Evaluation of the European School Fruit Scheme

Final Report

(without ANNEX)

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Prepared by:

**AFC Management Consulting AG**
Dottendorfer Straße 82
D-53129 Bonn

Anselm Elles
Dr. Christoph Kliebisch
Dr. Arno Becker

Phone    +49-2 28-9 85 79 0
Fax      +49-2 28-9 85 79 79
e-mail    info@afc.net
web      www.afc.net

and

**CO CONCEPT Marketing Consulting**
17, Rue Glesener
L-1631 Luxembourg

Dr. Marianne Altmann
Myriam Stenger

Phone    +352-29 52 35
Fax      +352 29 52 36
e-mail    info@coconcept.lu
web      www.coconcept.eu

For the

**European Commission**
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“It takes a village to raise a child”

Old African proverb
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<table>
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<th>AB</th>
<th>Administrative burden</th>
<th>LI</th>
<th>Lithuania</th>
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<td>ACM</td>
<td>Accompanying Measures</td>
<td>LU</td>
<td>Luxembourg</td>
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<td>AMR</td>
<td>Annual Monitoring Report</td>
<td>LV</td>
<td>Latvia</td>
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<td>Member State</td>
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<td>BV</td>
<td>Germany: Bavaria</td>
<td>NER</td>
<td>National Evaluation Report</td>
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<td>BW</td>
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<td>Spain</td>
<td>RP</td>
<td>Germany: Rhineland-Palatinate</td>
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<td>EU</td>
<td>Europe</td>
<td>SA</td>
<td>Germany: Saxony-Anhalt</td>
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<tr>
<td>f&amp;v</td>
<td>Fruit and vegetable</td>
<td>SAL</td>
<td>Germany: Saarland</td>
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<td>FL</td>
<td>Belgium: Flanders</td>
<td>SFS</td>
<td>European School Fruit Scheme</td>
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<td>FR</td>
<td>France</td>
<td>SFVS</td>
<td>British School Fruit and Vegetable Scheme</td>
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<td>IE</td>
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<td>SMS</td>
<td>European School Milk Scheme</td>
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<td>Germany: Thuringia</td>
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<td>EUR</td>
<td>Euro</td>
<td>WL</td>
<td>Belgium: Wallonia</td>
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<tr>
<td>w/d</td>
<td>Working day</td>
<td>p.a.</td>
<td>Per annum</td>
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<td>CAP</td>
<td>Common Agricultural Policy</td>
<td>cp.</td>
<td>compare</td>
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EXECUTIVE SUMMARY

(1) Introduction

Background of the EU School Fruit Scheme and aims of its evaluation

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.

In November 2008 the Agriculture Council of Ministers agreed on a Commission proposal for a European Union-wide scheme to provide fruit and vegetables to school children, the EU School Fruit Scheme.

The overall annual EU budget for the Scheme is € 90 million\(^1\). The EU provides financing for the Scheme (50% or 75% for 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.

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\(^2\). The evaluation examines in detail the:

- **Implementation**: The extent to which the School Fruit Scheme has been implemented as envisaged in the National Strategies.
- **Effectiveness**: The extent to which the Scheme has achieved the objectives set, in particular the increase of fruit and vegetables consumption among children, thus stabilising EU fruit and vegetables markets, improving eating habits of children in a sustainable way and reducing obesity in the longer run.
- **Efficiency and coherence**: Efficiency is the extent to which these desired effects are achieved at a reasonable cost. The EU Financial Regulation (article 27(2)) defines efficiency as the best relationship between resources employed and results achieved. Coherence is the extent to which the intervention logic is non-contradictory and the intervention does not contradict other interventions with similar objectives.
- **Relevance**: The extent to which the objectives of the SFS are pertinent to needs, problems and issues to be addressed.

Article 168 of the TFEU requires that all EU policies take into account the protection of the health of the EU citizen. Fruit and vegetables are essential components of a healthy diet. This has been underlined in the Strategy for Europe on Nutrition, Overweight and Obesity related health issues developed by the European Commission in 2007\(^3\). Daily consumption of fruit and vegetables can help to prevent major health problems, e.g. cardiovascular diseases, certain forms of cancer and diabetes type II, which are related to poor nutrition. The World

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Health Organisation (WHO) therefore recommends consuming a minimum of 400g of fruit and vegetables per day, other organisations aim at an intake of 600g or even more. Although harmonised data on the actual fruit and vegetables consumption for an international comparison are not available, consumption rates derived from net supply indicate that the intake in many European countries is considerably below the level recommended by the WHO.

In addition, the volume of the EU fruit and vegetables market has shown a declining trend in the last decade which suggests that consumption rates are even decreasing. Net demand has diminished for years and prices are under pressure. One of the objectives of the reformed Common Market Organisation "Fruit and Vegetables" has been to encourage the stagnating consumption of fruit and vegetables, in particular for the most vulnerable consumers such as young people.

Fruit and vegetables are considered as food offering rather few calories per consumed quantity and can serve as substitutes for unhealthy products such as snacks in the diet of children. The awareness of the dangers of overweight in the EU has increased recently and scientific research has shown that overweight problems occur more frequently at young age. According to this research, an estimate 22 million children in the European Union are overweight; 5.1 million of them are even obese.

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. 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 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.

**Methodology of the evaluation**

The evaluation report is based on literature research, national Strategy Papers, Monitoring Reports and Evaluation Reports of the participating Member States / Regions and on carefully selected case studies. Although the format of these Papers and Reports from the Member States and regions was not always the same, efforts were made to produce from these comparable data.

Furthermore, the evaluation is based on expert interviews and stakeholder surveys carried out in ten participating Member States / Regions as well as in the United Kingdom being a non-participating Member State.

This two-tier approach, using subjective and objective data, made it possible to close data gaps and cross check information from particular stakeholders, such as parents, by information from other stakeholders and by observed data.

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5 The estimation refers to EU25, Romania and Bulgaria are not included in the analysis.

(2) Implementation

Implementation of the School Fruit Scheme

Compared to the initial school year 2009/10 the scale of the scheme increased significantly in 2010/11 and reached 8,146,290 children (equal to 25% of all children in the focused target group within the participating countries) in 54,267 schools.

According to the Annual Monitoring Reports, an additional demand on fruit and vegetables of 43,730 tons was created in 2010/11 which is 0.06% of the total gross net supply in the EU 27 fruit and vegetables market. 24 Member States participate in the scheme, of which 21 apply a central organisational structure at the national level and 3 apply a decentralised structure at the regional level (Spain, Belgium and Germany).

The EU aid spent by the Member States in the school year 2010/2011 was at least EUR 55,418,259 which is 61.6% of the total available EU budget of annually EUR 90 million, leaving 38.4% of EU funds unused. The public financing on national level in 2010/2011 was about EUR 39,538,991 (of which EUR 35 million co-financing and 4.5 million spending on Accompanying Measures). Additional parental co-financing amounted to EUR 1,992,043 and other private institutions co-financed EUR 2,998,544. This leads to a total expenditure of the School Fruit Scheme of at least EUR 99,947,839 in 2010/11.

Accompanying Measures are currently not eligible for EU aid and thus, have to be fully financed by the Member States and other stakeholders. In 2010/2011 95% of total expenditure was spent on fruit and vegetables (EUR 94,680,603) while only 5% was spent on Accompanying Measures (EUR 4,521,508).

A systematic comparison of the original National Strategies sent to the Commission on the one hand and their factual implementation as documented in the Annual Monitoring Reports on the other shows that many changes occurred between the implementation plan and the factual implementation itself. On average, 11.8% more schools participated than planned in the National Strategies, whereas 12% less children than planned were reached by the scheme. The main causes for these deviations between the plans as laid down in the National Strategies and their implementation are related to the starting phase of the scheme and to the fact that the strategies were formulated months before the implementation period.

When Member States / Regions change parameters during the implementation of the Scheme, e.g. increase the number of children to be reached with respect to what was planned in the Strategy, then the trades-off in the system start to work and, for instance, the frequency or duration of distribution has to be reduced in order not to exceed the given budget. Three Member States reduced the frequency of distribution per week that was planned in the National Strategy and six reduced the programme duration in order to involve more children in the Scheme than planned in their National Strategies.

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7 The reporting date was 31st March 2012. Expenditure data could still evolve due to the time gap between aid application and payment of the aid.
Partnership between education, health and agriculture and involvement of private, public and civil actors

It can be concluded that the intention of the School Fruit Scheme to establish a broad partnership between education, health and agriculture has been realised, but this is mainly the case at the administrative level, to the extent needed for starting and operating the fruit and vegetables distribution scheme. Both private and public stakeholders are involved in the partnerships as required by the regulation 8.

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. However, regular meetings of the partners and steering groups are common elements. 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 such as education services, health institutions and agricultural organisations.

(3) Effectiveness

Effectiveness of the School Fruit Scheme with respect to improving the eating habits of children and parents as well as to increase 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. In four cases where no increase is noticed methodological problems of analysis or the short intervention period can be considered as the reason for this. It can therefore be concluded that the School Fruit 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 School Fruit 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 eating habits.

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consumption. Furthermore, these reports contain hardly any information about the scheme's effects on parental 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.

Impact of the EU contribution in the total cost of the scheme and the total budget available on the scheme's effectiveness

Regarding the influence of the EU funding part on the scheme’s effectiveness the available evidence of this evaluation suggests that 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 (increased number of participating schools and children)\(^9\).

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.

Implementation parameters of the School Fruit Scheme which have contributed most to its effectiveness

The analysis of potential success factors of the scheme leads to the following conclusions:

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.

\(^9\) In an ex post scenario analysis for the SFS school year 2010/2011, included in the report, it is found that if the EU financing shares had been raised from 50% to 75% and from 75% to 90% respectively, while the Member States had maintained their absolute co-financing unchanged, this would have required an EU budget of about EUR 120 million. Assuming that all implementation parameters had remained unchanged (ceteris paribus) instead of 8.1 million children 12.6 million children would have been reached in 2010/2011.
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.

**Impact of socio-economic factors on the effectiveness of the School Fruit Scheme**

Regarding the influence of socio-economic factors on the scheme’s effectiveness 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 in their country (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 consumption as a result of participation in the School Fruit 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 School Fruit 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.

**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 for the scheme 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.

However, it has to be mentioned that the impact of Accompanying Measures on improving in a sustainable way the eating habits 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 (e.g. by an adequate classification and a harmonised system to report on their implementation and performance). Problems regarding the measurement of effectiveness of Accompanying Measures occur in particular if these measures cannot be clearly distinguished from regular school education.

(4) Efficiency and coherence

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 (thus calculating distribution efficiency) 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.

10 Comparison of efficiency of national or regional schemes would require a method to calculate and add up in a harmonized way the individual results (achieved duration and frequency of distribution, percentage of target group reached etc.) of a scheme.

11 Density of distribution is an indicator used in the report to standardise the factors duration of distribution, frequency of distribution, participating children and portion size in all schemes and is defined as: delivered portions per week in a 200 days’ school year multiplied by the portion size in grams.
As explained before 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.

(5) Relevance

Relevance of the specific objectives and the design of the School Fruit Scheme for the need of increasing fruit and vegetables consumption and for improving in a sustainable manner the eating habits of children and parents in the European Union

Based on the analysis and interview surveys 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 EU School Fruits 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. In addition, based on the literature survey carried-out, 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**

According to the evaluation research the 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. The evaluation has found that a further reduction of the administrative 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.

The evaluation surveys have pointed out that 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.
(6) 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 (≥ 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.

XVI
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.
DOCUMENT DE SYNTHESE

(1) Introduction

Contexte du programme communautaire “School Fruit Scheme” et objectifs de son évaluation

Le présent document dresse la synthèse de l’évaluation de la mise en œuvre et de l’impact du programme communautaire de distribution de fruits et légumes à l’école, le “School Fruit Scheme” (SFS), pour les deux premières années scolaires depuis son lancement, à l’automne 2009.


Le budget communautaire annuel, alloué à ce programme, est de 90 millions d’euros12. L’UE assure une partie du financement (à hauteur de 50 %, voire 75 % pour les régions de convergence et les régions ultrapériphériques), que doivent compléter des aides étatiques et des contributions privées. Le programme a débuté avec l’année scolaire 2009/2010.

Avec la présente évaluation du School Fruit Scheme, la Commission répond à ses obligations en matière d’établissement de rapports à présenter au Conseil et au Parlement, telles que définies dans l’article 184(5) du Règlement N° 1234/200713 du Conseil.

L’évaluation examine dans les détails les aspects suivants :

- **La mise en œuvre**: mesure de la mise en œuvre du School Fruit Scheme conformément aux objectifs définis dans les stratégies nationales.

- **L’efficacité**: mesure de la réalisation des objectifs du programme, notamment en termes d’augmentation de la consommation en fruits et légumes des enfants, en vue de stabiliser les marchés des fruits et légumes dans l’UE, d’améliorer durablement les habitudes alimentaires des enfants et de réduire l’obésité à plus long terme.

- **L’efficience et la cohérence**: l’efficience est la mesure de la réalisation des effets souhaités à un coût raisonnable. Le Règlement financier de l’UE (article 27(2)) définit le principe d’efficience comme le meilleur rapport entre les moyens mis en œuvre et les résultats obtenus. La cohérence est la mesure du caractère non-contradictoire de la logique d’intervention et de sa non-interférence avec d’autres actions poursuivant des objectifs similaires.

- **La pertinence**: mesure de la pertinence des objectifs du programme SFS par rapport aux besoins, problèmes et thématiques visés.

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13 Règlement (CE) N° 1234/2007 du Conseil portant organisation commune des marchés dans le secteur agricole et dispositions spécifiques en ce qui concerne certains produits de ce secteur (règlement “OCM unique”), Bruxelles.
En vertu de l'article 168 du Traité sur le fonctionnement de l'UE, toutes les politiques de l'Union doivent prendre en compte la protection de la santé humaine au sein de l'UE. Les fruits et légumes sont des éléments essentiels d'une alimentation saine, un point déjà souligné par la Commission européenne en 2007 dans la Stratégie européenne pour les problèmes de santé liés à la nutrition, la surcharge pondérale et l'obésité. Une consommation quotidienne de fruits et légumes peut aider à prévenir des problèmes de santé majeurs, tels que des maladies cardiovasculaires, certaines formes de cancer et le diabète de type II, que l'on associe à une mauvaise alimentation. C'est la raison pour laquelle l'Organisation mondiale de la santé (OMS) recommande de consommer au moins 400 g de fruits et légumes par jour, d'autres organismes ciblent même une prise de 600 g, voire plus. Bien que l'on ne dispose pas de données harmonisées sur la véritable consommation en fruits et légumes qui permettraient une comparaison internationale, les niveaux de consommation supposés en se basant sur les chiffres de la distribution nette semblent indiquer que, dans de nombreux pays européens, la consommation est largement inférieure au niveau recommandé par l'OMS.

En outre, le volume du marché européen des fruits et légumes affiche une tendance à la baisse depuis les dix dernières années, qui suggère également un recul de la consommation. La demande nette n’a cessé de diminuer depuis des années, tandis qu’une forte pression est exercée sur les prix. L’un des objectifs de la nouvelle organisation commune des marchés des fruits et légumes était d’encourager leur consommation en stagnation, notamment auprès des consommateurs les plus vulnérables, comme les jeunes par exemple.

Les fruits et légumes sont considérés comme des aliments relativement peu caloriques par quantité consommée, et peuvent se substituer à des produits moins sains - comme des snacks - dans l'alimentation des enfants. On assiste actuellement, en Europe, à une prise de conscience croissante des dangers de la surcharge pondérale, et les chercheurs observent une survenance accrue des problèmes de surcharge pondérale chez les jeunes enfants. D’après les enquêtes réalisées, on estime aujourd’hui à 22 millions le nombre d’enfants en surcharge pondérale dans l’Union européenne, dont 5,1 millions d’enfants obèses.


16 Ces estimations se réfèrent à l'Europe des 25, hors Roumanie et Bulgarie.
Méthodologie d’évaluation

Le rapport d’évaluation est basé sur des recherches documentaires, des documents définissant les stratégies nationales, des rapports de contrôle et d’évaluation établis par les États membres et régions participant au programme ainsi qu’un certain nombre d’études de cas triées sur le volet. De gros efforts ont été réalisés pour extraire des données comparables des différents documents et rapports fournis par les États membres et régions participant, en dépit des formats parfois divergents.

En outre, la présente évaluation s’appuie sur des interviews d’experts et des enquêtes réalisées auprès de différentes parties prenantes dans dix États membres et régions participant ainsi qu’au Royaume-Uni, qui n’a pas participé au programme.

Cette approche en deux volets, basée sur des données subjectives et objectives, a permis de combler les lacunes des statistiques et de recouper les informations provenant d’acteurs spécifiques, tels que les parents, avec celles provenant d’autres parties prenantes ou avec des données observées.

(2) Mise en œuvre

Mise en œuvre du School Fruit Scheme

Par rapport à la première année scolaire de mise en œuvre en 2009/2010, le programme a enregistré une nette augmentation du nombre de bénéficiaires en 2010/2011 avec 8 146 290 enfants (soit 25 % du nombre total d’enfants appartenant au groupe cible visé dans les pays participant) qui en ont bénéficié dans 54 267 écoles.

Selon les rapports de contrôle annuels, cela aurait généré une demande supplémentaire en fruits et légumes de 43 730 tonnes en 2010/2011, correspondant à 0,06 % de la distribution nette totale au niveau des grossistes sur le marché des fruits et légumes de l’Europe des 27. Sur les 24 États membres ayant pris part au programme, 21 ont recouru à une structure organisationnelle centralisée au niveau national, et trois (l’Espagne, la Belgique et l’Allemagne) à une structure décentralisée au niveau régional.


A l’heure actuelle, les mesures d’accompagnement ne sont pas éligibles à l’aide communautaire. Leur financement reste ainsi entièrement à la charge des États membres et les mesures d’accompagnement}

18 Montant à la date de clôture du rapport le 31 mars 2012. Le montant des moyens engagés a pu encore évoluer du fait de l’intervalle entre la date de la demande de subvention et la date du paiement de l’aide allouée.
des autres parties prenantes. Sur le total des dépenses en 2010/2011, 95 % ont été consacrés aux **fruits et légumes** (94 680 603 euros) tandis que 5 % seulement étaient dédiés aux **mesures d’accompagnement** (4 521 508 euros).

Une comparaison systématique des stratégies nationales initialement envisagées, telles qu’envoyées à la Commission, et de leur mise en œuvre effective, comme documentée dans les rapports de contrôle annuels, montre qu’il y a eu de nombreux changements entre la mise en œuvre prévue et la mise en œuvre effective. En moyenne, **la participation des écoles a dépassé de 11,8 % les objectifs initiaux** définis dans les stratégies nationales, tandis que **le nombre d’enfants bénéficiaires est resté inférieur de 12 % aux prévisions**. Les principales raisons expliquant ces écarts entre les projets exposés dans les stratégies nationales et leur mise en œuvre sont dues à la phase de démarrage du programme et au fait que les stratégies ont été élaborées plusieurs mois avant la période de mise en œuvre.

Dès que des États membres ou régions modifient des paramètres dans la phase de mise en œuvre du programme, en augmentant p. e. le nombre d’enfants bénéficiaires par rapport à l’objectif initialement visé dans la stratégie, cela déclenche des mécanismes de compensation au sein du dispositif. Il faut alors, par exemple, diminuer la fréquence ou la durée de la distribution afin de ne pas dépasser le budget alloué. Trois États membres ont diminué la fréquence de distribution hebdomadaire par rapport à celle prévue dans la stratégie nationale, et six ont réduit la durée du programme afin d’augmenter le nombre d’enfants bénéficiaires par rapport aux chiffres visés dans leurs stratégies nationales.

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**Partenariat entre le secteur de l’éducation, la santé et l’agriculture et l’implication d’acteurs civils, publics et privés**

Si l’objectif visé par le School Fruit Scheme, à savoir établir **un large partenariat** entre le secteur de l’éducation, la santé et l’agriculture a pu être atteint dans le périmètre nécessaire pour le lancement et le fonctionnement du programme, cela vaut essentiellement au niveau administratif. Des acteurs, tant du secteur privé que public, sont impliqués dans les partenariats conformément aux exigences du règlement. La coopération entre les différents partenaires est particulièrement intense, notamment pendant la phase de définition du concept et de la stratégie ainsi que lors de l’adaptation du programme au cadre national ou régional. L’intensité et le mode de coopération peuvent différer d’un État membre à l’autre, mais l’on constate, de manière générale, l’organisation régulière de réunions entre les partenaires et l’institution de groupes de pilotage. **Les partenariats sont moins développés au niveau des établissements scolaires.**

Il faudrait continuer de développer l’objectif du partenariat pour mieux exploiter les capacités existantes. Les autorités régionales et nationales devraient donc débattre des modalités qui leur permettraient de mieux soutenir les écoles dans la création de partenariats avec des...
acteurs extrascolaires, tels que les services de l’éducation, les organismes de santé publique et les organisations agricoles.

(3) Efficacité

▲ L’efficacité du School Fruit Scheme par rapport à l’amélioration des habitudes alimentaires des enfants et des parents ainsi qu’à l’augmentation de la consommation en fruits et légumes au sein de l’UE

Dans leur analyse qualitative de l’évaluation, les États membres et les régions ont observé, dans leur majorité, un impact positif du programme sur la consommation en fruits et légumes des enfants et une augmentation de la consommation au-delà des fruits et légumes distribués aux enfants. Dans les quatre cas où aucune augmentation n’a été constatée, on peut supposer des problèmes d’ordre méthodologique dans l’analyse ou une trop courte durée d’intervention. C’est pourquoi on peut en conclure que le School Fruit Scheme contribue à améliorer à court terme la consommation en fruits et légumes des enfants.

Quant à savoir si cet impact permettra également d’améliorer les habitudes alimentaires à long terme, cela ne pourra être évalué qu’après une plus longue période de mise en œuvre du School Fruit Scheme que les deux années prises en compte dans la présente évaluation. Tout changement durable des habitudes alimentaires relevant du comportement à long terme, il faudra procéder à des évaluations longtemps après l’intervention elle-même pour pouvoir prendre la mesure d’un tel changement.

Bien que l’on ait constaté de manière qualitative une augmentation de la consommation dans la plupart des États membres et régions, il n’a été possible de mesurer la quantité précise de fruits et légumes consommés en plus du fait de la participation au programme que dans un nombre limité d’États membres et de régions. Les rapports d’évaluation nationaux et les interviews avec les parents n’ont, pour la plupart, pas fourni d’informations suffisamment substantielles pour quantifier l’impact positif du programme sur la consommation des enfants. Par ailleurs, ces rapports ne contiennent guère d’informations sur les effets du programme sur la consommation parentale.

Certains des résultats constatés auprès des enfants mettant en évidence un lien étroit entre la consommation en fruits et légumes à l’école et celle à la maison, il semble nécessaire d’approfondir les recherches sur la consommation des parents, notamment sur le rôle joué par les revenus parentaux et les habitudes alimentaires des parents.

