children.
- **The SFS is also coherent with the Treaty provisions on health protection** (Art. 168 TFEU), social affairs and education and in particular with the objectives of the EU Strategy on Nutrition, Overweight and Obesity related health issues. **The SFS is also coherent with the EU 2020 Strategy** as it can be expected that more healthy persons create more growth and as the scheme aims to mitigate some vicious effects of poverty on health and education.
- The scheme is **in line with the EU principle of subsidiarity**. The overall EU School Fruit Scheme framework and the EU aid provided are found to be essential for allowing large-scale and nation-wide implementation profiting from exchange of knowledge, experience and good practices at the EU level.

### RELEVANCE OF THE SPECIFIC OBJECTIVES AND THE DESIGN OF THE SCHOOL FRUIT SCHEME FOR INCREASING CONSUMPTION AND FOR IMPROVING EATING HABITS

- It can be concluded that the scheme is **highly relevant for the socio-economic target of increasing children's fruit and vegetables consumption in the short-run in order to achieve a healthier nutrition behaviour in the long-run**. Even if the short-term effect is more certain, the interviewed national managing authorities, operational departments, school headmasters and parents of participating children also tend to evaluate the scheme as being relevant in the long-run.
- After only two years the relevance of the Scheme for promoting the EU fruit and vegetables consumption is difficult to assess. The additional demand for fruit and vegetables generated directly by the distribution in the Scheme is marginal compared to the total volume of the European fruit and vegetables market. However, according to the evaluation analyses carried out and according to the opinions of experts and stakeholders **the relatively small budget of the EU School Fruit Scheme could well have started a dynamic impact that is not marginal**. Positive consumption spill-over effects from participants to other persons may occur but these effects have not been part of the evaluation.



## CONTRIBUTION OF NATIONAL STRATEGIES TO THE RELEVANCE AND ADDED VALUE OF THE SCHOOL FRUIT SCHEME

- A detailed analysis of the National Strategies leads to the conclusion that these strategies are primarily implementation scripts of the School Fruit Scheme in their country or region as they typically contain few strategic considerations. **The present way of setting up the Strategy Papers implicates that their use as strategic tool is limited.** Therefore, their relevance for and their contribution to creating added value e.g. via strengthening the envisaged partnerships around the scheme, is limited.

## ADMINISTRATIVE AND ORGANISATIONAL BURDEN INDUCED BY THE SCHOOL FRUIT SCHEME

- **Administrative burden in terms of reporting obligations etc. induced by the School Fruit Scheme is on an average level compared to other policy measures of the CAP and thus, does not constitute a main obstacle for schools/countries to participate. Administrative burdens in the smaller regionally organised schemes show higher values per participating school than in the larger national schemes,** which results from the fact that burdens behave like fixed costs that diminish per unit with the total scale of production. A further reduction of the burden can be achieved where product checks are discontinued that overlap with obligatory quality checks based on national legislation.
- The case study has revealed that **reporting for the School Fruit Scheme is perceived as intensive** by the Control Authorities in the Member States.
- Barriers for schools to participate in the School Fruit Scheme exist that are due to its **organisational and logistical burdens.** These burdens, which go beyond the administrative burden of reporting, have proven to be important for the uptake and success of the scheme.

### (4) Recommendations

On the basis of this evaluation study the following recommendations for the design and implementation of the European School Fruit Scheme can be given:

#### NATIONAL STRATEGIES

The National Strategies should be **developed into more strategic documents**, including long-term strategies to increase children's fruit and vegetables consumption in a sustainable way in order to protect their health.

#### EU FINANCING

The level of the EU funding share (at present 50%, respectively 75% for convergence and outermost regions) and the corresponding amount of EU aid are effective instruments to influence the uptake of the scheme. **An increase is recommended in order to enlarge the School Fruit Scheme's scale and strengthen the impact on children's eating habits** so that the declining trend in fruit consumption can be stopped and the intake per child reaches the level needed for the protection of its health.

#### SOCIO-ECONOMIC DIMENSION

As socio-economic characteristics have an impact both on the need for and the effectiveness of the scheme, these characteristics and their implications should be **adequately addressed in the National Strategies.**

## IMPLEMENTATION

A **high continuity of distribution ( $\geq 35$  school weeks)** should be aimed at as the evaluation analysis has shown that longer participation makes a higher sustainable impact with respect to improving the eating habits of children more likely.

A **frequency of offering fruit and vegetables as often as possible, at least 3 times a week**, seems to be optimal for the effectiveness of the scheme. Since a high frequency might create higher organisational cost, schools and distributors should be encouraged to find efficient ways of implementation, e.g. changing supply to a two-day pattern while distributing fruit and vegetables to children every day.

A **choice of products of at least 5 to 10 different fruits and vegetables** should be offered in order to keep the children's interests.

## ACCOMPANYING MEASURES

Adequate Accompanying Measures are **necessary to change eating habits in a sustainable way.** Since their impact is highly dependent on the how these are carried out in practice (intervention theory, toolbox, time, intensity, duration, partners, and budget) **Member States / Regions should be encouraged to pay more attention to the approach used.**

To strengthen the role of Accompanying Measures as part of the scheme and to overcome several existing difficulties, **it is recommended to make these measures eligible for EU aid.**

## ADMINISTRATION

For the comparability between information covered in the Strategy Papers and the Annual Monitoring Reports the **strategies should contain an obligatory form with the same elements as those in the Monitoring Reports.**

For an efficient analysis of the National Evaluation Reports and to ensure comparability between the national reports, **a more standardised reporting structure should be provided by the Commission.**

To gain further knowledge about the spending on "products" and "logistics" these **cost components should be displayed explicitly within the monitoring procedure.**

## ADMINISTRATIVE AND ORGANISATIONAL BURDEN

**Product checks which overlap with obligatory quality checks based on national legislation should be discontinued.**

To reduce administrative burden in the SFS, **it should be explored whether the monitoring and reporting obligations or even the whole administrative framework of the School Fruit Scheme can be aligned with other European or national nutritional programmes in schools such as the EU School Milk Scheme.**

Given their negative influence on the uptake of the scheme **organisational and logistic burdens for schools should be more closely observed in the Monitoring and Evaluation Reports and should be duly covered by appropriate solutions in the National Strategies.**





## (5) Limitations

The evaluation has been carried out with greatest accuracy possible and interim results have been discussed with the steering group of the European Commission. Nevertheless for the interpretation of the results the following specifications of the methodology need to be considered:

- The Monitoring Reports, Strategy Papers and National Evaluation Reports are major data sources for this report. These documents, however, vary highly in terms of content and extent and therefore comparable data had to be generated especially for this evaluation. A few Member States are not able to report the total amount spent on Accompanying Measures which is due to the fact that these measures are part of the normal school curriculum or not administered separately as the measures are not eligible for EU aid.
- National Evaluation Reports are submitted in the official language of the Member State which implicated that a number of National Evaluation Reports could not be entirely translated into English within the timeframe of the evaluation. In these cases the evaluation team used the English summaries that contain all important information.
- The literature research identified a lack of harmonised EU data on nutrition and fruit and vegetables consumption. This is solved by using WHO nutrition data, Freshfel monitor data on fruit and vegetables consumption and by calculating consumption from production plus / minus net trade.
- The results from the parent interviews are cross-checked by other interviews and other information because of the reasons well-known from evaluation literature: parents may report too positively on the performance of their own children and their sample can be biased and consisting of parents that are more motivated than the average parent.

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