▲ Impact sur l’efficacité du programme de la contribution de l’UE au coût total du programme et du budget total disponible

En ce qui concerne l’influence de la part financée par l’UE sur l’efficacité du programme, les éléments probants dégagés dans le cadre de cette évaluation laissent entendre que l’aide communautaire – aussi bien la part allouée au financement que le budget communautaire disponible dans l’absolu – a un impact positif, voire même essentiel sur deux plans.

D’une part, il est estimé que les fonds communautaires sont essentiels à la réalisation de programmes de distribution de fruits et légumes à l’école à l’échelle nationale (ou
régionale) dans presque tous les États membres participant. En outre, l’analyse de l’évaluation de l’impact suggère qu’une augmentation de la part financée par l’UE se traduirait, à niveau équivalent pour les autres sources de financement, par un plus fort intérêt à l’égard du programme et un élargissement de son échelle (nombre plus important d’écoles participant et d’enfants bénéficiaires).20

D’autre part, le School Fruit Scheme à dimension européenne a conféré une crédibilité et une pertinence supplémentaires aux programmes nationaux et régionaux, permettant ainsi d’améliorer leur faisabilité. La participation de l’UE a donné plus de poids aux programmes nationaux et régionaux aux yeux du public. On a également constaté que le programme a contribué, de manière générale, à améliorer la notoriété de l’UE et permis de mieux sensibiliser l’opinion publique à l’importance du travail réalisé par l’UE.

 Principaux paramètres de mise en œuvre du School Fruit Scheme ayant contribué à son efficacité

Il ressort de l’analyse des facteurs susceptibles de contribuer à la réussite du programme les conclusions suivantes :

Une grande variété de produits est un facteur de réussite important. En règle générale, il est proposé au moins 5 à 10 produits différents afin de maintenir l’intérêt des enfants. Les enfants devant expérimenter différents goûts et textures de fruits et légumes, il est indispensable de disposer d’un choix varié.

Cependant, on voit apparaître un conflit entre un choix assez vaste et un choix fondamentalement plus limité de produits régionaux ou de saison. Afin de garantir une sélection individuelle sur la base des préférences exprimées par les enfants, cette décision devrait continuer d’être prise au niveau de l’établissement scolaire.

Il est également très important d’assurer une fréquence élevée dans la distribution des fruits et légumes. On peut en conclure qu’une distribution hebdomadaire unique n’est ni suffisante, ni envisageable dans la durée. Dans l’ensemble, les États membres ont déclaré qu’une distribution de fruits et légumes plus fréquente était corrélée à un impact plus positif, une fréquence plus élevée augmentant la probabilité d’un impact durable du programme sur le comportement alimentaire des enfants.

La fréquence à recommander semble être une distribution d’au moins trois fois par semaine. Une distribution quotidienne sur une longue période serait plus efficace, mais une fréquence aussi élevée constitue un véritable challenge compte tenu du nombre d’approvisionnements nécessaires et des coûts organisationnels impliqués. Il convient donc d’encourager les groupes de pilotage mis en place à l’échelle nationale ainsi que les écoles à rechercher des solutions creatives permettant d’assurer la plus grande fréquence possible, p. e. en organisant un approvisionnement en fruits tous les deux jours pour une distribution quotidienne.

20 Dans une analyse de scénarios d’impact du programme SFS pour l’année scolaire 2010/2011, incluse dans le présent rapport, on constate que si la part financée par l’UE était respectivement passée de 50 % à 75% et de 75 % à 90 %, sans changement du niveau de cofinancement des États membres en valeur absolue, cela aurait nécessité un budget communautaire d’environ 120 millions d’euros. En supposant que tous les paramètres de mise en œuvre soient restés inchangés (ceteris paribus) 12,6 millions d’enfants auraient bénéficié du programme en 2010/2011 au lieu de 8,1 millions.
Outre une fréquence élevée, la notion de continuité est également très importante car une participation sur plusieurs années scolaires devrait permettre de mieux inscrire encore l’impact du programme dans la durée.

La gratuité de la distribution des fruits et légumes a également été identifiée dans l’analyse de l’évaluation comme un autre facteur concourant à la réussite du programme.

**Impact des facteurs socio-économiques sur l’efficacité du School Fruit Scheme**


La Rhénanie du Nord-Westphalie a procédé à une évaluation en profondeur qui met en évidence que les enfants issus de milieux socio-économiques moins favorisés semblent éprouver un assez vif intérêt à l’égard du programme et que c’est chez eux que l’on enregistre ainsi une plus forte augmentation de la consommation en fruits et légumes suite à la participation au School Fruit Scheme. D’un autre côté pourtant, des recherches universitaires récentes, réalisées dans des écoles à Rome, ont révélé que les magasins situés à proximité des écoles dans les quartiers les plus aisés ont vendu nettement moins de produits moins sains, comme des snacks, après l’introduction du School Fruit Scheme, tandis qu’aucun changement significatif n’était enregistré dans les quartiers moins riches.

Il faut noter que dans de nombreux pays participant au programme communautaire School Fruit Scheme, il n’est pas prévu, dans les stratégies nationales, d’efforts particuliers par rapport au milieu socio-économique auquel appartiennent les enfants. Les stratégies définies en Hongrie, Bulgarie, Slovaquie et Rhénanie du Nord-Westphalie accordent, elles, une attention particulière au contexte socio-économique.

**Impact des mesures d’accompagnement sur l’efficacité du School Fruit Scheme**


Néanmoins, il faut noter que l’impact des mesures d’accompagnement sur l’amélioration durable des habitudes alimentaires n’est pas suffisamment analysé à l’heure actuelle. Les
ouvragesscientifiques et le rapport sur les études de cas dans la présente évaluation
indiquent que leur impact sur l’efficacité du programme est étroitement corrélé au
concept méthodologique choisi. C’est la raison pour laquelle il convient d’approfondir
l’analyse sur la manière dont les mesures d’accompagnement contribuent à la
réussite du programme et sur la question des concepts les plus efficaces.

Si l’on veut examiner l’efficacité de mesures d’accompagnement spécifiques, il faut
absolument améliorer la manière dont elles sont documentées (p. e. avec une
classification adéquate et un système harmonisé pour l’établissement de rapports sur leur
mise en œuvre et les résultats obtenus). On constate notamment des problèmes au niveau
de l’évaluation de leur efficacité lorsque l’on n’arrive pas à différencier clairement ces
mesures d’accompagnement du programme scolaire normal.

(4) Efficience et cohérence

Efficience de la mise en œuvre du School Fruit Scheme

Le Règlement financier de l’UE (article 27, 2) définit l’efficience comme le meilleur rapport
entre les moyens mis en œuvre et les résultats obtenus pour atteindre un objectif donné par
le biais d’une intervention.

Il est impossible de mesurer aussi directement l’efficience du programme communautaire
School Fruit Scheme du fait de la difficulté que l’on rencontre à mesurer de manière
harmonisée le résultat général21 d’un programme individuel. Même si l’on pouvait mesurer
l’effet quantitatif durable du programme, ce qui n’est pas le cas, il se poserait la question de
savoir s’il vaudrait mieux avoir un nombre d’enfants bénéficiaires plus élevé avec une
moindre augmentation de la consommation ou un nombre d’enfants bénéficiaires moins
élevé avec une plus forte augmentation de la consommation. Cela signifie que l’on ne peut
evaluer l’efficience du programme communautaire School Fruit Scheme que de manière
approximative.

On peut arriver à ce genre d’évaluation approximative de l’efficience en reliant différents
indicateurs d’impact de l’efficacité (tels que la densité de la distribution et la couverture du
groupe cible) au budget engagé.

Le rapport entre la quantité de fruits et légumes distribués et les budgets employés –
l’une des approches possibles pour obtenir une évaluation approximative de l’efficience d’un
programme – varie fortement d’un Etat membre à l’autre. Cela est dû, en partie, à une
différence dans les méthodes comptables employées pour les frais de distribution et les
côtés des produits dans les Etats membres et régions. L’analyse comparative du rendement
des programmes ne révèle aucune corrélation significative entre le nombre d’enfants
bénéficiaires et le montant total du budget engagé.

Si l’on met en relation la densité22 obtenue dans la distribution et le budget employé pour les
fruits et légumes (ce qui permet de calculer l’efficience de la distribution), le programme

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21 Si l’on souhaitait comparer l’efficience des différents programmes nationaux ou régionaux, il faudrait introduire une méthode
permettant de calculer et de totaliser de manière harmonisée les résultats individuels d’un programme (durée réalisée et
fréquence de la distribution, pourcentage de bénéficiaires dans le groupe cible etc.).

22 La densité de la distribution est un indicateur utilisé dans le rapport pour standardiser dans tous les programmes les facteurs
"durée de la distribution", "fréquence de distribution", "nombre d’enfants bénéficiaires" et "taille de la portion". Cet indicateur
de l’Estonie s'avère le plus efficient avec un montant peu important alloué aux produits (0,91 euro par kg de fruits) pour une fréquence de distribution relativement élevée (2,6 portions par semaine). D’autres pays ont dépensé bien plus d’argent dans les produits sans atteindre une densité de distribution élevée, comme l’Italie, l’Espagne et les Pays-Bas. Une grande efficience de la distribution peut s’expliquer en partie par des prix au kilo peu élevés pour les fruits et légumes.

Comme précédemment expliqué, la présente évaluation essaie d’évaluer l’efficience en calculant le rapport entre le nombre d’enfants bénéficiaires dans le groupe cible et le montant total du budget dépensé par enfant. Huit États membres et régions ont atteint un niveau d’enfants bénéficiaires dans le groupe cible supérieur à 60 %. Dans la plupart des cas, ce résultat est dû au montant de leurs dépenses par enfant qui est inférieur à la moyenne.

Dans l’ensemble, les États membres et régions avec un niveau de dépenses très élevé par enfant n’atteignent qu’un faible pourcentage d’enfants dans le groupe cible, à quelques exceptions près comme la Hongrie (77 %) et la Grèce (63 %). Le pourcentage élevé de la Hongrie peut s’expliquer par le fait qu’il n’est distribué qu’une seule sorte de fruit (des pommes).

Cohérence du School Fruit Scheme par rapport aux objectifs généraux de la Politique agricole commune et aux principes d’action communautaires

Le School Fruit Scheme est cohérent par rapport aux objectifs de l’OCM unique qui est l’un des volets de la Politique agricole commune (PAC). Ce programme entend contribuer à la stabilisation du marché européen des fruits et légumes en encourageant la consommation de produits agricoles, en particulier auprès des groupes vulnérables comme les enfants.

Le School Fruit Scheme est aussi en cohérence par rapport aux dispositions du Traité sur le fonctionnement de l’UE relatives à la protection de la santé humaine (art. 168), aux affaires sociales et à l’éducation, et plus particulièrement par rapport aux objectifs de l’Union européenne dans sa stratégie sur les problèmes de santé liés à la nutrition, la surcharge pondérale et l’obésité. Le School Fruit Scheme est également cohérent par rapport à la stratégie Europe 2020, car l’on peut s’attendre à ce qu’un nombre croissant de personnes en bonne santé créent plus de croissance, sachant que le programme vise également à atténuer certains effets vicieux de la pauvreté sur la santé et l’éducation.

Le programme est conforme au principe communautaire de la subsidiarité. Le cadre communautaire général du School Fruit Scheme et les aides allouées par l’UE sont estimés essentiels à une mise en œuvre à grande échelle, au niveau national, qui profite des échanges d’expérience, échanges sur les savoir-faire et les bonnes pratiques au niveau européen.

est défini comme: le nombre de portions distribuées par semaine dans une année scolaire de 200 jours multiplié par la taille de la portion exprimée en grammes.
(5) Pertinence

La pertinence des objectifs spécifiques et du concept du School Fruit Scheme par rapport à la nécessité d'augmenter la consommation en fruits et légumes et d'améliorer durablement les habitudes alimentaires des enfants et de leurs parents au sein de l’Union européenne

Les interviews et l’analyse réalisées permettent de conclure que le programme est extrêmement pertinent par rapport à l’objectif socio-économique visé, à savoir augmenter à court terme la consommation en fruits et légumes des enfants, dans l’objectif de les voir adopter à plus long terme un comportement alimentaire plus sain.

Même si l’impact à court terme semble plus évident, les autorités nationales chargées de la gestion du programme, les services opérationnels, les directeurs d’école et les parents des enfants bénéficiaires interviewés ont également tendance à considérer le programme comme pertinent dans le long terme.

Après seulement deux années, il est difficile d’évaluer la pertinence du School Fruit Scheme par rapport à l’objectif d’encouragement de la consommation en fruits et légumes au sein de l’UE. La demande supplémentaire en fruits et légumes directement générée par la distribution dans le cadre du programme est minime par rapport au volume total du marché européen des fruits et légumes. Cependant, d’après les analyses des évaluations réalisées et de l’avis des experts et autres parties prenantes, le programme communautaire School Fruit Scheme pourrait bien, malgré son budget relativement limité, avoir initié une dynamique qui pourrait gagner en importance. En outre, d’après les recherches bibliographiques réalisées, il pourrait y avoir des effets d’entraînement positifs sur la consommation par transfert des bénéficiaires sur d’autres personnes, mais de tels effets n’entraient pas dans le périmètre de l’évaluation.

La contribution des stratégies nationales à la pertinence et à la valeur ajoutée du School Fruit Scheme

Il ressort de l’analyse détaillée des stratégies nationales que ces stratégies consistent, en premier lieu, en des scénarios de mise en œuvre du School Fruit Scheme dans le pays ou la région en question. En règle générale, elles ne contiennent guère de considérations d’ordre stratégique. Le mode d’élaboration actuel de ces stratégies limite leur emploi en tant qu’outils stratégiques. C’est pourquoi elles n’offrent qu’une pertinence limitée et ne contribuent aussi que faiblement à la création de valeur ajoutée, qui se ferait p. e. en renforçant les partenariats envisagés dans le cadre du programme.

Les charges administratives et organisationnelles liées au School Fruit Scheme

Dans le cadre des recherches réalisées pour l’évaluation, il apparaît que les contraintes administratives liées au School Fruit Scheme, comme p. e. l’obligation d’établir des rapports, sont en moyenne comparables à celles liées à d’autres mesures de la PAC et ne constituent donc pas un obstacle majeur à la participation des écoles et pays. Les charges administratives dans les programmes de plus petite envergure, organisés à l’échelle régionale, se révèlent plus importantes par école participant que dans
les programmes à plus grande échelle, réalisés au niveau national, ceci du simple fait que les charges se comportent comme des coûts fixes et diminuent par unité lorsque l'échelle globale de production augmente. Il ressort de l'évaluation qu'il serait encore possible de réduire les charges administratives en supprimant des contrôles du produit se recoupant avec des contrôles qualité obligatoires, prescrits par la législation nationale.

Selon l'étude de cas, les autorités de contrôle dans les États membres considèrent l'établissement de rapports dans le cadre du School Fruit Scheme comme une charge de travail assez soutenue.

Les études d'évaluation ont mis en évidence le fait que, pour les écoles, les charges organisationnelles et logistiques constituent un véritable frein à leur participation au School Fruit Scheme. Il est ressorti que ces charges, qui vont au-delà des simples contraintes administratives liées à l'établissement de rapports, jouent un rôle important par rapport à l'intérêt suscité par le programme et sa réussite.

(6) Recommandations

Sur la base de la présente étude d'évaluation, il peut être fait les recommandations suivantes quant à la conception et à la mise en œuvre du programme communautaire School Fruit Scheme :

- Stratégies nationales

   Il conviendrait de faire évoluer les stratégies nationales pour qu'elles deviennent des documents plus stratégiques, comprenant des stratégies sur le long terme afin d'améliorer de manière durable la consommation en fruits et légumes des enfants, dans un objectif de protection de leur santé.

- Financement de l'UE

   Le niveau de la part financée par l'UE (actuellement 50 % et 75 % pour les régions de convergence et ultrapériphériques) ainsi que le montant correspondant de l'aide communautaire sont des instruments efficaces pour influer sur l'intérêt suscité par le programme. Une augmentation permettrait de développer l'échelle du School Fruit Scheme et de renforcer son impact sur les habitudes alimentaires des enfants, et de parvenir ainsi à interrompre la tendance à la baisse au niveau de la consommation de fruits et à atteindre le niveau de consommation par enfant nécessaire pour protéger sa santé.

- Dimension socio-économique

   Les caractéristiques socio-économiques ayant un impact sur la nécessité comme sur l'efficacité du programme, il convient de traiter ces caractéristiques et leurs implications de manière adéquate dans les stratégies nationales.

- Mise en œuvre

   Il semble important d'assurer une grande continuité dans la distribution (≥ 35 semaines scolaires) car l'analyse de l'évaluation montre qu'une participation plus longue est corrélée à
un plus fort impact durable et accroît la probabilité d’améliorer les habitudes alimentaires des enfants.

Une fréquence de distribution des fruits et légumes aussi souvent que possible, au moins trois fois par semaine, paraît optimale pour l’efficacité du programme. Une fréquence plus élevée pouvant néanmoins se traduire par un coût organisationnel plus important, il faudrait encourager les écoles et les distributeurs à trouver des modes de mise en œuvre efficaces, p. e. en passant à un mode d’approvisionnement tous les deux jours pour une distribution de fruits et légumes aux enfants sur une base quotidienne.

Le programme devrait prévoir un choix de produits d’au moins 5 à 10 fruits et légumes différents car cela est important pour maintenir l’intérêt des enfants.

🔹 Mesures d’accompagnement

Des mesures d’accompagnement adéquates sont nécessaires pour induire un changement durable dans les habitudes alimentaires. Leur impact dépendant fortement de la manière dont elles sont mises en œuvre dans la pratique (approche théorique de l’intervention, boîte à outils, calendrier, intensité, durée, partenaires et budget), les États membres et régions devraient être encouragés à prêter plus attention à l’approche employée.

Afin de renforcer le rôle des mesures d’accompagnement en tant qu’élément du programme et de faire face aux différentes difficultés rencontrées, il est recommandé de rendre ces mesures éligibles à l’aide communautaire.

🔹 Administration

Afin de faciliter la comparaison entre les informations couvertes dans les documents sur la stratégie et les rapports de contrôle annuels, les stratégies devraient inclure un formulaire obligatoire reprenant les mêmes éléments que dans les rapports de contrôle.

La Commission devrait fournir un cadre structurel plus standardisé pour l’établissement des rapports. Cela permettrait d’analyser les rapports d’évaluation nationaux de manière plus efficace et de mieux les comparer.

Afin de mieux comprendre la répartition des dépenses entre les "produits" et la "logistique", ces éléments de coûts devraient être exposés de manière explicite dans la procédure de contrôle.

🔹 Charges administratives et organisationnelles

Il faudrait supprimer les contrôles du produit qui se recoupent avec des contrôles qualité obligatoires, prescrits par la législation nationale.

Afin de réduire les charges administratives liées au programme SFS, il faudrait vérifier dans quelle mesure on pourrait harmoniser les obligations de contrôle et d’établissement de rapports, voire même l’ensemble de la structure administrative du School Fruit Scheme avec celles d’autres programmes nutritionnels nationaux ou communautaires mis en œuvre dans les établissements scolaires, comme le School Milk Scheme par exemple.

Compte-tenu de l’impact négatif des charges organisationnelles et logistiques sur l’intérêt suscité par le programme dans les écoles, il conviendrait de les étudier de plus près dans les rapports de contrôle et d’évaluation et de prévoir à cet égard des solutions appropriées dans les stratégies nationales.
1 INTRODUCTION

1.1 Background and objectives of the evaluation

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.

Article 168 TFEU requires that all EU policies take into account the protection of the health of the EU citizen. Fruit and vegetables are essential components of a healthy diet. Daily consumption can help to prevent major diseases and health problems related to poor nutrition. The World Health Organisation (WHO) recommends consuming a minimum of 400g of fruit and vegetables per day. The actual fruit and vegetables intake is below the recommended levels in most European countries. In addition, the volume of the EU fruit and vegetables market has shown a declining trend in the last decade which suggests that consumption rates are even decreasing. Net demand has diminished for years and prices are under pressure. One of the objectives of the reformed Common Market Organisation "Fruit and Vegetables" has been to encourage the stagnating consumption of fruit and vegetables in particular for the most vulnerable consumers such as young people.

In November 2008 the Agriculture Council of Ministers agreed on a Commission proposal for a European Union-wide scheme to provide fruit and vegetables to school children. Within this framework an overall annual budget of EUR 90 million was agreed on. This amount is applied to co-finance the European School Fruit Scheme (SFS) in the Member States (on a pro-rata basis between 50% and 75%).

Member States participating in the SFS should monitor and evaluate the implementation of their SFS on a regular basis to show the impact of the intervention.

With the following overall evaluation, the Commission contributes to the reporting obligations laid down in Article 184(5) of the Council Regulation 1234/2007. Recital 15 of the Regulation says "In order to allow time for a smooth implementation of the Scheme, it should apply from the 2009-2010 school year. A report on its implementation should be delivered after three years."

Further, Article 184 says: "The Commission shall present a report before 31 August 2012 to the European Parliament and the Council on the application of the School Fruit Scheme provided for in Article 103ga, accompanied, if necessary, by necessary proposals. The report shall in particular address the issues of the extent to which the scheme has promoted the establishment of well functioning School Fruit Schemes in Member States and the impact of the Scheme on the improvement of children's eating habits."

1.2 Structure of the evaluation

The structure of this evaluation report follows four methodological phases.

Within the phase of (1) structuring, available information sources are identified and the structure, methods and evaluation tools are specified. By analysing the theoretical function-
ing and input – output relation of this policy indicators are derived. They can be used to measure the effectiveness and efficiency of the policy and thus, are crucial to answer the specific evaluation questions.

While Chapter 1 gives an overview of the background and structure of the evaluation, the data and information sources identified and used, are described in Annex 1.3. The intervention logic underlying the School Fruit Scheme is described within the theoretical analysis in Chapter 3. The specific evaluation methods and indicators applied are described individually for each evaluation question in Chapter 4.

The phase of (2) observing covers all activities of data and information gathering and documentation which are required to describe and analyse

- the reference situation in participating Member States before the EU SFS was implemented with respect to national health situation, the occurrence of poor nutrition and the consumption of fruit and vegetables which is described in Chapter 2.1 and 2.2.
- the implementation of the scheme in participation Member States and the uptake of the EU aid from the scheme which is described in Chapter 2.3.
- the answers to the specific evaluation questions which are described in Chapter 4 and to execute the case studies which are specified in Annex 1.4.

This procedure incorporates the collection of available secondary data - e.g. Member States’ Strategy Papers on the School Fruit Scheme, Annual Monitoring Reports (AMR), National Evaluation Reports (NER), relevant EU legislative documents, available official statistics on nutrition and health topics, scientific studies and project reports etc. – as well as the generation of primary data where the secondary data at hand are not sufficient.

For this evaluation primary data are generated basically by an interview survey executed in 10 selected participating Member States which is described in more detail in Annex 1.3. Additionally, where the information from secondary data sources and the interview survey were still not sufficient or provide unclear results, ad-hoc expert interviews (in particular with National Control Authorities) or cross checks of sources were carried out.

The following phase of (3) analysing evaluates all qualitative and quantitative data resulting from phase 1 and 2. This permits answering the evaluation questions (Chapter 4) and preparing the case study reports (Annex 1.4). While the three case studies - executed each in three different countries - focus on the topics Accompanying Measures, co-financing and administrative burden, the evaluation questions focus on the following evaluation criteria:

- **Implementation**: The extent to which the School Fruit Scheme has been implemented as envisaged in the National Strategies (Chapter 4.1).
- **Effectiveness**: The extent to which measures can be expected to achieve the objectives of the strategy (Chapter 4.2).
- **Efficiency**: The extent to which objectives can be achieved for a given level of resources/at least cost (Chapter 4.3.1).
- **Coherence**: The extent to which the intervention does not contradict other interventions with similar objectives (Chapter 4.3.2).
- **Relevance**: The extent to which the intervention is an eligible instrument to reach the specific and overall objectives of the strategy (Chapter 4.4).
The last phase - (4) judging - summarizes the findings of the evaluation. Here, conclusion and recommendations are drawn for each evaluation criterion (Chapter 5).

1.3 Methodology

1.3.1 Methodology of data collection

Desk Research (secondary research) with respect to all European Member States
- Use of official databases like EUROSTAT, FAO-STAT, WHO-STAT, consumption monitor at European level, e.g. freshfel
- Monitoring and Evaluation Reports at Member State level
- Analysis of the legislative documents, scientific literature and project reports
- Analysis of the findings from pilot projects
- Statistical and administrative data gathered in the Commission services and at Member State level

Interview surveys (primary research) in 10 selected participating Member States, Federal Regions25 and the United Kingdom as non-participating Member State.
- Guided interviews (face-to-face or telephone) with National Control Authorities (Ministries), Single Contact Points (e.g. national evaluation institutions), school headmasters of participating schools and parents of participating children.
- Ad-hoc interviews (face-to-face or telephone) with experts in participating Member States and representatives of the European bodies (e.g. DG-AGRI, DG-SANCO, DG-RTD), the Advisory Group on Fruit and Vegetables and the School Fruit Scheme Experts Group on European level.

Case Studies
- On administrative burden in Catalonia, Saxony-Anhalt and Italy
- On Accompanying Measures in Ireland, Netherlands and France
- On co-financing in Flanders, Latvia, North-Rhine Westphalia

1.3.2 Methodology of evaluation

For the evaluation different methods are applied depending on the type and focus of the explicit evaluation question:
- Target-Performance-Comparison (e.g. targets envisaged in the strategies vs. observable impacts of the scheme)
- Before-And-After-Comparison (e.g. consumption of fruit and vegetables before the intervention vs. consumption level after or within the intervention)
- With-/Without Comparison (e.g. effectiveness / efficiency of an independent scheme26 vs. effectiveness / efficiency of the EU SFS)

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26 The national School Fruit and Vegetable Scheme (SFVS) of the United Kingdom (UK) is used as an example for an independent non EU co-financed scheme within the With/Without-Comparison.


- Qualitative methods like expert interviews (e.g. opinion survey)
- Clustering (e.g. to derive best practice examples)
- Cost-Effectiveness-Analysis (e.g. bringing together effectiveness & efficiency criteria)

### 1.3.3 Limitations of the methodology

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 and by using private data.

- 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.
2 DESCRIPTIVE CHAPTER

2.1 Background information

Since an analysis at European level of nutritional behaviour and national health situations does not exist, the main objective of the European nutrition and health report\(^27\) is to collect available data from the Member States in order to provide a reliable, accurate information source on the nutrition and health status. The European nutrition and health report is based on numerous national and regional dietary surveys, WHO-, FAO-, UN-health reports and data sources and on information resulting from Eurobarometer, GLOBOCAN and Data Food Networking.

A joint WHO/FAO Expert Consultation on “Diet, Nutrition and the Prevention of Chronic Diseases” set up recommendations in order to prevent chronic diseases and to reduce negative influencing factors\(^28\). Within the Community the European Food Safety Authority (EFSA) provide reference intakes for energy and certain nutrients as scientific advice for EU policy related to the field of nutrition. Since diet and nutrition have a major impact on maintaining good health, the experts define nutrition intake goals which are summarised in Table 1.

Statements of meeting nutrition recommendations which are presented in this report refer mostly to these goals (WHO recommendations).

In order to present more detailed information on the fruit and vegetables consumption, a key element of the EU School Fruit Scheme, the Freshfel monitor\(^29\) is used as additional data source. When interpreting the consumption data it is necessary to take data limitations into account. Since solid data on observed fruit and vegetables consumption are rare, especially comparable international data, information is derived from statistical data on agricultural production, export and import of fresh fruit and vegetables products.

Data, based on Member States’ fruit and vegetables supply, are determined as:

\[
\text{Total Supply} = \text{Total Production} + \text{Total Imports} - \text{Total Exports}.
\]

Total supply divided by the number of population leads to the estimated per capita consumption per year and can be converted into the daily per capita consumption.

However, FAO data on agricultural production do not specify whether the product is meant for fresh consumption or for being processed. Therefore, Freshfel estimates the share of fresh consumption on the base of industry data. An average wastage of 20% in relation to gross supply is assumed. However, further waste rates occurring along the supply chain are neglected. Hence, consumption data have to be interpreted rather as relative data than in absolute terms.

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### Table 1: WHO / FAO and EFSA nutrition intake goals

<table>
<thead>
<tr>
<th>Dietary factor</th>
<th>Goal WHO/FAO [% of total energy, unless otherwise stated]</th>
<th>Goal EFSA [% of total energy, unless otherwise stated]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total fat</td>
<td>15-30%</td>
<td>20-35%</td>
</tr>
<tr>
<td>Saturated fatty acids</td>
<td>&lt;10%</td>
<td>as low as possible</td>
</tr>
<tr>
<td>Polyunsaturated fatty acids</td>
<td>6-10%</td>
<td>not formulated</td>
</tr>
<tr>
<td>Total carbohydrate</td>
<td>55-75%</td>
<td>45-60%</td>
</tr>
<tr>
<td>Free sugars (sugar which is added to foods)</td>
<td>&lt;10%</td>
<td>not formulated</td>
</tr>
<tr>
<td>Protein</td>
<td>10-15%</td>
<td>male: 62g/day female: 52g/day</td>
</tr>
<tr>
<td>Sodium chloride (salt)</td>
<td>&lt;2-5g per day</td>
<td>not formulated</td>
</tr>
<tr>
<td>Fruit and vegetables</td>
<td>≥ 400g</td>
<td>not formulated</td>
</tr>
<tr>
<td>Total dietary fibre</td>
<td>&gt; 25g per day</td>
<td>&gt; 25g per day</td>
</tr>
</tbody>
</table>

Source: WHO/FAO

### 2.2 Information on health and fruit & vegetables consumption in Europe

#### 2.2.1 Health situation

Adult mortality rate (cp. Annex 1.1) is defined as the probability of dying between the age of 15 and 60. Since this life span represents the most economically productive age the adult mortality rate is an important indicator for international comparisons. Latvia, Lithuania and Hungary show the highest adult mortality rate in Europe, whereas those of Italy, Malta and Cyprus are the lowest. Compared to the global average adult mortality rate of 176 persons, the level in Europe -with the exception of Latvia and Lithuania- is below this average. In all Member States men have a higher mortality rate than women.

According to WHO statistics cardiovascular diseases were the leading cause for death throughout Europe in 2009. According to the European health and nutrition report over-
weight and obesity are primary risk factors for chronic diseases based on malnutrition. Overweight and obesity have an impact on cardiovascular diseases, type 2 diabetes and strokes.

Since 1980, the occurrence of overweight in Europe has tripled or even more than tripled\(^\text{38}\). The European health and nutrition report explains this increase by a more sedentary lifestyle requiring a lower energy intake than the habitual. As a common indicator to detect overweight and obesity the “body mass index” is used. The body mass index (BMI) is an index representing the ratio of weight and height of a person. The WHO defines for adults a BMI equal or higher than 25 (kg/m\(^2\)) as overweight and equal or higher than 30 as obesity\(^\text{39}\).\(^\text{37}\)

For Europe, the WHO reports approximately 20% of children and adolescents to be overweight and one third of them to be obese. “The trend in obesity is especially alarming in children and adolescents. The annual rate of increase in the prevalence of childhood obesity has been growing steadily, and the current rate is 10 times that in the 1970s\(^\text{42}\).” Despite the clear definition of overweight and obesity for adults, a general definition for children is not in use. Common classifications cause regional differences. The UK national BMI percentiles classification is widely used for cross country comparison.

Figure 1 to Figure 4\(^\text{43}\) show the distribution of overweight and obesity among children for the age groups 4-6 and 7-9 years for Member States which utilise the UK classification. The distribution of overweight and obesity among older children and adults is displayed in Annex 1.1. Overweight and obesity occurs already at an early age. For example 24% of Portuguese boys aged between 4 and 6 years are reported to be overweight or obese. Portuguese girls of the same age are even affected up to 27%. The highest rate within the age group of 7-9 years is noticed for Italy (36% of boys and 35% of girls). Within the age group of 10-14 years the highest rate can be observed for Spanish children (36% of girls and 34% of boys). For adolescents (15-18 years), overweight and obesity among Greek boys exceed one third (36%).


\(^{38}\) WHO (2007): “The challenge of obesity in the WHO European Region and the strategies for response”, p. 9


\(^{41}\) Differences between Member States might be related to different methods of measurements and therefore are not interpreted. BMI data measured by researchers are provided whenever available. A comparison between measured and self-reported data in various countries states remarkable differences.

\(^{42}\) WHO (2007): “The challenge of obesity in the WHO European Region and the strategies for response”, p. 1

\(^{43}\) BMI data measured by researchers are provided whenever available. A comparison between measured and self-reported data in various countries states remarkable differences.
Figure 1: Overweight and obesity among European girls (7-9 years)

Source: ELMADFAR (2009)

Figure 2: Overweight and obesity among European boys (7-9 years)

Source: ELMADFAR (2009)
Figure 3: Overweight and obesity among European girls (4-6 years)

Source: ELMADFAR (2009)

Figure 4: Overweight and obesity among European boys (4-6 years)

Source: ELMADFAR (2009)
2.2.2 Consumption of fruit and vegetables

The European health and nutrition report points at a higher availability for fruit and vegetables in southern Europe\(^44\), more significant for fruit. Whereas a high vegetables availability is noticed for Cyprus and Greece, it is less for Portugal and Spain.

An increase in the availability of fruit and vegetables juices is indicated for all European countries\(^45\). The fruit and vegetables consumption under-achieves the WHO-recommendation of a daily intake of 400g in 10 Member States. The low consumption “[...] is unfavourable for the energy density of the diet”\(^46\). In addition, a small fibre intake is noticed throughout Europe\(^47\). Freshfel presents a per capita fruit supply of 85.8 kg in the EU 27 for 2010, which is 7.6% below the average of the previous five years (2005-2009.) Per capita vegetable supply declined by 8.3% compared to the average of the previous five years and reaches 81.2 kg in 2010\(^48\).

**Figure 5: Development of fruit & vegetables consumption 2006/2010 (gram per capita/day)**

![Graph showing consumption](source: FRESHFEL (2012))

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\(^{46}\) WHO (2007): “The challenge of obesity in the WHO European Region and the strategies for response”, p. 74

\(^{47}\) WHO (2007): “The challenge of obesity in the WHO European Region and the strategies for response”, p. 75

\(^{48}\) FRESHFEL (2012): “Fresh fruit and vegetable production, trade, supply & consumption monitor in the EU-27 (covering 2005-2010)”, p. 22
Figure 5 shows the fruit and vegetables consumption for the 24 Member States participating in the SFS and UK in 2006 and 2010 based on the data provided by Freshfel. Fruit and vegetables consumption can be viewed as a key indicator for healthy eating in general and therefore marks the occurrence of malnutrition as well. Portions of fruit and vegetables in the daily diet vary from country to country. The vegetables consumption in Belgium, for example, is almost three times higher than the fruit consumption whereas fruit consumption in Italy or the Netherlands exceeds the vegetables intake.

Cyprus (748g), Romania (727g), and Greece (717g) have the highest fruit and vegetables consumption per capita. Lithuania (251g), Czech Republic (294g), Latvia (326g) and Bulgaria (327g) are the Member States with the lowest per capita consumption of fruit and vegetables. Within the European health and nutrition report fruit and vegetable consumption is reported to be remarkably below the average for northern Europe (Denmark, Estonia, Finland, Latvia, Lithuania, Norway, Sweden) reaching 129g and 140g, respectively per day. Fruit consumption in Western Europe (Belgium-Luxembourg, France, Ireland, The Netherlands, United Kingdom) reaching 113g/day, is even lower. A higher availability of fruit in Italy, Spain and Portugal is interpreted as reference to consumption preferences.

Elmadfar concludes that “[…] on average, only four countries (Poland, Germany, Italy, Austria) have met the recommendation of consuming at least 400g of fruits & vegetables per day.”

Regarding the development of the total fruit and vegetables per capita consumption from 2006 to 2010, variations can be observed for all Member States. Since these consumption data are based on theoretical calculations of market balances, the per capita consumption can only be interpreted as rough estimation. However, tendencies become obvious. With the exception of Denmark and Luxembourg, fruit and vegetables consumption figures have declined from 2006 to 2010. Unfortunately comprehensive scientific research on the decline in fruit and vegetables consumption is missing so that reasons for this development remain unclear.

Citizens of Spain eat most frequently fruit daily (70%). Estonia (57%), Romania (46%) and Bulgaria (45%) are found at lower ranks. With the exception of Estonia and Bulgaria data do not correspond well with the average daily per capita consumption; especially for Slovenia, self-assessment refers to much higher fruit consumption. The French and Belgian populations eat more often vegetables than fruit. Habitual daily vegetables consumption

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53 EUROSTAT collected data from 17 Member States and 3 other countries* who conducted a first wave of the European Health Interview Survey (EHIS) between 2006 and 2009. The EHIS contains a question on self-reported consumption of “How often do you eat fruits (excluding juice)? Twice or more a day, once a day, less than once a day but at least once a week, less than 4 times a week but at least once a week, less than once a week and never”. The Consumption of fruits indicator gives the proportion of people reporting to eat fruits excluding juice at least once a day by answering ‘Twice or more a day’ or ‘Once a day’. In addition the EHIS contains a question on self-reported consumption of “How often do you eat vegetables or salad (excluding potatoes and juice)? Twice or more a day, once a day, less than once a day but at least 4 times a week, less than 4 times a week but at least once a week, less than once a week and never”. The Consumption of vegetables’ indicator gives the proportion of people reporting to eat vegetables excluding potatoes and juice at least once a day by answering ‘Twice or more a day’ or ‘Once a day’ to the EHIS question.
is reported from the interviews to be 86% for Belgium, 77% for France and 75% for Slovenia. Approximately half of the Estonian (52%), Maltese (51%) and Slovakian (51%) interviewees quote to eat vegetables daily (Figure 7). Again data do not correspond well with per capita consumption (Figure 5).

**Figure 6: Percentages of population aged older than 15 years reporting to eat fruit at least once a day (2006-2009)**

![Figure 6: Percentages of population aged older than 15 years reporting to eat fruit at least once a day (2006-2009)](image)

Source: EUROSTAT

**Figure 7: Percentages of population aged older than 15 years reporting to eat vegetables at least once a day (2006-2009)**

![Figure 7: Percentages of population aged older than 15 years reporting to eat vegetables at least once a day (2006-2009)](image)

Source: EUROSTAT
Children’s fruit and vegetables consumption has been analysed for girls and boys aged 11 to 15 years in the *Health Behaviour in School-aged Children (HBSC)* survey in 2005/06\(^{54}\). In general girls eat more fruits and vegetables than boys. With the exception of vegetables consumption in Italy and Latvia, younger children (11-year-old) eat more fruit and vegetables than older (15-year-old). Children like fruit more than vegetables:

Among 11-year-old girls, 28-56% eat at least one piece of fruit per day but, neglecting the high vegetables consumption in Belgium (61%), only 14-42% consume vegetables daily\(^{55}\). Among the 15-year-old girls, 23-46% eat one piece of fruit per day and 19-50% vegetables, again leaving Belgium (61%) out. Highest fruit consumption rates among girls are observed for Denmark, Portugal and Slovakia (Figure 8). Girls coming from Central and Eastern European States, e.g. from Slovakia, Estonia, Lithuania and Latvia, report the lowest fruit consumption.

The share of boys aged 11 that consume at least one piece of fruit per day is at 21-48% (Figure 9) and 12-46% for vegetables (Figure 11). Consumption decreases in most Member States for 15-year-old boys, among which 36-15% consume fruit and 8-34% vegetables daily, neglecting the high vegetables consumption in Belgium (46%). Portugal, Malta, Romania and Belgium are the Member States with the highest fruit consumption rate for boys. Again, like for the girls, Slovakia, Estonia, Lithuanian and Latvia show the lowest fruit consumption rates. For both sexes vegetables consumption is more common in Belgium, the Netherlands and France and less popular in Latvia, Austria and Malta (Figure 10, Figure 11).

The European health study “Health at a glance: Europe 2010” points out that children’s fruit consumption depends on various factors. It is influenced by socioeconomic factors like the family’s income and parents’ consumption habits, by geographical factors like climate, economic factors like opportunity costs and by availability of fruit and preparation time\(^{56}\). According to a EUROSTAT estimation almost 10% of the EU-27 households are not able to provide children with fruit on a daily basis, thereof 4.4% due to the fact that the household cannot afford it\(^{57}\). Fruit provision in EU-27 households is particularly rare for poor\(^{58}\) (17% without daily fruit provision for children) and materially deprived\(^{59}\) (24% of population).

\(^{54}\) The survey is carried out on a nationally representative sample in each participating country. The sample consists of a total of 4500 from each participating country, approximately 1500 samples per age-group. Data collection uses standardised questionnaires which are completed by the pupils.


\(^{58}\) The at-risk-of-poverty persons are the individuals living in households where equalised disposable income is below the threshold of 60% of the national equalised median income.

\(^{59}\) The materially deprived persons are people with an enforced lack of at least three out of nine material deprivation items in the ‘economic strain and durables’ dimension. The nine items considered are: 1) arrears on mortgage or rent payments, utility bills, hire purchase instalments or other loan payments; 2) capacity to afford paying for one week's annual holiday away from home; 3) capacity to afford a meal with meat, chicken, fish (or vegetarian equivalent) every second day; 4) capacity to face unexpected financial expenses [set amount corresponding to the monthly national at-risk-of-poverty threshold of the previous year]; 5) household cannot afford a telephone (including mobile phone); 6) household cannot afford a colour TV; 7) household cannot afford a washing machine; 8) household cannot afford a car and 9) ability of the household to pay for keeping its home adequately warm.
Figure 8: Percentages of 11- and 15-year-old-girls reporting to eat fruit at least once a day (2005-2006)

Source: OECD (2010)

Figure 9: Percentages of 11- and 15-year-old boys reporting to eat fruit at least once a day (2005-2006)

Source: OECD (2010)
Figure 10: Percentages of 11- and 15-year-old-girls reporting to eat vegetables at least once a day (2005-2006)

* aggregated data: average of regional data
Source: OECD (2010)

Figure 11: Percentages of 11- and 15-year-old-boys reporting to eat vegetables at least once a day (2005-2006)

* aggregated data: average of regional data
Source: OECD (2010)
2.3 Description of the School Fruit Scheme implementation

The following description of the implementation of the EU School Fruit Scheme is mainly based on the so called National Strategies and the Annual Monitoring Reports (AMR) of the individual Member States participating in the scheme. One of the requirements for applying for EU aid to implement the scheme is the submission of a strategy, which has to be submitted to the Commission prior to the period of implementation. Participating Member States / Regions are relatively free in the layout of their National Strategies. This leads to a limited comparability between them. In order to increase comparability of the strategies and to ensure that no basic information is missing the length of strategies handed in would have to be limited and a list of compulsory data would have to be formulated. On the other hand the planning of the strategies has to be flexible enough to allow adaptation, since they are submitted before implementing the scheme. Thus, an increase in informative value of the submitted strategies should go along with flexibility for adaptation to new strategic needs. In this way the value of the National Strategies for evaluating the EU School Fruit Scheme can increase.

In addition to providing a National Strategy, every participating Member States is obliged to submit an AMR with details of the programme implementation according to the Article 12 of the Council Regulation 288/2009. These reports should be submitted on the basis of a uniform template, which has been modified for 2010/11 due to experiences gained in the year before. Before, each single Member State reported in different ways covering also a different scope. The newly designed template, requiring obligatory declarations, leads to more accurate and sounder results than those received from the template used in 2009/2010.

In the chapter “Uptake of the SFS aid” (Chapter 2.3.2), data from Member States / Regions are compared with each other and with the average of all or selected groups of Member States / Regions. The data are rather heterogeneous in many aspects and in many cases strong variations are found from the arithmetic average in individual pieces of data. The median adjusts relatively well strong variations from individual pieces of data and is thus used in the following chapter.

2.3.1 Implementation of the School Fruit Scheme in EU Member States

The SFS is implemented at Member State level as national or regional scheme. National schemes are based on a uniform approach and are centrally developed, implemented and administered. As can be seen in Table 2 the majority of Member States (21) implemented the schemes at a national level. Belgium, Germany and Spain implemented the SFS at regional level. In Germany the Federal States are responsible for establishing school fruit programmes. Out of 16 Federal States in Germany, 7 decided to participate in the European programme.

Regional programmes can be differentiated into two types, depending on the level of freedom to make decisions according to the regional authorities.

- Schemes with a national framework, but a regional impact and management
  
  Spain’s programme is implemented in a standardised way which still allows sufficient flexibility to take individual regional administrative requirements into account. The AMR reveals that the regions made specific changes to the scheme’s parameters.

- Regional (State) schemes without a national framework
These programmes are developed, implemented and administered under the responsibility of the regional or federal administrative bodies. In such instances individual strategies and AMR are submitted for each programme, for example in the case of Flanders and Wallonia or the seven German federal states mentioned in Table 2. Reports and strategies of these regions are treated equally to national reports and strategies.

### Table 2: Implementation of SFS in participating Member States in 2010/11

<table>
<thead>
<tr>
<th>National schemes</th>
<th>Regional School Fruit Schemes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of MS</strong></td>
<td>21</td>
</tr>
<tr>
<td><strong>Countries</strong></td>
<td>AT, BG, CY, CZ, DK, EE, FR, GR, HU, IE, IT, LT, LV, LU, MT, NL, PL, PT, RO, SK, SV</td>
</tr>
<tr>
<td><strong>With a national framework and regional impact</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Without a national framework</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Implementation period of each scheme

Different programme durations are applied across the Member States which vary highly from the original parameters stated in the Strategy Papers (Table 3).

### Table 3: Variance in the duration of the School Fruit Scheme

<table>
<thead>
<tr>
<th>Planned duration of the SFS</th>
<th>Strategies</th>
<th>AMR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009/10</td>
<td>2010/11</td>
</tr>
<tr>
<td>months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2*</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>2*</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5 or more</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Strategies/AMR’s suitable</td>
<td>27</td>
<td>17</td>
</tr>
<tr>
<td>Strategies/AMR’s available</td>
<td>1</td>
<td>31</td>
</tr>
</tbody>
</table>

* Information results from Strategy Papers 2010/11
The involvement of stakeholders from different backgrounds in the EU School Fruit Scheme is envisaged in its regulation. The aim of this seems to be to involve as many interested parties as possible in order to assure the scheme the greatest possible support at all levels of society. A comparison between the strategy and the AMR from 2010/11 shows that the planned implication of different stakeholders in this period has been successfully put into action.

As shown in Table 4 all relevant stakeholders are successfully involved, whereby the emphasis lies on the Educational Sector, Public Health and Agriculture. This has appeared to be the most common combination of stakeholders in all strategies and AMR traceable in the second part of Table 4.

Table 4: Stakeholders involved in the national School Fruit Schemes

<table>
<thead>
<tr>
<th>Categories of Stakeholder</th>
<th>Number of entries</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strategies</td>
<td>AMR</td>
<td></td>
</tr>
<tr>
<td>Educational sector</td>
<td>ED</td>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>Public Health</td>
<td>PH</td>
<td>22</td>
<td>18</td>
</tr>
<tr>
<td>Agriculture</td>
<td>AG</td>
<td>21</td>
<td>17</td>
</tr>
<tr>
<td>Public Sector</td>
<td>PS</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>Private sector</td>
<td>PrS</td>
<td>8</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Combination of Stakeholders</th>
<th>Number of entries</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strategies</td>
<td>AMR</td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>3</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>ED/AG</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>ED/PH/AG</td>
<td>10</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>ED/PH/AG/PS</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>ED/PH</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>ED/OH/AG/PrS</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>AG/PS/PrS</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Strategies/AMR’s suitable 23 19 31
Strategies/AMR’s available 31 31 31

Participating schools and children

According to the AMR 2010/11, 54,267 schools participated in the SFS and 8,146,290 children in total took part in the 31 participating Member States / Regions respectively (Table 5). For the Member States / Regions, for whom a strategy and an AMR 2010/11 report is available, planned and executed numbers correspond relatively well. On average, 11.8% more
schools than planned participated, whereas 12.0% less children than planned have been reached by the scheme.

Table 5: Number and type of participating schools and children

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating Schools</td>
<td>6,431</td>
<td>10,349</td>
<td>54,267</td>
</tr>
<tr>
<td>Participating Children</td>
<td>5,320,448</td>
<td>4,856,616</td>
<td>8,146,290</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating Schools</td>
<td>31</td>
<td>28</td>
<td>31</td>
</tr>
<tr>
<td>Participating Children</td>
<td>31</td>
<td>28</td>
<td>31</td>
</tr>
</tbody>
</table>

Given a predetermined budget, the percentage of schools, that can participate in the scheme, is by definition dependent on the predetermined distribution pattern for the fruit and vegetable both in terms of frequency and the given time period. A low distribution frequency (distributed portions per week) coupled with a short time period (a few weeks instead of a whole school year) and with a decreasing intensity can easily result in the involvement of more schools and children and thus result in a higher total percentage involvement of schools and children.

The actual number of children in the target group of each Member State is not of great significance as the initial EU SFS budget has been distributed on the basis of the ratio of children in the Member State to the target group. Only if a Member State is allowed to use money which has not been spent in another Member State a greater proportion of children or a higher distribution rate can be achieved.

Concerning the ratio of schools / children of the target group in the Member States, all possibilities are represented relatively evenly. The Member States select different age groups for the allocation of school fruit. These age groups are then referred to their respective educational institutions. Differences in the age groups referred to corresponding types of schools
may occur from one Member State to another. Whilst taking into consideration repeat selections, the following distribution pattern emerges (Table 6).

Table 6: Age of participating children and types of schools

<table>
<thead>
<tr>
<th>Age group in years</th>
<th>Type of school (may differ slightly)</th>
<th>Number of entries (multiple answers)</th>
<th>Strategies</th>
<th>AMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger than 6</td>
<td>Nursery School</td>
<td>8</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>From 6 until 12</td>
<td>Primary School</td>
<td>31</td>
<td>15</td>
<td>31</td>
</tr>
<tr>
<td>Older than 12</td>
<td>Secondary School</td>
<td>6</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Strategies/AMR’s suitable</td>
<td></td>
<td>31</td>
<td>15</td>
<td>31</td>
</tr>
</tbody>
</table>

According to Table 6, all Member States, submitting a strategy and a AMR for 2010/11, target at least the primary school. This plan has been put into action in all Member States. The Member States focus on children younger than 12 years old. However, the implementation in secondary schools has been expanded as the comparison between Strategy Papers and AMR shows.

On average, Member States provide fruit within the SFS to more than one age group and type of school. The following Table 7 shows how many types of schools participated in the programme at Member State level.

Table 7: Number of school types involved in the SFS

<table>
<thead>
<tr>
<th>Age group in years</th>
<th>Type of school (may differ slightly)</th>
<th>Number of entities (multiple answers)</th>
<th>Strategies</th>
<th>AMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger than 6</td>
<td>Nursery school</td>
<td>8</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>From 6 until 12</td>
<td>Primary school</td>
<td>31</td>
<td>15</td>
<td>31</td>
</tr>
<tr>
<td>Older than 12</td>
<td>Secondary school</td>
<td>6</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Strategies/AMR’s suitable</td>
<td></td>
<td>31</td>
<td>15</td>
<td>31</td>
</tr>
<tr>
<td>Strategies/AMR’s available</td>
<td></td>
<td>31</td>
<td>31</td>
<td>31</td>
</tr>
</tbody>
</table>

Fifteen Member States concentrate their SFS entirely on one type of school or one age group (AMR 2010/11). Nine chose two age groups and seven involve all types of schools and thus all children from an age of less than six years (mostly over four years) until sixteen years. With the exception of eight strategies of 2010/11 this distribution was planned this way as...
well. Four Member States open up their programme for different types of schools. These results however have to be handled with care, since five strategies did not provide information about the school types involved.

- Implementation parameters of the schemes

The scheme’s parameters are partially determined by the regulation and partially by the strategies. The AMR demonstrate to what extent each Member State is able to realise its intended strategy. The following parameters determine the way in which the children consume fruit and vegetables:

- Quantity in kg or l,
- Number of portions distributed,
- Size of portions,
- Distribution frequency,
- Period of time implemented.

Thus, the acceptance of a scheme depends on several factors, such as the quality of the products, the variety and variation on offer and the period of time chosen for the distribution, as well as the amount on offer. Fresh products are used in all the schemes. In 11 cases processed products are also distributed (Table 8), e.g. unsweetened fruit and vegetable juices, raisins, unsweetened compote, dried fruit, deep frozen products, mixed pickles, gherkins and soup without added sugar, salt or fat. The share of processed products varies from approximately 1% in North Rhine-Westphalia to 62% in Slovakia. 18 Member States have explicitly integrated exotic fruits, which need to be imported into the EU, 4 Member States emphasise on the use of organic and/or local produce.

Table 8: Type of products distributed

<table>
<thead>
<tr>
<th>Distributed Products</th>
<th>Number of entries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strategies</td>
</tr>
<tr>
<td>Fresh fruit</td>
<td>22</td>
</tr>
<tr>
<td>Fresh and processed products</td>
<td>7</td>
</tr>
<tr>
<td>Strategies/AMR's suitable</td>
<td>29</td>
</tr>
<tr>
<td>Strategies/AMR's available</td>
<td>31</td>
</tr>
</tbody>
</table>

Table 9: Amount of produce distributed

<table>
<thead>
<tr>
<th>Kind of Products distributed</th>
<th>AMR 2010/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of entries</td>
</tr>
<tr>
<td>Fresh in t</td>
<td>31</td>
</tr>
<tr>
<td>Processed in 1000 l, if juice, only without added sugar</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total (fresh and processed products)</strong></td>
<td>-</td>
</tr>
<tr>
<td>Strategies/AMR's reviewed</td>
<td>31</td>
</tr>
</tbody>
</table>
As can be seen in Table 9, all Member States / Regions have distributed fresh fruit and vegetables during the SFS. An additional demand on fruit and vegetables of 43,730 tons has been created in 2010/11. This makes 0.06% of the total gross net supply\textsuperscript{60} in the EU 27 fruit and vegetables market\textsuperscript{61}. A third of them have distributed processed products as well, but these contribute only to 8.6% of the total amount.

Dietary experts recommend a minimum daily intake of fruit and vegetable of 400\textsuperscript{62} to 625g\textsuperscript{63} for all children aged between six and sixteen years. This amount should be distributed over a whole day in the form of at least five small portions, which account for an individual portion of 80 to 125g. The SFS is designed to transmit this information and help youngsters to change their eating habits.

The definition of the size of a portion is, together with the frequency and the distribution time period, a crucial factor in increasing children’s consumption of fruit and vegetables as well as influencing their eating habits. The size of a portion, like the other important factors, forms a critical value, plays a vital role and is decisive in achieving the desired preventative effects. Not all strategies record whether a specific size of portion was pre-determined or even desired, thus a comparison between strategies and AMR is difficult. In the AMR, however, data have been provided by almost all participating Member States (Table 10).

Table 10: Reported portion sizes

<table>
<thead>
<tr>
<th>Portion size (g)</th>
<th>Strategies 2010/11</th>
<th>Strategies 2011/12</th>
<th>AMR 2010/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 – 74</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>75 - 99</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>100 - 124</td>
<td>4</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>125 - 149</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>150 - 174</td>
<td>1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>175 - 199</td>
<td>0</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>≥ 200</td>
<td>0</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Strategies/AMR’s suitable</td>
<td>12</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td>Strategies/AMR’s available</td>
<td>31</td>
<td>31</td>
<td>31</td>
</tr>
</tbody>
</table>

Most AMR assume a size per portion of 100 g or more; these cases all meet nutritional requirements. Seven schemes record a portion size of 50 to 99g, which lies below the recommended amount. This would only just be appropriate for children under ten years\textsuperscript{64}. In six

\textsuperscript{60} Goss net supply = net domestic production and imported minus exported fruit and vegetables, minus 20% waste margin

\textsuperscript{61} FRESHFEL (2010): “Freshfel Fruit and Vegetable Production, Trade, Supply & Consumption Monitor in the EU”, p. 18


\textsuperscript{64} Deutsche Gesellschaft für Ernährung (2008): Ernährungsbericht 2008, p. 61
schemes, the reported portion size is 200g and above, showing a great commitment to distributing fruit and vegetables to children.

Distribution frequency forms a further important factor for the continuation of the increased consumption of fruit and vegetables and the improvement of children’s eating habits. Furthermore, in addition to details related to the size of a portion, a major factor is the amount on offer. Member States were allowed to give multiple answers in Table 11, since distribution patterns often rely on a local or school-based concept.

**Table 11: Frequency of distribution**

<table>
<thead>
<tr>
<th>Frequency of distribution per week</th>
<th>Number of entries (multiple answers)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strategies</td>
</tr>
<tr>
<td></td>
<td>2010/11</td>
</tr>
<tr>
<td>Once</td>
<td>9</td>
</tr>
<tr>
<td>Twice</td>
<td>3</td>
</tr>
<tr>
<td>Three times</td>
<td>3</td>
</tr>
<tr>
<td>Four times</td>
<td>1</td>
</tr>
<tr>
<td>Five times = daily</td>
<td>3</td>
</tr>
<tr>
<td>Strategies/AMR's suitable</td>
<td>17</td>
</tr>
<tr>
<td>Strategies/AMR's available</td>
<td>31</td>
</tr>
</tbody>
</table>

As one can observe in Table 11, executed strategies of distribution in the AMR highlight a distribution once to twice a week (25 entries). This emphasis is stronger than in the strategies 2010/2011. Nine Member States report a daily fruit distribution. However, approximately half of all reports and strategies do not report on the frequency, therefore these results have to be interpreted with care.

**Table 12: Duration of distribution**

<table>
<thead>
<tr>
<th>Duration of distribution</th>
<th>Number of entries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strategies</td>
</tr>
<tr>
<td></td>
<td>2010/11</td>
</tr>
<tr>
<td>&lt; 4</td>
<td>1</td>
</tr>
<tr>
<td>4 - 12</td>
<td>5</td>
</tr>
<tr>
<td>13 - 20</td>
<td>4</td>
</tr>
<tr>
<td>21 - 35</td>
<td>5</td>
</tr>
<tr>
<td>&gt; 35</td>
<td>7</td>
</tr>
<tr>
<td>Strategies/AMR's suitable</td>
<td>20</td>
</tr>
<tr>
<td>Strategies/AMR's available</td>
<td>31</td>
</tr>
</tbody>
</table>

The Member States submit reports on a wide variety of distribution models, which are frequently adapted to specific age groups. Table 12 shows the duration of distribution in weeks, whereas in “> 35 weeks” all entries stating “whole year” or “whole school year” are integrated.
as well. Since the exact amount of weeks within a school year is different from Member State to Member State, no exact number can be given here.

According to the AMR, 27 out of 31 reporting Member States distribute longer than 20 weeks in 2010/11, meaning longer than half a school year. Most Member States which indicate durations of distribution in their strategies decide on a period of 35 weeks at least.65

Table 11 and Table 12 show that the most popular strategy for distributing fruit and vegetables is once or twice a week throughout at least half a school year.

The AMR and strategies do not provide any explanation on which criteria determine the choice of a particular distribution model together with the duration of its implementation. It is probable that a restricted budget and the aim of involving as many children as possible highly influence the projects in most Member States.

The range of products offered has a determined influence on the acceptance of a scheme. With the exception of Romania and Hungary, which declare only apples as being distributed in the AMR 2010/2011, all other Member States include varying lists of approved/distributed products in their strategies and AMR.

Dietary experts and nutritionists agree that it is not important when an extra portion of fruit is eaten; in a school context the most positive influence on eating habits can be achieved thanks to a group experience.66 Information given in the AMR leads to the results displayed in Table 13.

Table 13: Distribution time within the day

<table>
<thead>
<tr>
<th>Distribution time</th>
<th>Number of entries (multiple answers)</th>
<th>AMR 2010/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Morning break</td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>Lunchtime</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Afternoon</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Throughout the day</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Unspecified</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>AMR’s reviewed</td>
<td></td>
<td>31</td>
</tr>
</tbody>
</table>

The majority of distributions throughout the day in the school year 2010/11 have been taken place in the morning. In 22 of the 31 Member States submitting an AMR in 2010/11, fruit and vegetables have been distributed at least in the morning break. Therefore the SFS meets the day time with the children’s highest deficits in fruit and vegetables consumption67. Just five Member States left the distribution time unspecified and thus to coordination of the schools.

65 Spain is stated as not applicable in the Annual Monitoring Reports of Table 12, because the duration of distribution is a concern of every single region, thus no significant result is available. The same procedure took place in Strategies 2010/11, where Baden Württemberg gave several models of the programme with different durations of distribution, from which schools could choose. Other entries in “not applicable” are due to lack of information in the available strategies.

66 BUNDEMINISTERIUM ERNÄHRUNG, LANDWIRTSCHAFT & VERBRAUCHERSCHUTZ (2010) : Handbuch Schulobstprogramme, p. 18

67 BUNDEMINISTERIUM ERNÄHRUNG, LANDWIRTSCHAFT & VERBRAUCHERSCHUTZ (2010) : Handbuch Schulobstprogramme, p. 15
Accompanying Measures (ACM)

According to Article 3 paragraph 4 of the EU strategy as defined in the Council Regulation 288/2009, all Member States are obliged to implement ACM; whereby the Member States are allowed to define what is appropriate. Table 14 illustrates the application of this regulation.

Table 14: Spending on Accompanying Measures (AMR analysis)

<table>
<thead>
<tr>
<th>AMR</th>
<th>Spending on ACM (EUR)</th>
<th>Number of entries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009/10</td>
<td>2010/11</td>
</tr>
<tr>
<td>Total of all applicable AMR's</td>
<td>3,943,096.30</td>
<td>5,266,574.00</td>
</tr>
<tr>
<td>Total of all applicable AMR's without IE</td>
<td>2,369,165.30</td>
<td>3,727,245.00</td>
</tr>
<tr>
<td>Ratio to total budget in %</td>
<td>7.1</td>
<td>5.3</td>
</tr>
<tr>
<td>Ratio to total budget in % without IE</td>
<td>4.5</td>
<td>3.8</td>
</tr>
<tr>
<td>Spending per child in € all included AMR's</td>
<td>3.86</td>
<td>3.41</td>
</tr>
<tr>
<td>Spending per child in € all included AMR's without IE</td>
<td>1.90</td>
<td>1.55</td>
</tr>
<tr>
<td>Less than 0.10</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>0.11 – 0.25</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>0.26 – 0.50</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>0.51 – 1.00</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.01 – 2.00</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>2.01 – 5.00</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>More than 5.00</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>AMR's suitable</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>AMR's available</td>
<td>28</td>
<td>31</td>
</tr>
</tbody>
</table>

* Note: IE = Ireland

Ireland went on with its special way of intensively using ACM in the school year 2010/11 with 60.45% of its total budget (62.34% in 2009/10) and 25.81€ (29.28%) per child spent on ACM. The Irish scheme is based on an intensive educational period of teaching backup over a period of 16 days during which fruit is also distributed. However, most costs are not caused by ACM in the sense of the above-mentioned EU regulation. The additional costs appear for rewards distributed to the children, when they eat fruit and vegetables voluntarily.

Leaving aside the Irish approach, the remaining Member States spent EUR 3,727,245 on ACM in 2010/11, which corresponds to 3.8% of their total budget or EUR 1.55 per child. Compared to the 2009/2010 school year the money spent per child decreased significantly by about 18% in the school year 2010/2011. This reflects the strong increase of children participating in the programme compared to 2009/10.

The submitted AMR do not include a detailed analysis of the costs incurred by each individual measure. It should be remembered that, for example, teachers do not incur any additional
expense when teaching their classes on the benefits of eating more fruit and vegetable. Thus, the money spent per child does not have to be correlated to the effort of time per child spent in ACM.

All reporting Member States use posters as a means of communication in 2010/11 (Table 15), which was planned roughly the same way in the strategies. In two-third of all reporting Member States the SFS is presented via internet. However, just 41% of all applicable strategies 2010/11 show the same attempt, thus many Member States seem to have decided later in the process of implementation to use the internet. In some cases the Internet is used as a communication medium between teachers and children. Parents are also frequently identified as a target group of internet communication.

Many of the ACM implemented are described in great detail in strategies and reports and cover a wide range of activities. In terms of the pedagogical methods employed, great differences can be observed, which are summarized in two categories: knowledge transfer und action oriented measures (Table 15).

Knowledge transfer includes teaching methods designed to encourage cognitive learning. They include the fields of knowledge transfer in relation to the health benefits engendered by consuming more fruit and vegetable, as well as information on recommended daily consumption and useful information about the product itself. The three main fields of health, nutrition and agriculture are covered in a well balanced combination with emphasise on aspects of healthy nutrition. 28 out of 30 reporting Member States employ knowledge transferring measures.

Action orientated measures are used in 20 Member States; farm visits and school gardening are particularly common. The number of Member States planning to do knowledge transfer and/or action orientated measures in their strategies 2010/11 corresponds with the number of Member States putting these into action in that year.

### Table 15: Accompanying Measures: toolkits observed

<table>
<thead>
<tr>
<th>Accompanying Measures</th>
<th>Number of entries (multiple answers)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strategies 2010/11</td>
</tr>
<tr>
<td>Poster</td>
<td>28</td>
</tr>
<tr>
<td>Knowledge transfer</td>
<td>29</td>
</tr>
<tr>
<td>Action oriented measures</td>
<td>21</td>
</tr>
<tr>
<td>Internet presentation</td>
<td>12</td>
</tr>
<tr>
<td>Strategies/AMR's suitable</td>
<td>29</td>
</tr>
<tr>
<td>Strategies/AMR's available</td>
<td>31</td>
</tr>
</tbody>
</table>

2.3.2 Uptake of the EU aid for the School Fruit Scheme

#### Comparison of budget planning in strategies and AMR

Comparing the submitted strategies with the reports leads to the conclusion that the strategies have to be considered as declarations of intent and implementation scripts rather than as strategic documents.
In the 31 participating Member States / Regions taken together the planning was to use in total EUR 146,067,886 (including EU funds) for the SFS, but only EUR 99,947,839 has been spent, adding up to 68.43% of the planned budget.

Three Member States (Czech Republic, Hungary and Slovakia) spent more than they had planned. Italy is the only Member State spending exactly what was planned in its strategy 2010/11. Other Member States / Regions spent in part significantly less for their programmes than envisaged in their strategies (Table 16).

Table 16: Comparison of planned budgets in strategies and AMR of 2010/2011

<table>
<thead>
<tr>
<th>Achievement rate in %</th>
<th>Number of entries</th>
<th>Member States / Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 100</td>
<td>3</td>
<td>CZ, HU, SK</td>
</tr>
<tr>
<td>75 – 100</td>
<td>12</td>
<td>DE/NRW, DE/RP*, DE/SL, DE/ST, DK, IT, LU, MT, LV, NL, PL, SI</td>
</tr>
<tr>
<td>50 – 74</td>
<td>8</td>
<td>BE, CY, DE/BY, DE/TH, EE, ES, IE, GR</td>
</tr>
<tr>
<td>25 – 49</td>
<td>3</td>
<td>BE/WL, BG, DE/BW,</td>
</tr>
<tr>
<td>&lt; 25</td>
<td>5</td>
<td>FR, LT, PT, AT, RO</td>
</tr>
<tr>
<td>All Member States / Regions participating in the SFS</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

* to be read: The State Rhineland-Palatinate of Germany achieved 75 to 100% of its planned budget

Fifteen out of 31 reporting Member States / Regions have used more than 75% of their planned budgets. Changes in strategies or reasons for these changes are not documented in the AMR. It can be assumed that these variations from the strategies result largely from an optimistic planning of the budget to assure the full use of EU aid intended for each Member State. The ambitious budget planning however has not been realised, presumably due to restricted budgets within the Member States / Regions.

Even the optimistic budget planning in 2010/11 would not have exploited the envisaged aid of the European Union of EUR 90,000,000. The strategies 2010/11 suggested using EUR 78,617,673 or 87.35% of the total EU aid. Thus, it can be concluded that a reduction of national co-financing shares would lead to an increased use of total EU aid as the limiting factor for expanding the SFS turned out to be a limited and insufficient fixed amount of available national and regional co-financing.

Comparison of AMR of 2009/10 with AMR of 2010/11

The total budget (including EU funds) stated in the AMR in 2009/2010 is EUR 56,675,887 and EUR 99,947,839 in 2010/11. An increase of the SFS total budget by 76% between these two years can be observed. Comparing the Member States / Regions two main strategies can be identified. One group has chosen to start the programme small scaled to test the intended implementation strategies and to increase its range significantly in the following year with at least 100%. This way of implementation is regarded as “Harmonic Growth”, with good examples being Lithuania and the region Bavaria from Germany. The other group is called “Bold Beginning”, because these Member States / Regions started already in the first year with an extensive implementation of the School Fruit Scheme and increased their range once
more in the second year. The Member States Hungary and Italy represent this group very well.

The group “Harmonic Growth”

Including all Member States / Regions, which have at least doubled their budget in the second year: Denmark, Estonia Germany (Baden-Württemberg, Bavaria, Rhineland-Palatinate, Saarland, Saxony-Anhalt), Lithuania, Luxembourg, the Netherlands and Romania. For example: Bavaria has started with a budget of EUR 232,271 in 2009/10 and increased it up to EUR 3,301,344 in 2010/11.

The group “Bold Beginning”

This group includes all Member States / Regions that have started with a high budget with the ambition to use the available final allocation of EU aid to the highest possible extent: Belgium (Flanders, Wallonia), Cyprus, France, Hungary, Ireland, Italy, Malta, Poland and Portugal. Hungary, for example, started in 2009/10 with a budget of EUR 3,972,848 and expanded it in the second year to EUR 5,717,093. Italy exceeds these dimensions. It started in 2009/2010 with a budget of EUR 26,217,879 and increased its budget in 2010/2011 by almost EUR 10 million up to EUR 36,103,702. Italy received almost half of the total of the EU aid in 2009/2010 (46.3%) and in 2010/2011 its share still reached more than one third (36.1%). It should be mentioned that Italy contributes in both years nearly the same national co-financing share of 43.1% and 44.3% respectively of its total budget.

The two Member States Slovakia and Slovenia are the only ones which reduced their relatively high budget in the second year but no reasons are found for this, neither in their strategies nor in their reports. Ireland and Belgium (Flanders), in which earlier school fruit schemes have been implemented and carried out for years, started on a high level in 2009/10 and remain at that level. The volume and development of the Member States’ / Regions’ total budgets and its different financing sources are shown in Table 17.

Table 17: Volume and sources of SFS financing in strategies and AMR

<table>
<thead>
<tr>
<th>Funding of budget</th>
<th>Strategies</th>
<th>AMR</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total budget in EURO</td>
<td>146,067,886</td>
<td>115,179,192</td>
<td>56,675,887</td>
</tr>
<tr>
<td>Ratio of financing in %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU</td>
<td>53.8</td>
<td>56.6</td>
<td>54.5</td>
</tr>
<tr>
<td>Member State/Region</td>
<td>42.0</td>
<td>36.3</td>
<td>41.0</td>
</tr>
<tr>
<td>Parents</td>
<td>0.3</td>
<td>0.8</td>
<td>3.2</td>
</tr>
<tr>
<td>Others</td>
<td>3.9</td>
<td>6.3</td>
<td>1.3</td>
</tr>
<tr>
<td>Strategies / AMR’s used</td>
<td>31</td>
<td>31</td>
<td>28</td>
</tr>
</tbody>
</table>

Table 17 shows that the composition of the national co-financing (public, parental, other) has been implemented by the Member States / Regions like it was envisaged in the strategies. Parental contribution is demanded in Austria, Belgium (Flanders), Denmark and Slovakia. Private institutions (with public tasks) are participating in the co-financing in Belgium (Flan-
In 2010/2011, Slovakia’s strategy indicated a parental contribution of 27% of the total budget. This has almost been realised accordingly. Since its programme’s range was reduced in the second year, parental contribution could have been a limiting factor for the SFS in Slovakia. In Denmark, the whole Member State’s share has been supplied by parents. The scheme did not increase significantly in the second year, but data from Denmark’s AMR are fragmentary. During its implementation, parental contribution has increased in Belgium (Flanders) and very significantly in Austria. Total parental contribution among all Member States / Regions has added up to EUR 1,355,412 in 2009/10 and to EUR 1,328,983 in 2010/11.

Contribution from partners in the private sector amounts to EUR 2,845,066 or 2.9% of total budget in 2010/11. In the Netherlands and Belgium (Flanders), horticultural associations with public tasks laid down in law, bear this financial share of the budget. This share is high in the Netherlands, where the Member State itself contributes only to 4.6% of the budget used for its SFS. Baden-Württemberg’s strategy demands from their participating schools to find private sponsors in order to pay the co-financing. The region Baden-Württemberg contributes only 4% of the budget. This low level of co-financing might be the reason for the low rate of accomplishment of Baden-Württemberg’s strategy 2010/11, as it has the lowest rate in all participating Member States / Regions. Instead of a planned budget of EUR 5,056,882 only EUR 1,552,496 was actually spent.
Spending on products and ACM

It is evident from the AMR that the Member States / Regions follow various strategies and the schemes are organised in a very diverging manner.

The 31 Member States / Regions have spent EUR 99,947,177 for the SFS in 2010/11. From this EUR 94,680,600 was spent on fruit and vegetables\(^{68}\) and EUR 5,266,574 have been spent on ACM, representing 94.7% of the total budget and 5.6% respectively. The largest part of the total budget is used by Italy with 36.1%, followed by Poland with 9.9%, Spain with 6.8% and Hungary with 5.7%. The median of total budgets used among all Member States / Regions is EUR 1,612,000. Table 19 provides an overview of the expenditure allocation within certain classes.

**Table 19: Expenditure allocation in 2010/2011**

<table>
<thead>
<tr>
<th>Spending in 2010/2011 in million EURO</th>
<th>Number of entries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total budget</td>
</tr>
<tr>
<td>&lt; 0.49</td>
<td>8</td>
</tr>
<tr>
<td>0.5 - 1.49</td>
<td>6</td>
</tr>
<tr>
<td>1.5 - 2.99</td>
<td>8</td>
</tr>
<tr>
<td>3 - 5.99</td>
<td>6</td>
</tr>
<tr>
<td>6 - 11.99</td>
<td>2</td>
</tr>
<tr>
<td>&gt; 12</td>
<td>1</td>
</tr>
<tr>
<td>AMR’s suitable</td>
<td>31</td>
</tr>
<tr>
<td>All Member States / Regions particip-</td>
<td>31</td>
</tr>
</tbody>
</table>

Table 20 shows spending on ACM per child based on the AMR 2010/11.

**Table 20: Spending on Accompanying Measures per child**

<table>
<thead>
<tr>
<th>Spending ACM per child in EUR</th>
<th>Number of entries</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Spending on ACM stated</td>
<td>13</td>
<td>BG, BE/WL, CZ, DE/BY, DE/RP, DE/SL, DE/TH, DK, GR, IT, LT, PL, SK,</td>
</tr>
<tr>
<td>0.01 - 0.25</td>
<td>4</td>
<td>AT, FR, PT, SI</td>
</tr>
<tr>
<td>0.26 - 0.50</td>
<td>2</td>
<td>DE/NW, LU</td>
</tr>
<tr>
<td>0.51 - 0.75</td>
<td>4</td>
<td>DE/ST, ES, HU, NL</td>
</tr>
<tr>
<td>0.76 - 1.00</td>
<td>3</td>
<td>CY, EE, LV</td>
</tr>
<tr>
<td>1.01 - 3.00</td>
<td>2</td>
<td>MA, RO</td>
</tr>
<tr>
<td>3.01 - 5.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5.01 - 7.00</td>
<td>2</td>
<td>BE/FL, DE/BW</td>
</tr>
<tr>
<td>&gt; 7.00 (25.81)</td>
<td>1</td>
<td>IE</td>
</tr>
<tr>
<td>All Member States / Regions participating in the SFS</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

13 Member States / Regions state no additional costs for ACM, while the median is at EUR 0.58 per child.

A median budget of EUR 0.29 has been spent per portion of fruit and vegetables. Table 21 shows the distribution of costs per portion within the Member States / Regions.

---

\(^{68}\) Spending on fruit and vegetables has been calculated as balance “Total budget” and “Budget for Accompanying Measures”.
The costs per portion show strong variations from EUR 0.05 (Romania) to EUR 2.74 (Belgium/Flanders). It is surprising that Italy has to spend EUR 0.82 per portion. Other countries with similar amount of distributed portions have significantly lower expenditures: Romania (EUR 0.05/portion), Hungary (EUR 0.14/portion) and Poland (EUR 0.23/portion) have distributed 40 million portions as well.

Relative high expenditure per portion leads to the question whether hidden logistic costs are included in the prices for fruit and vegetables and therefore reduce the efficiency of the scheme. Logistic costs are particularly crucial, if a fruit portion is offered to children only once a week. The offered fruit and vegetables have to be fresh. Thus, a daily supply is helpful, especially if the school does not have appropriate facilities for fruit and vegetables storage. Several fruit and vegetables, however, can be stored overnight without refrigerating, e.g. apples, mandarins, bananas, carrots, tomatoes or cucumbers.

Based on the results from the German pilot scheme in Mannheim, a price far above EUR 0.30 per portion indicates that a significant part of the costs is caused by the logistic structure. 7 out of 31 Member States / Regions with 74 million (26%) portions distributed need to spend more than EUR 0.40 per portion. These distribution systems need further investigation, since they significantly reduce the SFS’s efficiency.

A median amount of EUR 2.12 per kg of fruit and vegetables has been paid by the Member States / Regions. This seems to be a reasonable price, considering average prices for fruit and vegetables on wholesale markets and taking logistic costs into account. However, the large variation of spending per kg cannot be explained by the available data.
Table 22: Spending per kg of distributed produce

<table>
<thead>
<tr>
<th>Spending per kg in EUR</th>
<th>Number of entries</th>
<th>Member States</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 0.74</td>
<td>2</td>
<td>LT, RO</td>
</tr>
<tr>
<td>0.75 – 0.99</td>
<td>2</td>
<td>BG, EE</td>
</tr>
<tr>
<td>1.00 - 1.49</td>
<td>7</td>
<td>CZ, DE/BW, DK, LU, PL, SK, SI</td>
</tr>
<tr>
<td>1.50 - 2.19</td>
<td>5</td>
<td>BE/WL, FR, HU, LV, PT</td>
</tr>
<tr>
<td>2.20 – 2.99</td>
<td>5</td>
<td>AT, DE/NW, DE/ST, DE/TH, GR</td>
</tr>
<tr>
<td>3.00 – 3.99</td>
<td>5</td>
<td>CY, DE/BY, DE/RP, DE/SL, ES</td>
</tr>
<tr>
<td>4.00 – 4.99</td>
<td>3</td>
<td>BE/FL, IT, MA</td>
</tr>
<tr>
<td>&gt; 5.00</td>
<td>2</td>
<td>IE, NL</td>
</tr>
<tr>
<td>All Member States / Regions participating in the SFS</td>
<td>31</td>
<td>31</td>
</tr>
</tbody>
</table>

No explanation can be found for the high price of EUR 7.96 per kg in Ireland. Four other Member States / Regions also have to pay relatively high prices per kg: The Netherlands (EUR 6.00 per kg), Belgium: Flanders (EUR 4.73 per kg), Malta (EUR 4.50 per kg) and Italy (EUR 4.09 per kg).

Range of the School Fruit Scheme

The range of the SFS in one school year is by definition determined by the number of participating children, the number of distributed portions and the number of distributed portions per child. 8.146.290 children received free fruit and vegetables portions within the SFS in 2010/11. These are on median 133,202 children per Member State / Region. The Italian scheme alone covers 1,343,000 children or 16.5% of all participating children. Spain (12.9%) and Romania (12.7%) have as well a significantly high share of participating children.

The number of distributed portions has been 289,389,916 in total, while the median among Member States / Regions is 4,154,037. Italy, Poland, Romania and Hungary distributed more than 40 million portions each, having together a share of 58.8% of all distributed portions. Since these four Member States integrate just 43% of all participating children, the distribution of portions per child is above average as well. This is especially the case for Hungary, where 3.7% of all participating children in the SFS receive 14.0% of all distributed portions.

A definition of “Range of the SFS” only in terms of number of participating children is not sufficient, since a change of eating habits is not guaranteed by the number of participating children only. The frequency of distribution per week and its duration within the school year has to be taken into account as well.

Thus, regarding the range of the scheme, a choice between two objectives exists: (a) To reach as many children as possible with a given number of portions and (b) To supply a given number of children with as many portions as possible. According to the exposure effect\textsuperscript{69} the approach (b) is better qualified to obtain a sustainable increase of children’s fruit and vegetables consumption.

Box 1: Main findings obtained from Annual Monitoring Reports (2009/10 and 2010/11)

Implementation

- In total 290 million portions are distributed to 8.2 million children in school year 2010/11.
- According to the AMR, an additional demand on fruit and vegetables of 43,730 tons has been created in 2010/11. This makes 0.06% of the total gross net supply in the EU 27 fruit and vegetable market.
- The frequency of distribution strongly varies among the Member States / Regions. Only nine Member States / Regions supply 3 to 5 times per week on an average basis. The majority of Member States supplies on average only 1 to 2 times per week which can be considered as not sufficient to reach the goals of the programme.

Uptake of aid

- In 2010/11, the extent of the SFS in terms of used budget according to the AMRs remains again below the available EU aid. EUR 55,418,259\(^{70}\) (61.6%) of EUR 90,000,000 is used in 2010/11, leaving 38.4% of EU funds unused. However, the extent of the programme has been significantly increased in 2010/11 compared to 2009/10.
- The public co-financing at 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 SFS in 2010/11.
- In total EUR 99,947,839.36 are spent in 2010/11 on the SFS of which EUR 94,680,603 are spent on fruit and vegetables.
- There is a significant variation with respect to the costs per portion and per kg among Member States / Regions. A median amount of EUR 0.29 is spent per portion and EUR 2.12 per kg fruit and vegetables in 2010/11. Especially when costs exceed EUR 0.40€ per portion or 4.00€ per kg further investigation is needed whether this is e.g. caused by an inefficient logistic structure. Conspicuous in this respect are high positive deviations from the median.
- Just 4 out of 31 Member States / Regions decide to have a parental contribution to financing.
- SFS does not expand in regions where public contribution is very limited and private funding needs to be organized by participating schools. This can be observed for Germany. Especially Baden-Württemberg (with 4% public contribution) has problems expanding its programme whereas this is not the case for the neighbouring regions Bavaria and Rhineland-Palatinate (50% public contribution).

\(^{70}\) Reporting date: 31\(^{st}\) March 2012. Expenditure can still evolve due to the gap between allocation and payment of the aid.
3 THEORETICAL ANALYSIS

In the introduction of this report the reason for implementing a European SFS has already been described. Following this explanation and the general objectives of the European Strategy on Nutrition, Overweight and Obesity related health issues71 basically two aspects are addressed by the scheme which are considered to be very unfavourable by the European Commission and the European Parliament:

- The consumption of fruit and vegetables in most European Member States has been falling and on average does not reach the World Health Organisation minimum net recommended intake of 400 g/day. This situation is in particular worrying among children.

- A low intake of fruit and vegetables affects negatively the market for fruit and vegetables and contributes to poor diet which in turn might be one of the key elements of obesity, long recognised as causing several diseases. This problem tends to affect to a greater extent groups who are socially less privileged and poorer regions of the EU.

Both developments touch to a large extent the overall economic and socio-economic objectives of the European 2020 goals as formulated in COM(2010)202072.

As declining consumption of fruit and vegetables leads subsequently to a declining production and thereby to a reduced agricultural income the SFS measure intends to counteract this trend.

As European citizen fail highly to meet the fruit and vegetables intake recommended by the WHO, especially for children, which might lead in the long-term to a declining health situation and an increase of overweight and obesity, the SFS measure might be able to counteract this trend at an age when the eating habits of human beings are formed.

Figure 12 shows these two objectives of the EU SFS. Thereby, even if the direct target group are school children, the overall and long-term target group consist of, on the one hand, all European citizens and, on the other hand, those who work in the European agricultural sector. As protection of the health of EU citizens is an objective that according to the EU Treaty should be considered in each European policy field and as the stabilisation of European agricultural markets is a central element of the European Common Agricultural Policy (CAP) the funding of this programme by the Directorate General for Agriculture and Rural Development is comprehensible.

The legal justification of this funding is based on Article 39, 41(b), 43 and 168 of the Lisbon Treaty on the Functioning of the EU (TFEU) corresponding to the Common Agricultural Policy. Here it is e.g. mentioned that measures have to contribute to the stabilisation of the market for fruit and vegetables and should tend to implement the objectives of the CAP. Article 41(b) of the TFEU specifically provides for joint measures within the framework of the CAP in order to promote consumption of agricultural products. Especially Article 168 of the TFEU states that a high level of human health protection should be ensured by the CAP.

The implementation of the SFS has been prepared by different European Strategy Papers like the Commission White Paper on “A Strategy for Europe on Nutrition, Overweight and Obesity and related health issues”. The basis for its implementation is Council Regulation


1234/2007 and subsequently Commission Regulation 288/2009 “laying down detailed rules for applying Council Regulation No 1234/2007 as regards Community aid for supplying fruit and vegetables, processed fruit and vegetables and banana products to children in educational establishments, in the framework of a School Fruit Scheme”. Thus, Commission Regulation No 288/2009 sets more detailed rules regarding the core elements of the EU SFS defined in the Council Regulation 1234/2007, namely

- regarding the development of national/regional strategies,
- deadlines for notifications, eligible costs for co-financing,
- the budget in terms of indicative allocation per Member State / Region,
- obligations for participating Member States / Regions e.g. monitoring/controls etc.

In the following the central elements of the intervention logic underlying the EU SFS are described as illustrated by Figure 12.

The budget currently allocated by the European Commission for the financing of the SFS amounts to EUR 90 million. Member States (or their administrative regions in federal states) can participate in the scheme by developing an implementation strategy covering three core elements: The strategy of implementation, the Accompanying Measures envisaged and the intended co-financing ratio. Thereby, the implementation of Accompanying Measures is obligatory. The strategy is notified to the Commission by a prescribed date if Member States wish to participate in the scheme, and leads to an EU financing rate of 50% or 75%. Hence, 50% or 25% of the budget spend for the SFS has to be funded by the Member States themselves.

The European aid can be used for all measures of the SFS strategy, including the costs for the obligatory monitoring and evaluation, the free distribution of fruit and vegetables at schools, communication measures but excluding the costs for Accompanying Measures. They have to be funded exclusively by the Member States. The Member States themselves are free to build their co-financing based on public, private or parental contributions. The intermediate outputs of the programme which should be reached are:

- Increase the consumption of fruit and vegetables in schools
- Increase the share of fruit and vegetables in children’s diet
- Increase children’s knowledge about health and the agricultural market
- Involve high level private, public and parental contribution
- Integration of children with high needs into the SFS
- Increase children’s health situation and physical activity

From these intermediate outputs, indicators can be derived which are displayed for illustration purposes in Figure 12. The positive long-term impacts are:

- Increase total EU consumption and production of fruit and vegetables
- Improve the share of fruit and vegetables in children’s and parent’s diet
- Decrease diseases and better physical conditions of EU citizen
- Reconnecting urban citizens with food and its producers
- Address real concerns of European citizens
- Contribute to social cohesion

At this point indicators which are adequate to quantify the progress of the scheme can be defined and displayed for illustration purposes in the intervention logic model (Figure 12).
Figure 12: Intervention logic diagram of the European School Fruit Scheme
4 EVALUATION QUESTIONS

4.1 Theme 1: Implementation

4.1.1 Q1: Has the School Fruit Scheme been implemented as envisaged in the strategies?

Evaluation Q1 deals with the issue of adequate implementation of central elements of the strategies, as referred to in Article 103ga(2) of Council Regulation (EC) No 1234/2007. These include at least for Member States at national or regional level the description of the scheme’s budget, including national (co-financing) and Community contribution, the schemes duration and target groups, the list of products being distributed, and the involvement of relevant stakeholders. Further elements include e.g. the number of schools and children participating, as well as the frequency and duration of fruit distribution.

Strategies are seen as an important tool to contribute to the effectiveness and the transparency of the programme as well as to the responsibility of the Member States. Strategies do not only provide the basis for financial allocation but also for the national or regional framework for the implementation of the SFS. They lay down objectives for the implementation and explain how the Member State/ Region will use the budget for the programme.

Although evaluation Q1 deals with a comparison of planned and implemented activities readers should keep in mind that Member States are free to change their strategies. In that case they notify the new strategy, which is then published by the Commission. Changes may occur for example in the consequence of the timing. Strategies need to be submitted by January 31 of the current period and therefore early in the year. School years start in some Member States months later, usually after the summer vacation. Therefore, the envisaged number of participating educational institutions may differ to the actual participants.

For Member States with regional schemes, e.g. Germany and Belgium, modifications can be occur because the regional share in the EU budget is not defined in the Member States by the beginning of the year. The implementation of the National Strategies is assessed using the implementation parameters listed in Table 23.

Table 23: Implementation indicators

<table>
<thead>
<tr>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Number of participating schools and children and target groups</td>
</tr>
<tr>
<td>• Duration of the programme</td>
</tr>
<tr>
<td>• Accompanying Measures</td>
</tr>
<tr>
<td>• Uptake of Community aid and financing</td>
</tr>
<tr>
<td>• Challenges occurred in the implementation</td>
</tr>
</tbody>
</table>

For answering question Q1, AMR and strategies of participating Member States / Regions in 2010/11 are compared. However, due to strong variance of specific data available in these Strategy Papers, some parameters cannot be evaluated comprehensively. It has to be noted

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75 See Article 15 (1) of Commission Regulation (EC) No 288/2009 of 7 April 2009
that the evaluation period covers the start of the scheme and that therefore some typical starting problems can be expected at the beginning. Furthermore, the interview survey executed in 10 selected participating Member States / Regions has been used to gain additional information on the motivations and reasons for identified discrepancies between strategies and the implementation.

Implementation indicator 1: target group, schools and children

Six out of seventeen reporting Member States / Regions changed the initially envisaged target group or number of participants. Here, first and foremost a wider range of children (e.g. wider age group) and additional types of schools were included in the SFS that had not initially been stated in the strategies. Only Bulgaria and Ireland focus stronger on primary schools during the scheme’s implementation in 2010/11.

The interviews carried out support these findings. For example, Latvia and North Rhine-Westphalia report that they have reduced the frequency of distribution to include more schools. In Saxony-Anhalt, the national funding is extended in order to reach more educational institutions. Whereas e.g. Flanders allows schools a second registration slot in order to increase the participation, France reduces the obligatory participation period for schools for increasing participation. Saxony-Anhalt, France and Latvia allow for a wider age group in order to address more children.

Table 24: Changes in the National Strategies in the focus Member States / Regions

<table>
<thead>
<tr>
<th>Category of changes</th>
<th>Number of entries</th>
</tr>
</thead>
<tbody>
<tr>
<td>The programme has been expanded to more schools and children as initially planned.</td>
<td>4</td>
</tr>
<tr>
<td>Fruit and vegetables have been distributed less frequently or for a shorter period of time in order to reach more children.</td>
<td>3</td>
</tr>
<tr>
<td>A wider range of children or schools approved than initially planned.</td>
<td>3</td>
</tr>
<tr>
<td>The number of suppliers for the fruit distribution has been reduced.</td>
<td>3</td>
</tr>
<tr>
<td>Adoptions of the strategies have been made for an easier implementation in the schools.</td>
<td>2</td>
</tr>
<tr>
<td>Accompanying Measures and communication has been expanded.</td>
<td>2</td>
</tr>
<tr>
<td>The number of distributed fruit and vegetables varieties has been enlarged.</td>
<td>2</td>
</tr>
<tr>
<td>Changes have been made in order to reduce the burdens on schools.</td>
<td>2</td>
</tr>
<tr>
<td>The overall amount of distributed fruit and vegetables has been increased.</td>
<td>1</td>
</tr>
<tr>
<td>The envisaged focus on socio-economic aspects has been abandoned.</td>
<td>1</td>
</tr>
<tr>
<td>Changes were related to organisational adjustment.</td>
<td>1</td>
</tr>
<tr>
<td>Additional sponsors have been found.</td>
<td>1</td>
</tr>
<tr>
<td>Private industry sponsors took over the share of the industrial association.</td>
<td>1</td>
</tr>
<tr>
<td>The region has expanded its national budget for the scheme.</td>
<td>1</td>
</tr>
</tbody>
</table>
Implementation indicator 2: duration of the programme

Some changes in aggregated distribution weeks within the school year are observable. In six out of seventeen Member States / Regions whose strategies report this number, a change in aggregated distribution weeks is observed. Generally, there was an increase in length. The Netherlands define the programme duration for one school year\(^\text{76}\), in which schools receive a maximum of 30 portions for a maximum of 10 weeks\(^\text{77}\). For 2012/13 they plan a free distribution over a period of 20 weeks\(^\text{78}\).

Rather limited information is available on the envisaged frequency of distribution in the strategies. Out of the 13 who state an interval, five Member States / Regions distribute differently than planned.

Bavaria (Germany) and Poland intend to distribute 5 times per week, but distribute only 1 and 2-3 times respectively per week. Instead of using the wide range of 1 – 5 distribution times per week legitimated for participating schools in Baden-Württemberg (Germany), the schools provide children with fruit and vegetables 1 – 3 times per week.

Implementation indicator 3: Accompanying Measures (ACM)

The comparison of strategies and their implementation as observed by the Annual Monitoring Reports indicate that Accompanying Measures are generally carried out as planned. According to the reports the main change in the implementation is the use of internet. While this use was just intended by eleven strategies, twenty Member States / Regions have used it in the end. Latvia planned to carry out action oriented measures, but did not do so according to its Annual Monitoring Report. Considering however, that in most cases decision about Accompanying Measures are taken at school level the factual situation remains unclear. Challenges related to the reporting and evaluation of Accompanying Measures are discussed in evaluation question Q6 and in the corresponding case study (Annex 1.4).

Implementation indicator 4: uptake and financing

The discrepancies between the initially envisaged spending on the EU SFS and the actually executed funding are significant in many Member States / Regions.

These differences show in most cases a lower uptake of EU aid and in general a lower spending than initially envisaged (Table 25). For example, Lithuania, Portugal, France and Romania use just about 20% of the budget they planned in their strategies. Just Hungary, the Czech Republic and Slovakia use a higher budget than planned. Italy, Luxembourg, Saxony-Anhalt and Malta stay within a range of minus 5% of their planned budget.

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\(^{76}\) National strategy (2010/2011): “EU school fruit scheme – the Netherlands”, p. 10


Table 25: Differences between total budget envisaged in the National Strategies and budget spent according to AMR (2010/2011)\textsuperscript{79}

<table>
<thead>
<tr>
<th>Member State</th>
<th>Budget total*</th>
<th>EU*</th>
<th>MS*</th>
<th>Parents**</th>
<th>Others**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hungary</td>
<td>89.8%</td>
<td>84.6%</td>
<td>101.5%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>23.3%</td>
<td>-0.3%</td>
<td>87.1%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Slovakia</td>
<td>15.5%</td>
<td>16.3%</td>
<td>-</td>
<td>13.5%</td>
<td>-</td>
</tr>
<tr>
<td>Italy</td>
<td>0.0%</td>
<td>-3.9%</td>
<td>5.4%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Luxemburg</td>
<td>-0.8%</td>
<td>-1.7%</td>
<td>0.0%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DE: Saxony Anhalt</td>
<td>-2.5%</td>
<td>-3.9%</td>
<td>1.6%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Malta</td>
<td>-4.4%</td>
<td>44.8%</td>
<td>-42.7%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Slovenia</td>
<td>-6.5%</td>
<td>-9.0%</td>
<td>0.7%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DE: Rhineland-Palatinate</td>
<td>-6.8%</td>
<td>-6.8%</td>
<td>-6.8%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>-10.1%</td>
<td>-19.7%</td>
<td>-14.3%</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>DE: North Rhine-Westphalia</td>
<td>-15.6%</td>
<td>-16.3%</td>
<td>-14.9%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Latvia</td>
<td>-16.8%</td>
<td>-5.3%</td>
<td>-32.3%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Poland</td>
<td>-19.6%</td>
<td>-19.6%</td>
<td>-19.6%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DE: Saarland</td>
<td>-20.8%</td>
<td>-26.0%</td>
<td>-15.6%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Denmark</td>
<td>-20.9%</td>
<td>-20.7%</td>
<td>-100.0%</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Cyprus</td>
<td>-26.1%</td>
<td>-32.0%</td>
<td>-20.3%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Estonia</td>
<td>-31.3%</td>
<td>-41.0%</td>
<td>-2.3%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DE: Bavaria</td>
<td>-31.6%</td>
<td>-36.3%</td>
<td>-26.9%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>BE: Flanders</td>
<td>-34.5%</td>
<td>-49.5%</td>
<td>-46.9%</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Ireland</td>
<td>-38.5%</td>
<td>-75.5%</td>
<td>-2.2%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DE: Thuringia</td>
<td>-41.5%</td>
<td>-45.7%</td>
<td>-29.0%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Greece</td>
<td>-45.0%</td>
<td>-43.4%</td>
<td>-47.2%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Spain</td>
<td>-49.6%</td>
<td>-39.4%</td>
<td>-58.1%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>-65.5%</td>
<td>-69.5%</td>
<td>-53.7%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DE: Baden-Württemberg</td>
<td>-69.3%</td>
<td>-70.5%</td>
<td>+</td>
<td>-</td>
<td>-70.5%</td>
</tr>
<tr>
<td>BE: Wallonia</td>
<td>-73.4%</td>
<td>-74.6%</td>
<td>-72.1%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Austria</td>
<td>-78.0%</td>
<td>-79.7%</td>
<td>428.2%</td>
<td>+</td>
<td>-99.9%</td>
</tr>
<tr>
<td>Romania</td>
<td>-78.8%</td>
<td>-64.6%</td>
<td>-86.9%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>France</td>
<td>-80.6%</td>
<td>-82.2%</td>
<td>-78.9%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Portugal</td>
<td>-81.8%</td>
<td>-80.8%</td>
<td>-83.4%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lithuania</td>
<td>-82.4%</td>
<td>-77.9%</td>
<td>-88.7%</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

\textsuperscript{79} Note:

* To be read: Hungary spends 89.8% more than initially planned in its strategy. Its uptake of aid is 84.6% higher than planned and its national contribution exceeds the planned budget by 101.5%. Lithuania spends 82.4% less and therefore only 17.6% of the budget planned in its strategy. EU contribution falls below the planning by 77.9% and national allocations by 88.7%.

** + = No contribution planned in the strategy, but contribution took place during implementation; - = No contribution planned in the strategy and no change during implementation
Especially the incorporation of parental contributions is initially not foreseen in the strategies. Four Member States / Regions ask for a parental contribution according to the AMR, but only Slovakia and Flanders state this beforehand in their strategies. In Denmark parents have to fund the whole national co-financing share and in Austria parents have to pay more than twice the public contribution to financing.

There is an additional private contribution of about EUR 150,000 in Flanders, but the private contribution in Austria and Baden-Württemberg (Germany) is significantly lower than initially planned in the strategies. The high private financing share in the Netherlands is already been foreseen in the strategy. The involved private actors from the agricultural sectors are endowed with public tasks which makes this development more understandable.

It can be concluded that Member States / Regions have in general more ambitious plans about budget use than what is realised, with an average negative difference of 30% between total budget (Member States’ contribution and EU aid) used and total budget planned.

Table 26 provides an overview of problems in the scheme’s implementation that 22 Member States / Regions reported to the Commission in September 2010 and February 2011.

Table 26: Problems reported by Member States / Regions that occurred in the implementation of the SFS

<table>
<thead>
<tr>
<th>Problem</th>
<th>September 2010</th>
<th>February 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>High administrative burden</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>Problems in logistics</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>The non-eligibility of VAT</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Problems with product prices</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Reliability of participating schools</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>High variation of quality in delivered fruit</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Involvement of teachers to take the model role for children</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Uncertainty/missing guidelines to what is eligible for communication costs.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

In September 2010, the main implementation challenges observed are related to high administrative and organisational burdens as well as logistical problems. Administrative burden occurs in the application process for schools and in Member States where the selection procedure, contract negotiation and controlling of fruit suppliers is left up to schools. Furthermore, Evaluation Reports point out the complicated and lengthy process for invoicing, documentation and pay-out of subsidies. Processes for implementing, operating and documenting activities carried out under the scheme are viewed as challenge, too. A detailed analy-

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80 Source: Unpublished records of the European Commission, information indicates the observation of the Member States / Regions
82 Summary of the Bulgarian Evaluation Report, p. 19, 20
sis on the administrative burden of the SFS is presented in the corresponding case study (Annex 1.4).

Problems in logistics refer to insufficient personnel capacities in schools to handle the fruit and vegetables distribution, preparation of fruit for younger children and to the encouragement of the children in trying fruit and vegetables.

Some Member States\textsuperscript{83} indicate problems in finding sufficient suppliers to deliver fruit to schools in rural areas. Since suppliers need to overcome longer distances in these areas, product prices might not be cost-effective. Interviewees from the Netherlands explain that they have overcome those problems by reducing the number of suppliers. Thus, the contract volume becomes more attractive for the fruit delivery and administrative efforts and control costs are reduced. Catalonia (Spain) mentions the same considerations in the interviews.

Six Member States mention challenges related to the VAT (value added tax). At the beginning of the scheme, it was unclear whether the value added tax was eligible for aid or how fruit deliverables under the EU scheme were treated with respect to indirect taxes at national level. According to a German supplier, the first information of tax-free treatment was revised. Therefore, his company had to struggle with unforeseen additional costs. The negative impact of problems with VAT has decreased from 2010 to 2011 which shows that the Member States have learnt how to deal with these problems.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\hline
Box 2: Conclusions on implementation (Theme1, Question1) & \\
\hline
\textbullet{} Many changes in the National Strategies and implementation have occurred which were mainly related to the general start of the SFS and the strategy being planned months before the implementation period (school year). & \\
\textbullet{} Member States / Regions try to expand the participation in the SFS. For this reason, however, some Member States reduce the frequencies in distribution. & \\
\textbullet{} The way ACM are implemented and carried out remains unclear because the responsibility for carrying out ACM is often at the level of individual schools and at that level their observation and documentation is limited & \\
\textbullet{} 62\% or EUR 55.4 million of the EU aid have been taken up in 2010/2011. & \\
\textbullet{} Challenges in the implementation that have occurred in the starting period have been overcome by the Member States & \\
\hline
\end{tabular}
\caption{Box 2: Conclusions on implementation (Theme1, Question1)}
\end{table}

\textsuperscript{83} Austria, Germany, Italy and The Netherlands
4.1.2 Q2: Has the School Fruit Scheme encouraged the envisaged broad partnership between education, health and agriculture and has it involved private, public and civil actors?

The question Q2 asks for an analysis of the stakeholders involved – e.g. parents, schools, teachers etc. – and the creation of a broad partnership. Their involvement is an important strategic element in order to ensure a broad coverage and diffusion of the ideas and objectives of the scheme. In the Commission’s “White Paper on a Strategy for Europe on Nutrition, Overweight and Obesity related health issues” four principles for action are described, in order to tackle health issues which the SFS aims at – e.g. the improvement of eating habits and reduction of children’s obesity.

In order to achieve the objectives of the scheme as well as the subordinate EU health policies, it requires to involve actors from different stages of the supply chain, e.g. from food producers, distributors and consumer, to sport, nutrition and health education. “[…] For the sake of efficiency, the strategy will require action from a wide range of private actors, such as the food industry and civil society, and actors at local level, such as schools and community organisations.” To ensure a broad coverage and diffusion of the ideas and objectives of the scheme, it is required to involve multipliers from several stages of the supply chain in order to ensure synergy and multiple effects, and thus enhance the effectiveness of the programme.

Commission Regulation (EC) No 288/2009 points out the relevance of involving stakeholders “such as educational and health authorities, the private sector or children’s parents”. Furthermore, it is required to make actions planned in the strategies work across government policy areas and at different levels of government. Thus, the involvement of public actors and the implementation of public-private partnerships can be seen as crucial, too. Legislative documents, however, do not refer to “broad partnerships”, so that a definition for the further evaluation is needed. In this report a “broad partnership” shall be defined as interaction and interdisciplinary cooperation of relevant public and private stakeholders at administrative and executive level for the SFS.

Table 27: Indicators for assessing the encouragement of partnerships and involving actors

<table>
<thead>
<tr>
<th>Theme 1: Implementation - Question 2a</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicators</strong></td>
</tr>
<tr>
<td>• Number of measures related to education, health and agriculture in the SFS (e.g. number, coverage, target groups, budget)</td>
</tr>
<tr>
<td>• Stakeholders involved (within the execution)</td>
</tr>
<tr>
<td>• Multidisciplinary dialogue</td>
</tr>
<tr>
<td>• Accompanying Measures aiming at addressing the different sectors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme 1: Implementation - Question 2b</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicators</strong></td>
</tr>
<tr>
<td>• Stakeholders involved (within the planning / strategy definition)</td>
</tr>
<tr>
<td>• Practical involvement of all three parties (education, health and agriculture)</td>
</tr>
</tbody>
</table>

According to the AMR of 2010/2011 all participating Member States / Regions involved two, or what is the most common case (28 entries), three ministries in establishing the SFS. The cooperation between education, public health and agriculture has been realised mostly (14 times). 11 Member States / Regions involved the public sector, 10 the private. 7 Member States / Regions incorporated stakeholders of all five categories (Flanders, Cyprus, Bavaria and Saxony-Anhalt (Germany), Luxemburg, Malta and the Netherlands).
In general, it is necessary to differentiate between the administrative and the school level when answering the evaluation question. The interview surveys confirm the picture presented in the AMRs with regard to the administrative level. All ten Member States in focus report about the involvement of at least two ministries. Contrary, the national SFVS in the UK is administered solely by the Department of Health. Although most interviewees did not comment on their experiences in cooperating, slight differences can be observed.

In Catalonia, for example, the partners enjoy to work together and to benefit from the specific expertise of the other departments. Every department picks up its own responsibility in the process and the partners meet on a regular basis. Decisions are made on the basis of discussion. Working atmosphere and communication is described as functioning very well. Therefore, the programme is nominated for a reward in Spain which highlights well working cooperation among public bodies.

In contrast to the partnership in Catalonia, French interviewees mention that the Agricultural Ministry holds the general responsibility for the programme. For that reason one cannot talk of a real partnership. Hungarian interview partners mention considerations to further operate the scheme without the participation of the Public Health Department.

76% of all interviewees agree that the envisaged broad partnership is indeed implemented. Six out of the ten Member States / Regions report to include private and public stakeholders. Being asked about the extent of stakeholders’ involvement the following set of opinions was found (Table 28). Highest involvement is stated for public stakeholders. Parental integration depends highly on the conceptual design and therefore spreads through all categories. Private stakeholders are either highly integrated (Flanders, Hungary) or marginally, meaning that there is hardly any contact beside the fruit and vegetable supply (Ireland).

<table>
<thead>
<tr>
<th>Multidisciplinary dialog</th>
<th>high</th>
<th>moderate</th>
<th>marginal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of nominations</strong></td>
<td>4</td>
<td>8</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stakeholders’ involvement</th>
<th>high</th>
<th>moderate</th>
<th>marginal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private stakeholder</td>
<td>15</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Public stakeholder</td>
<td>21</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Parental stakeholder</td>
<td>12</td>
<td>14</td>
<td>10</td>
</tr>
</tbody>
</table>

Flanders (Belgium), Saxony-Anhalt (Germany), Hungary and Italy have installed a steering group including private and public actors. Most often representatives of parents’ and producers’ organisation belong to the steering group. Five Member States / Regions mention regular meetings. Cooperation is particular high during the development of national/regional designs for the scheme. Five Member States / Regions highlight the initial phase when talking about the realised partnership. The conceptual designs of ACM include all three topics (education, health and agriculture). The implementation of these themes in school activities is shown in Table 33 on page 77. According to the information provided by headmasters agriculture is not covered to the same extent as health.

At school level, 7 out of the 10 sample Member States / Regions, which are investigated explicitly through the interview surveys of this evaluation, have not implemented the envisaged
partnership. This finding is underlined by 50% of the headmasters explaining that there is no multidisciplinary dialog at all. In addition critical remarks are made regarding:

- the extent of partnerships: The partnership between agricultural stakeholders and the schools cover only fruit deliveries but no ACM
- the situation that partnerships have been established only among participating ministries or rather on an administrative than on operative level of the programme
- the participants: the partnership involves only teachers, parents and other school employees
- and the way it is carried out: partnership between parents and the schools is rather built on sending out relevant programme information than on getting them involved directly.

Some of the headmasters give a positive feedback on the envisaged partnership pointing out that parents, teachers, children and canteen personnel support the scheme. These answers reveal lacks in communication/information, namely that many people acting at school level are not familiar with the background of the SFS, e.g. “partnership” for them is not related to the involvement of agricultural, health and nutrition experts. Two headmasters think that the partnership is established by signing a contract with the fruit supplier.

The same applies to the integration of parents. All schools stated to involve parents no matter if they just send letters to them, or if parents provide children with fruit and vegetables in lunchboxes (Ireland), get involved in fruit distribution in schools (Netherlands) or organize healthy breakfasts for children and parents (Flanders).

Headmasters feel mainly responsible for organisational aspects. All headmasters state to deal with the implementation of the scheme in their educational establishment. About 50% mention that they coordinate with other stakeholders of the scheme, meaning that they select fruit suppliers and supervise deliveries (e.g. North Rhine-Westphalia, Saxony-Anhalt and Latvia) and/or inform teachers and parents about the programme (e.g. Netherlands, Catalonia). Headmasters from North Rhine-Westphalia point out that it is a challenge for them to motivate all people involved in carrying out the scheme, especially teachers who fear to lose educational time. From the following observations reasons can be derived why the envisaged broad partnership at school level is less established than at administration level:

- It is easier for schools to integrate e.g. agricultural stakeholders in ACM if the coordination is carried out at a regional level (e.g. North Rhine-Westphalia).
- Agricultural partners, health and nutrition experts are more often involved in those cases if either they have taken the initiative (Flanders, Catalonia) or if the national/regional design foresees ACM as their responsibility (Hungary).
- The conceptual design, e.g. a strict programme of ACM (Ireland) or allocating no budget (e.g. Saarland, Lithuania, Latvia), might hinder the partnership.
- Headmasters are not aware of the intention to create a partnership between agriculture, health and education or believe all themes are fairly covered within the regular school curriculum (Saxony-Anhalt).
Box 3: Conclusions on partnership (Theme 1, Question 2)

- The intention to establish a broad partnership between education, health and agriculture is realised rather well with regard to the administrative level. Both private and public stakeholders are involved in the partnerships. Cooperation of the partners is intensive especially during the phase of adapting the EU SFS to national/regional framework and developing the conceptual design/strategy.

- Intensiveness and form of cooperation vary within the Member States, however, regular meetings and founding steering groups are common.

- Viewing the partnerships developed at school level a broad partnership has been less elaborated in terms of occurrence and stakeholders involved. Furthermore, a lack in communication regarding the intention to create a partnership has been found. Therefore, the idea of partnership between stakeholders needs further encouragement in order to take more advantage of the given capabilities. The steering group and the national/regional authorities should discuss how to support schools in the process of building partnerships with stakeholders outside the schools.
4.2 Theme 2: Effectiveness

4.2.1 Q3: To what extent has the School Fruit Scheme been effective with respect to improving the eating habits of children and parents as well as to increasing the EU consumption of fruit and vegetables?

Understanding of the question and sub-questions

The main target of the SFS is to change the eating habits of children towards a healthier nutrition. Answering evaluation question Q3 focuses on this central objective of the scheme, specifically asking for the results and impacts the scheme provides concerning the nutrition aspect. Consequently, main parameters for the evaluation of the scheme at Member State level aim at measuring the following aspects:

- Does the implementation of the scheme increase children’s consumption of fruit and vegetables? What are the scheme’s main determinants of success?
- Does the scheme implementation have an impact on children’s diet?
- What is the impact of a compulsory parental contribution on the effectiveness of the scheme?
- Does providing fruit and vegetables in the framework of a SFS (with Accompanying Measures) increase the parents’ consumption of fruit and vegetables?
- Does the scheme have a long-term impact on children’s consumption of fruit and vegetables in the long run, even after they do no longer benefit from the scheme? Does the same apply for their parents (sustainability of the scheme)?

Article 12(2) of Commission Regulation (EC) No 288/2009 states that “Member States shall evaluate the implementation of their School Fruit Scheme and assess its effectiveness”. Member States should evaluate their entire scheme, as established by and described in their strategy, not only including the distribution of fruit and vegetables, but also the impact of the programme. Thus, the above mentioned questions shall be answered within the National Evaluation Reports on Member State level and thus, serve as a useful secondary data basis for answering evaluation question Q3.

Contribution to increasing children’s fruit and vegetables consumption

In 2007 the evidence of school fruit schemes existing before the EU SFS has been evaluated in a broad secondary research, taking 31 international studies and 1,027 reports into account. Results show that 65% of the original studies/reports present a significant increase in the fruit and vegetable consumption. Children consume additional 0.14–0.99 portions of the daily recommended intake. None of the original analyses reported on declining fruit and vegetables consumption during the period of the intervention. According to this review the...
effectiveness of school fruit schemes is proven with regard to the increase of consumption among children.\textsuperscript{86}

National evaluations point in the same direction: 21 Member States / Regions examine whether an increase in children’s fruit and vegetables consumption can be witnessed. 18 Member States / Regions find a positive development; four cannot identify an impact on consumption. Positive effects are also stated in Member States / Regions which carry out an indirect estimation of children’s fruit and vegetables consumption. None of the EU Member States / Regions report on negative impacts (Table 29).

Table 29: Impact on children’s fruit and vegetables consumption according to the summaries of National Evaluation Reports

<table>
<thead>
<tr>
<th>Impact on children’s fruit and vegetables consumption</th>
<th>Increase</th>
<th>No impact</th>
<th>Decrease</th>
<th>Indirect estimation*</th>
</tr>
</thead>
</table>

* Some of these Member States/regions mentioned methodological problems. Greece for example mentioned that the baseline status of fruit and vegetables consumption is unknown.\textsuperscript{87} States and regions in this category estimated a positive impact on the fruit and vegetables consumption e.g. by considering teachers’ and parents’ impressions\textsuperscript{88}, by comparing the frequencies of consumption\textsuperscript{89} or checking the contents of lunchboxes\textsuperscript{90} etc.

Note: classification was not applicable for Czech Republic

From the interview results it can be concluded that the majority of countries think that the SFS has a direct positive impact on children’s fruit and vegetable consumption. 80% of all interviewees say so, whereas ministries, evaluation institutions and school headmasters are more positive about it than parents. While in these groups more than 90% believe in the positive impact of the scheme, just 63% of all interviewed parents share this opinion. The most stated reason for a negative answer is that their children already eat sufficient fruit and vegetables. Indifferent answers occur mainly because parents do not have sufficient information about it.

\textsuperscript{86} DE SA AND LOCK (2007): “School based fruit and vegetable schemes: A review of the evidence”, London School of Hygiene and Tropical Medicine, p. 20

\textsuperscript{87} Executive summary of the Greek Evaluation Report, p. 12


\textsuperscript{89} E.g. in Estonia: “Summary of the School Fruit Scheme evaluation”, p. 4f.

\textsuperscript{90} E.g. in Germany, Saxony-Anhalt: KOLBE, NITSCHKE AND WABERER (2011): „Bewertung der Umsetzung des EU-Schulfruchtprogrammes in Sachsen-Anhalt und seiner Wirksamkeit, Vergleich Baseline-Abschlussbericht”, p. 13f.
Example: Consumption increase in North Rhine-Westphalia

To provide an example and thereby an impression of the results of a national analysis which has identified a statistically significant increase of fruit and vegetables consumption for children which participating in the scheme selected findings of the North Rhine-Westphalian SFS evaluation will be presented in the following.

Figure 13 displays the results with respect to changes in children’s eating habits of the evaluation analysis executed in North Rhine-Westphalia by the University of Bonn. Here, a baseline (before the scheme) and follow up (within the scheme) survey was executed in 10 different schools of which 8 schools participated (intervention group) in the scheme and 2 (reference group) did not. Within the intervention group 395 children were consulted; the reference group included 111 children.

For the survey a written questionnaire was chosen as the methodological tool. The survey was given to the children and it covered a 24 hours recall to gain information about children’s total food consumption at the previous day. The questionnaire was specially designed to be appropriate for young children and asked indirectly for eating habits so that children were not aware of the explicit problem setting. Children were asked to report about their food consumption and activities the day before.

The results (Figure 13) show that the average frequency of fruit and vegetables consumption per day in the intervention group slightly increased (statistically significant) compared to the baseline survey by 0.37, from 1.29 to about 1.66 times a day. By contrast, the frequency in the reference group decreased by -0.24, from 1.44 to about 1.20 times a day (not significant). The changes in frequency of consumption conclusions can be drawn on the consumed quantities and therefore are used as indicators for an increase in consumption.

91 The national evaluation in NRW (Germany) - Bericht zur Evaluation des EU Schulobstprogramms NRW im Schuljahr 2010/2011 - was executed by University of Bonn, Institute for Food and Resource Economics (Hartmann, M., Wingensiefen, S. and Maschkowski, G.) and the Ministry for Climate Protection, Environment, Agriculture, Nature- and Consumer-Protection of North Rhine-Westphalia (Burusig, K.).

92 The North Rhine-Westphalian evaluation team decided to measure the frequency of eating fruit and vegetables per day instead of portion sizes due to the age of participating children. Source: The national evaluation in NRW (Germany) - Bericht zur Evaluation des EU Schulobstprogramms NRW im Schuljahr 2010/2011 - was executed by University of Bonn, Institute for Food and Resource Economics (Hartmann, M., Wingensiefen, S. and Maschkowski, G.) and the Ministry for Climate Protection, Environment, Agriculture, Nature- and Consumer-Protection of North Rhine-Westphalia (Burusig, K.), p. 9

93 Validation studies for the applied method, using DILQ-questionnaires, present a correlation between detected changes in eating (measures as frequency) and food consumed. Source: Edmunds L.D. and Ziebland, L. (2002): “Development and validation of the Day in the Life Questionnaire as a measure for fruit and vegetables questionnaire for 7-9 years old.”, Health education research – theory and practice, 17 (2), p. 219
Another interesting finding provided by the North Rhine-Westphalian report is the comparison of changes in consumption habits across the different analysed schools.

The results (as displayed by Figure 14) vary highly between the schools. In four schools the survey shows a significant increase in children’s fruit and vegetables consumption. On the other hand, in five schools (including also the two non-participating schools) no significant change is observed when comparing the baseline and the follow up survey. However, it becomes obvious that the schools which show a low fruit and vegetables consumption frequency in the baseline significantly increase their consumption in the follow up survey. This observation indicates that the children’s initial nutrition level with respect to fruit and vegetables might have an impact on the effectiveness of the scheme.
Additional contribution to a healthier diet and lifestyle

Besides an increase in consumption several Member States observe that children are motivated to try new fruit and vegetables products (Flanders\(^94\), France, Italy\(^95\) and United Kingdom). The Netherlands\(^96\) and United Kingdom report that children tend to eat fewer snacks, whereas in Ireland the snack consumption remained almost on the same level.

A recent study analyses the SFS’s impact on unhealthy food products. Scanner data of supermarket sales have been compared for outlets which are located in 500m radius near intervention and control schools of the SFS in Rome. Researchers found that the scheme is effective in reducing sales of unhealthy sweet and salty snacks significantly on average of by 12% in wealthier areas near participating schools; whereas no effect was observed in poorer areas.\(^97\)

Parents have been asked in the interviews, whether the increased fruit and vegetables consumption of their children substituted other food in their diet. If this was the case (46%), most often snacks like cookies, cakes, sweet bread, chocolate or sometimes the dessert was replaced by fruit. If parents estimated no substituting effect, it was mainly because they saw the fruit and vegetables given in the programme as addition to their children’s diet, or they did not see any increase of fruit and vegetables consumption of their children at all.

56% of all interviewees see no impact of the scheme on the children’s health or physical activity in the short-term. Especially interviewed parents think so (74%), while school headmasters are mainly indifferent (55%), as they feel too uninformed to answer this question.

Not all children benefit from the scheme in the same way

Several Member States observed that the SFS does not affect consumption of all participating children. In general, the scientific finding that girls eat more fruit and vegetables than boys has been confirmed in the National Evaluation Reports which differentiate participants by gender. Besides the gender effect, habitual and easy access to fruit and vegetables influence the consumption level as well.

Children in France and Italy\(^98\) for example who had a low fruit and vegetables consumption level before the scheme started state on not changing their nutrition behaviour or state that they are going to reduce fruit and vegetables consumption after the end of the programme. The Dutch\(^99\) report indicates that children who do not bring regularly fruit and vegetables to school eat fewer portions during the programme. A similar effect has been observed in Poland\(^100\), namely that children who do not have access to fruit and vegetable on a daily basis at home eat significantly less fruit and vegetables provided by the schools. The above mentioned study on substituting unhealthy snacks concludes: “our results can be interpreted as suggesting that the School Fruit campaign has reduced the consumption of junk food in the

\(^94\) Summary of the Flemish Evaluation Report, p. 6  
\(^95\) Summary of the Italian evaluation, p. 6  
\(^96\) Summary of the Dutch evaluation, p.12  
\(^98\) Summary of the Italian evaluation, p. 6  
\(^99\) Summary of the Dutch evaluation, p.11  
\(^100\) Summary of the Polish evaluation, p. 11
sub-group of the population who is less likely to be exposed to overweight and obesity problems, but has been not effective at all for the sub-group more at risk.\textsuperscript{101}

In contrast to these findings, Germany (Rhineland-Palatine and North Rhine-Westphalia) observes the highest increase in fruit and vegetables consumption in social hotspots.\textsuperscript{102}

\textbullet\ Contribution to increasing parents’ and teachers’ fruit and vegetables consumption

Only a few summaries of the National Evaluation Reports deal with the parental fruit and vegetables consumption. France and Poland\textsuperscript{103} note that the scheme has no visible impact on parents’ consumption. Self-estimation by parents in Saxony-Anhalt found only a little increase in fruit and vegetables consumption for 6.4\% of the families.\textsuperscript{104} The Italian evaluation mentions that due to the programme vegetables are included more often in family meals. Statements by the parents point out the following changes which have been noticed since the beginning of the SFS:

\begin{itemize}
  \item Parents encourage their children more often to eat fruit and vegetables
  \item Children ask for fruit and vegetables more frequently
  \item Parents provide their children with fruit and vegetables more often
  \item Parents buy more fruit and vegetables and a broader selection
  \item Parents put more fruit and vegetables at disposition at home
\end{itemize}

The SFS’s effect on parents’ fruit and vegetables consumption is seen differently by certain groups of interviewees. Overall, 38\% of the interviewees believed in a positive effect of the scheme on the parents’ eating habits. The reason stated mainly is the positive impact of children asking at home for more fruit and vegetables.

62\% of all interviewees are either indifferent or believe that the scheme does not affect parents’ eating habits, but none of the latter statements came from Control Authorities or evaluating institutions. By contrast, 68\% of the asked parents observe no effect of the programme on their eating habits, mainly because they believe that they already eat enough fruit and vegetables.

School headmasters estimated the impact of the SFS on their and other teachers’ eating habits to almost the same parts positive (44\%) or insignificant (39\%), while 17\% are indifferent in their observation. For the school headmasters, for whom the programme has an effect, it often appears from their children, the free distribution of fruit and vegetables at school or the increased awareness for a healthy eating. The main reason for no effect of the scheme was an already high initial fruit and vegetable consumption.

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\textsuperscript{101} \textsc{Brunello, De Paola and Labertino} (2012): „More Apples Less Chips. The Effect of the School Fruit Scheme on the Consumption of Junk Food”, IZA DP No. 6494, p. 4

\textsuperscript{102} \textsc{Braun, Heinz and Jacob} (2011): „Evaluation des Schulobstprogramms Rheinland-Pfalz: Befragung der Schüler nach einem Jahr Laufzeit des Programms im Vergleich mit der Nullmessung”, p 11


\textsuperscript{103} Summary of the Polish evaluation, p. 9

\textsuperscript{104} Experiences gained through numerous interviews with parents about fruit and vegetables consumption shows that most parents believe to eat enough fruit and vegetables although they can not quantify it in most cases.
Signs of behavioural changes among children

Ireland\textsuperscript{105}, Poland\textsuperscript{106} and the Netherlands\textsuperscript{107} report that children bring more fruit and vegetables to school even on days without specific activities of the SFS. Effects of the scheme therefore are not only realised by the distribution of fruit and vegetables but in addition by encouraging the children in general to a higher consumption. However, the analysis of school fruit schemes suggests that encouragement is related to the implementation of the programme.

Limits have been noticed for example in Flanders and Saxony-Anhalt. In Flanders, 50-60\% of the pupils bring fruit and vegetables to school at least once a week, the rate however is enhanced within the “fruit in the school bag scheme”, a national fruit scheme, up to 81\%\textsuperscript{108}. Saxony-Anhalt analyses the amount of fruit and vegetables in lunchboxes. The results show that fruit and vegetables provided by the families dropped during the SFS\textsuperscript{109} and thus, substitution effects become obvious: Since children get fruit and vegetables in schools they do not bring them from home.

The question, whether children’s fruit and vegetables consumption stays high at home is also asked in the interviews and the answers are mainly positive in all countries. Only Saxony-Anhalt shows an indifferent result here. Around a third of all Control Authorities and Single Contact Points across the Member States could not answer this question due to lack of information.

Contribution to improving children’s eating habits

While the positive short-term impact (within the scheme) on the fruit and vegetables consumption of participating children is visible for the majority of interviewees, it is not that clear yet for the long-term effects (after the scheme). About 50\% of all interviewees state that there is not enough experience yet to give any concrete answer. It should be highlighted, however, that only 4\% of interviewees reply that the scheme would have no effect in the long-term. Control Authorities and national evaluators in Ireland, Italy, Hungary and the Netherlands estimate a positive impact here. In Hungary, no further explanation is given for this estimation. Evaluation reports which analyse children’s fruit and vegetables consumption mainly point out that the scheme’s effects on behaviour cannot be examined at this point because the intervention time has been too short to observe changes in eating patterns.

According to a Norwegian study\textsuperscript{110} sustainable impacts on the fruit and vegetables consumption could be identified still three years after the terminated intervention if access to fruit and vegetables is free during the intervention. A literature survey\textsuperscript{111} from 2008 analysed 30 studies on school fruit schemes of which 23 included follow-up measurements after a twelve

\textsuperscript{105} Irish Evaluation Report, p. 35; 37
\textsuperscript{106} Summary of the Polish evaluation, p. 5
\textsuperscript{107} Summary of the Dutch evaluation, p.11
\textsuperscript{108} Summary of the Flemish evaluation, p. 14
\textsuperscript{109} Baseline- follow-up comparison of Saxony-Anhalt, p.13
month or even longer period of time. Although the studies varied with respect to their methodological design (e.g. measurements and different definition of fruit and vegetables consumption) the review presents results on long-term effects observed. Furthermore, “the evidence to date suggests that <1 year free fruit and vegetables is not sufficient for long-term dietary change”.

Example: Long-term impact in Ireland

Since the Irish Food Dudes programme has been implemented before the EU SFS, results analysing 12 month follow-up impacts are available:

Ireland has carried out a broad evaluation of the effectiveness of the Food Dudes programme in 2008, measuring fruit and vegetables consumption prior, during and twelve month after the invention. Participants were 228 children in experimental schools, which participated in the programme (intervention group), and 207 children in control schools without participation being the reference group. Prior to intervention the consumption of fruit and vegetables in both groups did not differ significantly.

During the 16 intervention days consumption of school-provided fruit and vegetables changed. Fruit and vegetables were then provided daily in both groups, but only the intervention group carried out the Food Dudes programme. In these schools consumption of fruit (47g compare to 36g at baseline) and vegetables (20g compared to 7g at baseline) rose significantly. In the reference group both fruit (25g compared to 29g at baseline) and vegetables (5g compared to 7g at baseline) dropped significantly compared to the baseline situation. For the intervention group parental provision increased significantly from an average of 61g to 103g.

In the reference group provision did not differ significantly; 74g have been provided at the beginning compared to 71g at follow-up measurement. A significant difference between both groups is also analysed for the consumption behaviour. In the experimental schools consumption has increased significantly from an average of 41g (baseline) to 71g (12 month follow-up) whereas the reference group remained almost on the same level with no significant difference (42g baseline vs. 47g follow-up).

In 2006, a questionnaire among parents in 44 participating schools focused on “in home effects”: 94% of the parents agreed on the fact that their children eat more fruit and vegetables at home. 88% of the parents declared to eat more fruit and vegetables as well.

The Irish Evaluation Report of 2011 underlines the positive effectiveness of the Food Dudes programme: Parental provision and children’s consumption increased due to the intervention. For fruits provision increased by 20% up to 78.5% for all children and consumption increased by 25% reaching 76.5% of the children. For vegetables provision expanded by 42% so that vegetables are included in 53.5% of all lunchboxes. Consequently, 51% of the children have eaten vegetables which means an increase of 41%.

Therefore, the Evaluation Report concludes that the “[…] evaluation of the School Fruit Scheme in Ireland has shown that the Food Dudes Healthy Eating Programme effectively increased the consumption of fruit and vegetables among the schools participating in the evaluation.”
Box 4: Conclusions on effectiveness (Theme 2, Question 3)

- **The EU SFS contributes to increase fruit and vegetables consumption among children in the short-term**: The majority of Member States / Regions observes a positive impact on children’s fruit and vegetables consumption. In cases where no increase is noticed methodological problems or the short intervention period have been considered as reasons.

- **The question whether this impact leads to improving eating habits in the long-term can only be evaluated after a longer implementation of the SFS**. Since a change in eating patterns is related to long-term behaviour, an evaluation of sustainability requires follow-up measurements long after the intervention.

- **National evaluation measures vary highly**. The increase in terms of the quantity of additional eaten fruit and vegetables is available only for individual Member States / Regions. The majority of Evaluation Reports lacks this very relevant quantitative output indicator\(^{112}\).

- **National Evaluation Reports contain hardly any information about the scheme’s effects on parental consumption**. Statements gathered in the interviews do not all appear to be realistic because the interviewees mostly believe to eat enough fruit and vegetables, without being able to tell how much they eat and how much of fresh food is “enough”. Since some of the results found for children indicate that fruit and vegetables consumption in school and at home are closely linked, parental consumption has to observed more closely given its potential influence on the effectiveness of the scheme. Therefore, and in order to determine the scheme's indirect impact on parents, further research is needed.

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\(^{112}\) The missing indicator affects the further evaluation of effectiveness and efficiency of the EU SFS in a way that auxiliary indicators have to be taken into account, which result from the implementation of the SFS.
4.2.2 Q4: To what extent has the EU contribution in the total cost of the scheme and the total budget available for the scheme influenced its effectiveness?

Understanding of the question

This question aims at answering how important the EU aid was or still is within the funding concept of the SFS with respect to the achievement of the targets, first and foremost the increase of children’s fruit and vegetables consumption in Europe. The hypothesis is that a broad participation and uptake of EU aid is essential for the effectiveness of the SFS, otherwise large-scale impacts on pupils’ consumption and subsequently health will not be possible.

Furthermore, high national co-financing has disadvantages in terms of the scheme’s effectiveness and a higher EU financing share could increase the Member States’ uptake of EU aid. Thus, the question should be answered whether the level of target achievement which can be observed until now would be the same if the EU contribution to the costs and total budget would not have been available?

Methodology

For answering this evaluation question two approaches are applied.

The first one is a With/Without-Comparison of selected success indicators in an EU financed SFS to a non EU financed scheme. For the latter, the national School Fruit and Vegetable Scheme (SFVS) of the UK is used for comparison. The information used is taken from available official (evaluation) documents\textsuperscript{113}. Additionally, interviews have been executed with Control Authorities and the national evaluation institution in the UK to gain more detailed information\textsuperscript{114}.

The second approach is more qualitative and restricted to the information gained from interview surveys carried out in the Member States already participating in the EU SFS and focused within this evaluation. Here, the Control Authorities (generally staff of the responsible ministries) and Single Contact Points (generally staff of the institutions which have executed the national evaluations) are asked explicitly:

- **To what extent has the EU contribution in the total cost of the scheme influenced its effectiveness?**
- **Would a scheme have been implemented in your Member State / Region also without any EU aid? If yes, would there be any restrictions based on the lower budget available?**
- **What do you think is the main benefit of a SFS which is supported by the EU Commission? Are there any benefits beyond the financial support?\textsuperscript{115}**


\textsuperscript{114} UK DEPARTMENT OF HEALTH, NFER (National Foundation for Educational Research), DEFRA (Department for Environment, Food and Rural Affairs)

\textsuperscript{115} The last question was additionally asked to identify which further effects an EU funding might have beyond the financial advantages for the Member States, in particular in the framework of the SFS.
Furthermore, the results of the case study on co-financing (executed in Flanders, Latvia and North-Rhine-Westphalia) will be taken into account to derive an answer to evaluation question Q4.

(1) With/Without-Comparison

For comparing with the completely national financed British SFVS, an overview on its main figures and characteristics is given in Table 30. A more detailed description of this British scheme is stated in Annex 1.5.

**Table 30: Design of the British School Fruit and Vegetable scheme**

<table>
<thead>
<tr>
<th>Design of the scheme</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating children</td>
<td>2 million (2006/2007) → over 90% participation</td>
</tr>
<tr>
<td>Participating schools</td>
<td>16,000 (2006/2007)</td>
</tr>
<tr>
<td>Accompanying Measures</td>
<td>No</td>
</tr>
<tr>
<td>Measures to increase physical activity</td>
<td>Yes</td>
</tr>
<tr>
<td>Total budget</td>
<td>Approx. EUR 53 million (2006/2007)</td>
</tr>
<tr>
<td>Target group</td>
<td>Children 4 to 7 years</td>
</tr>
<tr>
<td>Frequency of distribution</td>
<td>Daily</td>
</tr>
<tr>
<td>Results of evaluation</td>
<td>Increase of fruit consumption within the scheme, but no verifiable long-term impact after the children leave the scheme (no verifiable sustainable impact).</td>
</tr>
<tr>
<td>Funding</td>
<td>Exclusively national (Department of Health)</td>
</tr>
<tr>
<td>Distribution of fruit and vegetable</td>
<td>For free</td>
</tr>
<tr>
<td>Socio-economic focus</td>
<td>Only public schools can participate which have a high share of low-income groups</td>
</tr>
<tr>
<td>Stakeholders in planning</td>
<td>Exclusively Department of Health</td>
</tr>
</tbody>
</table>

Regarding the British SFVS several similarities with the EU SFS can be observed. Both programmes intend first and foremost to increase children’s consumption of fruit and vegetables and thus, intend to increase the health status of children in the long-term. The British SFVS as well the EU SFS provide fruit and vegetables for free at the schools and aim at reaching especially - but not exclusively – children with a less privileged social background. Within the SFS as well as in the SFVS it can be observed that fruit is more favoured for children than vegetables and therefore, more distributed within both schemes to keep children’s interest.

The frequency of distribution is identified in both schemes as an important success factor. However, some aspects differ. The most conspicuous aspect is that the UK scheme concentrates on accompanying programmes which focus exclusively on the enhancement of children’s physical activities. Contrary, the EU scheme requires ACM that have a strong focus on educational integration of topics like health, agriculture and nutrition and through this mainly lead to improved children’s knowledge and understanding.

The other aspect, which is a more administrative issue, is that the SFVS is exclusively organised and managed by the British Department of Health, while the strategy of the EU scheme recommends focussing on a broad partnership between education, health and agriculture and the respective institutions. However, the leading administrative body in most Member States is the ministry of agriculture. The integration and communication e.g. between the ministries of health, agriculture and education often takes part within the strategy definition and continuous evaluation meetings.
When looking at the evaluation results of both approaches, on the one hand the co-financed schemes receiving EU aid and, on the other hand, the completely national financed scheme in the UK, the results with respect to the impact on children’s eating habits turn out to be similar. Like in most National Evaluation Reports, also for the SFVS it is stated that a short-term impact can be observed caused by the continuous fruit distribution at the schools as long as the scheme is on-going. However, after the SFVS ends significance for a still increased fruit consumption level cannot be observed.

For the SFS this aspect is difficult to answer after only two years of execution. Hence, it is difficult to measure long-term impacts at present. From this point of view one can argue that the effectiveness of both schemes with respect to the target of a sustainable increase of fruit and vegetables consumption is equal, at least up to now.

In total over EUR 50 million are spent for the UK SFVS in the school year 2006/2007 which leads to a participation rate of more than 90% of the eligible school children in the UK. These funds, which are exclusively offered by the public body, are nearly equal to the total EU funds used within the European SFS in the school year 2010/2011 (EUR 55.4 million). The total budget of the EU SFS, including the national co-financing amounts to about EUR 95 million in 2010/2011. The participation rate of eligible school children in the EU SFS only amounts to about 25% in 2010/2011 (approximately 8 million out of 33 million eligible school children).

As a broad participation of children and schools is seen as an indicator of the scheme’s effectiveness, the question on how to reach it is of high importance. The comparison with the participation rate of the SFS shows that a relative higher funding as provided in the UK (approximately EUR 26 per child instead of about EUR 12 per child in the EU SFS) obviously leads to a higher participation of schools and children.

Thus, the total budget available for the EU SFS seems to be of high importance for its effectiveness. The lower the financial capability of the individual Member State is the more important is the share of EU financing (currently 50% or 75%).

It can be concluded from the ex post evaluation analysis that an increase of the EU financing shares (e.g. up to 75% and 90%, respectively) increases the effectiveness of the scheme, provided that the participating Member States at least maintain their absolute spending for co-financing and assuming that key implementation parameters remain unchanged.

An ex post counterfactual scenario of increased EU financing shares up to 75% and 90% is displayed in Table 31. In this scenario it is assumed that …

- The EU-financing shares have been increased from 50% to 75% and from 75% to 90% respectively, unless a share of participating children equal to 100% is reached already at a lower EU-financing share116.

- Ceteris paribus for all other variables (reference: school year 2010/2011), e.g. participation of Member States / Regions, absolute national spending for the SFS, financing of Accompanying Measures, etc.

Following these modifications, the ex post counterfactual scenario results in a total budget used in the SFS of approximately EUR 160 million of which about EUR 120 million would

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116 The individual EU financing shares for each Member State / Region displayed in Table 31 are assumptions of the Evaluation Team for this scenario which are exemplary and based on the current allocation mechanism. They do neither represent the official Commissions opinion nor recent official proposals for an amendment of the School Fruit Scheme.
have been EU funds and EUR 40 million would have been national funds (excluding funds spent on Accompanying Measures). Assuming that key implementation parameters remain unchanged (e.g. choice of products, frequency and duration of fruit and vegetable distribution as in school year 2010/2011) and the higher budget used would have led to a proportional increase of participating children, about 4.5 million more children would have participated in the reference scenario compared to the de facto situation in the school year 2010/2011 which corresponds to about 40% of all children in the target group compared to about 25% in the school year 2010/2011.
### Table 31: Ex post counterfactual SFS scenario

Ex-post counterfactual SFS scenario for the SFS, subject to the following assumptions:

1. Increased EU-financing share from 50% to 75% and from 75% to 90% respectively, unless a share of participating children equal to 100% is reached already at a lower EU-financing share.
2. All other variables ceteris paribus as in school year 2010/2011 (e.g. Participation of Member States / Regions, absolute national spending for the SFS, financing of Accompanying Measures, etc.)

<table>
<thead>
<tr>
<th>Country</th>
<th>Total budget (EU aid and national co-financing)</th>
<th>EU financing (without ACM)</th>
<th>National co-financing</th>
<th>Children reached in scenario</th>
<th>Children reached in reality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>1.060.105</td>
<td>795.079</td>
<td>265.026</td>
<td>262.199</td>
<td>133.202</td>
</tr>
<tr>
<td>BE: Flanders</td>
<td>3.937.380</td>
<td>2.953.035</td>
<td>984.345</td>
<td>301.697</td>
<td>244.019</td>
</tr>
<tr>
<td>BE: Wallonia</td>
<td>891.275</td>
<td>668.456</td>
<td>222.816</td>
<td>284.710</td>
<td>134.297</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>2.212.043</td>
<td>1.988.626</td>
<td>223.416</td>
<td>320.912</td>
<td>96.439</td>
</tr>
<tr>
<td>Cyprus</td>
<td>568.362</td>
<td>305.915</td>
<td>261.446</td>
<td>52.386</td>
<td>52.543</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>4.233.391</td>
<td>2.857.539</td>
<td>1.375.852</td>
<td>466.795</td>
<td>370.241</td>
</tr>
<tr>
<td>DE: Baden-Württemberg</td>
<td>2.980.265</td>
<td>2.235.199</td>
<td>745.066</td>
<td>251.228</td>
<td>130.871</td>
</tr>
<tr>
<td>DE: North Rhine-Westphalia</td>
<td>8.366.266</td>
<td>6.274.700</td>
<td>2.091.567</td>
<td>168.602</td>
<td>85.000</td>
</tr>
<tr>
<td>DE: Rhineland-Palatinate</td>
<td>2.235.646</td>
<td>1.117.823</td>
<td>1.117.823</td>
<td>163.214</td>
<td>163.214</td>
</tr>
<tr>
<td>DE: Saarland</td>
<td>1.032.228</td>
<td>774.171</td>
<td>258.057</td>
<td>24.348</td>
<td>28.284</td>
</tr>
<tr>
<td>DE: Saxony Anhalt</td>
<td>1.362.743</td>
<td>1.229.469</td>
<td>136.274</td>
<td>15.065</td>
<td>15.065</td>
</tr>
<tr>
<td>DE: Thuringia</td>
<td>1.245.728</td>
<td>1.103.715</td>
<td>142.013</td>
<td>75.289</td>
<td>75.289</td>
</tr>
<tr>
<td>Denmark</td>
<td>3.168.984</td>
<td>2.736.738</td>
<td>792.246</td>
<td>100.274</td>
<td>51.029</td>
</tr>
<tr>
<td>Estonia</td>
<td>365.403</td>
<td>309.862</td>
<td>55.541</td>
<td>51.365</td>
<td>36.340</td>
</tr>
<tr>
<td>Spain</td>
<td>9.978.618</td>
<td>7.483.964</td>
<td>2.494.655</td>
<td>1.548.410</td>
<td>1.049.361</td>
</tr>
<tr>
<td>France</td>
<td>4.412.832</td>
<td>3.309.624</td>
<td>1.103.208</td>
<td>407.066</td>
<td>196.700</td>
</tr>
<tr>
<td>Hungary</td>
<td>6.893.276</td>
<td>5.169.957</td>
<td>1.723.319</td>
<td>359.145</td>
<td>297.865</td>
</tr>
<tr>
<td>Ireland</td>
<td>2.014.607</td>
<td>1.510.955</td>
<td>503.652</td>
<td>47.176</td>
<td>59.635</td>
</tr>
<tr>
<td>Italy</td>
<td>63.941.029</td>
<td>47.955.772</td>
<td>15.985.257</td>
<td>2.378.504</td>
<td>1.343.000</td>
</tr>
<tr>
<td>Lithuania</td>
<td>680.716</td>
<td>611.283</td>
<td>69.433</td>
<td>113.364</td>
<td>42.437</td>
</tr>
<tr>
<td>Latvia</td>
<td>723.904</td>
<td>624.005</td>
<td>99.899</td>
<td>115.326</td>
<td>73.221</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>525.983</td>
<td>344.519</td>
<td>181.464</td>
<td>84.423</td>
<td>62.587</td>
</tr>
<tr>
<td>Malta</td>
<td>396.551</td>
<td>312.086</td>
<td>84.465</td>
<td>32.398</td>
<td>31.241</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>8.400.000</td>
<td>6.300.000</td>
<td>2.100.000</td>
<td>609.217</td>
<td>287.599</td>
</tr>
<tr>
<td>Poland</td>
<td>9.881.544</td>
<td>7.411.158</td>
<td>2.470.388</td>
<td>835.507</td>
<td>835.506</td>
</tr>
<tr>
<td>Portugal</td>
<td>794.532</td>
<td>595.899</td>
<td>198.633</td>
<td>270.495</td>
<td>217.385</td>
</tr>
<tr>
<td>Romania</td>
<td>4.784.862</td>
<td>3.636.495</td>
<td>1.148.367</td>
<td>1.694.750</td>
<td>1.035.477</td>
</tr>
<tr>
<td>Slovakia</td>
<td>2.683.687</td>
<td>1.466.949</td>
<td>1.216.737</td>
<td>612.766</td>
<td>461.490</td>
</tr>
<tr>
<td>Slovenia</td>
<td>914.832</td>
<td>773.948</td>
<td>140.884</td>
<td>160.587</td>
<td>101.553</td>
</tr>
<tr>
<td>Greece</td>
<td>2.928.000</td>
<td>2.196.000</td>
<td>732.000</td>
<td>465.939</td>
<td>284.109</td>
</tr>
<tr>
<td>EU27</td>
<td>159.495.526</td>
<td>119.467.484</td>
<td>40.008.072</td>
<td>12.680.828</td>
<td>8.146.304</td>
</tr>
</tbody>
</table>
(2) Results of the survey

All of the interviewed Control Authorities and Single Contact Points report about the positive impact of the EU aid on the SFS. 70% of the interviewees state that the EU contribution has led to the implementation of a new nation- (or region-) wide SFS in their country (Figure 15). Furthermore, in those countries or regions where a well-functioning and widespread scheme has already been implemented before the EU SFS was initiated (approx. 30% of the Member States as displayed in Figure 15), the EU-funding is used to extend the scheme by involving more schools and children. This is the case e.g. in Ireland, Flanders and France with their national schemes “Food Dudes” (Ireland), “Fruit in de boekentas - Tutti Frutti” (Flanders) and “Un fruit pour la récré” (France).

Even if many Member States already implemented pilot projects before the EU SFS was in place, a nationwide distribution was not possible in most cases due to budget restrictions. In North Rhine-Westphalia (Germany), for example, there was a pilot scheme in Dortmund. In the Netherlands a small-scale program ran from 2003 to 2005.

The Control Authorities and Single Contact Points of Catalonia (Spain), Hungary, Latvia and Saxony-Anhalt explicitly state that a SFS would not have been possible without the EU aid. In Latvia the EU support is urgently needed to gain suppliers as money from the EU is deemed to be a reliable funding source and guarantees for payments and cash flow.

In particular the national co-financing in Latvia is a serious risk factor for the launch of the scheme. In Spain, the EU aid is also necessary for the start of the scheme due to national budget restrictions and the fact that many parents signalised that they could not afford buying fresh fruit.

Figure 15: Benefits of the EU aid within the SFS

![Figure 15](image)

Figure 16 provides an overview on the absolute number of participating children in the EU SFS as well as the share of participating children to all children in the target group in the respective countries. The detailed numbers are displayed in Table 32.

In total **8,146,290 children** (25% of all eligible children in participating Member States) and **54,267 schools** (27% of all eligible schools in participating Member States) participate in the SFS within the school year 2010/2011 which is significantly stimulated by the EU aid. Even though a high number of children and schools already participate in the scheme it can be observed that there is still a high potential for an increase as more than half of the participating Member States / Regions reach less than 50% of their eligible children by the scheme.
Another aspect which should be discussed with respect to the impact of the EU aid is the low share of spending on ACM\textsuperscript{117} in the total costs of the scheme which was on EU level only about 5% (EUR 4.5 million, including Ireland and Flanders) in the school year 2010/2011 (\textit{Fehler! Verweisquelle konnte nicht gefunden werden}). Contrary, the spending for fruit and vegetables, communication, equipment and evaluation which are eligible for EU financing is added up to 95% (EUR 95 million) in the school year 2010/2011\textsuperscript{118}.

Thus, the question arises if this particular budget allocation exclusively results from the Member State strategies which in most cases focus more on the product delivery than the implementation of ACM, or if this distribution might also (or even to a large extent) results from the fact that ACM are currently not eligible for EU aid? This question cannot be answered here, however, it does seem to be plausible that there is a significant correlation between the scale of a particular type of measure and it’s eligibility for EU aid which further underlines the significant influence and importance of the EU aid.

\textsuperscript{117} It should be mentioned that this share only considers the spending on ACM which is declared in Member State’s AMRs. As ACM are not chargeable for EU aid under the current legislation and thus, are funded exclusively from national sources, Member States might not report on it, even if they are asked to do.

\textsuperscript{118} EU aid for communication, evaluation and equipment has imposed limits.
In addition to the financial support of the EU and its positive impacts on the implementation and expansion of the schemes in the different countries/regions, the majority of interviewees also state that the EU contribution leads to an added credibility and relevance of the scheme (Figure 17).

The visibility of the EU within the execution of the scheme makes this programme more serious and relevant in public for teachers, parents and children. Furthermore, half of the interviewees mention that the promotion of a Europe wide SFS has increased the image and awareness of the EU and creates a higher identification with the EU for the participants of the scheme. 40% of all interviewees see a benefit in the possibility of knowledge exchange between Member States, especially through the national and overall evaluation and the continuous Member States meetings which are moderated by the European Commission119.

Healthier children and a better knowledge about a healthy diet respectively are mentioned by 20% of the respondents as SFS benefits beyond the financial support. Other benefits that are

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119 The Member States Meetings on the School Fruit Scheme usually take place in spring of each year. The latest “Member States Meeting jointly with the Advisory Group on Fruit and Vegetables and the School Fruit Scheme Experts Group” took place on 28th March 2012 in Brussels and was moderated by Hermanus Versteijlen, Director of Directorate C2 at DG-AGRI. Representatives of all Member States were invited, also from those countries which do not participate currently in the EU School Fruit Scheme.
mentioned are the financial support for the agricultural sector by an increasing consumption, acquainting the urban citizens with the rural life, improved communication levels for the schools and the possibility of creating pedagogical utilities.

Figure 17: Non-financial benefits of the EU aid within the SFS

Box 5: Conclusions on EU aid (Theme 2, Question 4)

- The EU aid – the financing share as well as the absolute EU funds - has a positive or even essential impact on the effectiveness of the SFS. The EU funds are essential for the realisation of nation- (or region-) wide SFSs in nearly all participating Member States. Furthermore ex post counterfactual analysis shows that a higher EU funding share (beyond 75%) would have lead to an extension of the SFS’s scale and effectiveness (increased number of participating schools and children) as a higher EU financing share under unchanged national spending would have lead to a higher total budget used and higher uptake of the scheme.

- Currently, most Member States / Regions use exclusively public funds for national co-financing and the uptake of EU aid is very different across Member States (on average 60% of final allocation in 2010/2011). 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 regarded critically in most Member States as children from less privileged social backgrounds might be excluded from the scheme since their parents might not be able to pay for it (cf. case study on co-financing, Annex 1.4).

- The EU aid leads to an increased credibility and relevance of the scheme. The visibility of the EU within the SFS makes this programme more serious and relevant in public and leads to an increased image and awareness of the EU.
4.2.3 Q5: (A) Which implementation parameters of the scheme (e.g. frequency of offering the products, parental financial contribution, co-financing, choice of products and educational establishments, time burden for the school) have contributed most to its effectiveness and (B) to what extent have socio-economic and other factors influenced the effectiveness?

Understanding of the question

Answering question Q5 aims at identifying critical success factors of the EU SFS. For this purpose the answer to the evaluation question Q5 which is split in two parts (A: success factors and B: socio-economic factors) is undertaken according to the following steps:

- Identification of possible critical success factors
- Execution and analysis of interviews in all focused Member States
- Analysing the National Evaluation Reports for the identification of success factors which are not questioned in the survey explicitly

Answer to question (A): Which implementation parameters of the SFS have contributed most to its effectiveness?

As a starting point potential success factors have been identified and explicitly questioned in the single interviews executed:

- High frequency of offering fruit and vegetables (more than once a week)
- Free distribution of fruit and vegetables
- Accurate fruit delivery and reliable logistics
- Parental contribution to financing
- Parental contribution to Accompanying Measures (non-financial)
- Private contribution to financing
- Private contribution to Accompanying Measures (non-financial)
- Public contribution to financing
- Public contribution to Accompanying Measures (non-financial)
- High EU co-financing (50% at least)
- Wide choice of products (at least 5 different types of fruit)
- Adequate Accompanying Measures complementary to free fruit distribution
- High time expenditure per child (at least 3 minutes per child and week)
- Proper monitoring and evaluation requirements

According to the interviewed parents, school headmasters and Control Authorities the most important factors and therefore the main drivers for the success of the project are

1. The wide choice of products (at least 5 different types of fruit)
2. The “high frequency of offering fruit and vegetable” (more than once a week)
3. The “high EU co-financing”

The weighting of the different success factors is displayed in Figure 18.
Figure 18: Main determinants for the success of the EU School Fruit Scheme

- Wide choice of products (at least 5 different types of fruit)
- High frequency of offering fruit and vegetables (more than once a week)
- High EU aid (50% at least)
- Free distribution of fruits and vegetables
- Accurate fruit delivery and reliable logistics
- Proper monitoring and evaluation requirements
- High time expenditure per child (at least 3 minutes per child per week)
- Adequate accompanying measures complementary to free fruit distribution
- Public contribution to accompanying measures (non-financial)
- Parental contribution to accompanying measures (non-financial)
- Private contribution to accompanying measures (non-financial)
- Private contribution to financing
- Parental contribution to financing
By a nomination of 72% of all interviewees the “wide range of products” (at least five different types of fruit and vegetables) is the most important success factor. 20% of the interviewees think that a wide range of products is important and just 1% thinks it is unimportant for the success of the scheme.

In most countries, fruit and vegetables products can be chosen from a list of different types, specified and defined by the National Control Authority in accordance with their national strategy and the requirements of the EU legislation. Usually, 5 to 10 different types of fruit and vegetables are offered to the children at the schools and in most cases the school headmasters recommend to enlarge the choice to keep the children’s interests in the scheme.

As children need to explore different types of fruit tastes and textures a big variety of fruits is helpful. However, some interviewees mention to keep an eye on the regional and seasonal products which is in most cases also part of the national implementation strategy. This is to stimulate according to environmental, economic, social and health reasons the local production, to encourage the knowledge of seasonality and to reduce “food kilometres”.

However, there seems to be a conflict between a wide choice of products which is more interesting for children, and a regional and/or seasonal choice, which is basically more limited. Most Member States recommend that the decision of the product choice should stay at school level to ensure for an individual specification based on the needs and preferences of the respective children.

Also 72% of the interviewees consider the “high frequency of offering fruit and vegetables” (more than once a week) to be very important. 17% think that it is important and just 5% of the interviewees think that it is not important to offer fruit and vegetables more than once a week. A distribution up to 3 times a week is often applied in schools. In North Rhine-Westphalia and further eight Member States schools even offer fruit and vegetables up to 5 times a week.

The Member States which offer fruit just once or twice a week recommend to enlarge the distribution. They conclude that a one-week distribution is neither sufficient nor sustainable. In general, all representatives state that the more often fruit and vegetables are offered the higher is the positive impact. A higher frequency leads to a higher probability that the scheme will have a long-term and thus, sustainable impact on the children’s eating habits.

The interviewed people that offer fruit and vegetables 3 times a week say that this seems to be the optimal amount of distribution as a higher number of supplies would certainly create higher organisational and material costs. Ireland for example feels very confident with the scheme they started with. Within a 16-day period the children get fresh fruit every day. After this period they have to bring fruit and vegetables themselves.

However, a high frequency can lead on the other hand also to a reduced scale of the scheme (in terms of a lower number of participating schools) or alternatively to a reduced duration of the scheme as the total budget available is usually the limiting factor. This is in particular true for countries or regions which have a limited national budget (e.g. Saxony-Anhalt). An additional aspect is also the higher organisational effort for the schools which occurs through a daily distribution of the products.

An important aspect which justifies a reduced frequency in the next school year (2011/2012) for example in North Rhine-Westphalia (decrease from 5 to 3 times a week) is to ensure a high level of continuity in participation which should be given for several years. Ideally, the children can participate in the scheme during their whole school time. The continuity in ad-
dition to a high frequency is often mentioned by the Member States and is also of high importance as a long-term participation for several school years might increase the sustainable impact of the scheme. However, Italy has the policy that new schools have priority and participating schools have to leave the scheme when there is overbooking by the schools in terms of the available budget.

Both, duration of the scheme (absolute number of weeks during which the scheme is applied at the schools) and the number of food delivery days per week (frequency of the delivery) vary highly across the participating Member States. Figure 19 provides an overview for all regions and countries which participate in the EU SFS. Here, the average duration of the scheme at school level (blue pillars) and the “Net delivery weeks” - which is a calculated value based on the “frequency of distribution in days/week” times the “total duration of the scheme in weeks” divided by “5 schools days per week” - is displayed. If e.g. the duration is 35 weeks and delivery is on one day in the week the number of net delivery weeks is 7.

Figure 19: Duration and delivery weeks in participating Member States

By comparing both values across the different Member States six different distribution strategies may be identified:

1. A long duration in combination with a high frequency (e.g. NRW, Slovenia)
2. A long duration in combination with a low frequency (e.g. Czech Republic, France)
3. A medium duration in combination with a high frequency (e.g. Romania)
4. A medium duration in combination with a low frequency (e.g. Cyprus, Italy)
5. A short duration in combination with a high frequency (e.g. Ireland, Latvia)
6. A short duration in combination with a low frequency (e.g. Netherlands, Greece)

120 The duration per Member State is measured as an average value as in some countries the schools can individually decide for particular duration periods.
Taking the prioritisation done by the Member States within the interview surveys into account which indicate that the higher the frequency and the higher the duration of the scheme the higher the positive long-term and thus sustainable impact on children's nutrition behaviour, appears that only those Member States or participating regions execute a sustainable school fruit strategy which combine both, a long duration and a high frequency which is true for at most one third of the regions as displayed in Figure 20.

However, these success indicators – even though they might be of high importance – cannot be analysed without taking into account other success factors, like the already mentioned wide choice of products or the design and extent of Accompanying Measures which strongly depends on the individual implementation logics of the National Strategies. Hungary for instance has a good score on the two mentioned success factors but offers only apples in the national scheme.

**Figure 20: Frequency and duration of the SFS**

The indicators, duration and frequency, provide no information on the scale of the programme (share of participating children as % of children in the target group) which might lead to misjudgements if for example a long duration and a high frequency is carried out – which is very positive – but only 10% of the children in the particular region are reached. This example shows how difficult an overall evaluation of the performance of the schemes is, in particular if various success factors have to be considered and different implementation logics exist.
After only two years of implementation the precise ex post relative contribution of success factors to the long term increase of fruit and vegetables consumption and to healthier eating habits is difficult to assess. Neither the SFS regulation nor the guidelines offer prior information on how the effectiveness of the regional schemes can be measured and compared. At this stage an overall ranking of the effectiveness of the regional schemes can therefore only be descriptive (Annex 1.2).

With 71 %, the **high EU aid** (at least 50%) is also mentioned in the survey as a very important success factor for the effectiveness of the scheme. The Control Authorities state that the EU aid is a “good-to-have” and a “precondition” for the whole programme. The initial success is primarily based on the large-scale free distribution which to a large extent is only practicable through the EU aid.

Most interviewees state that the programme would not be possible without the EU contribution. The financial support of the EU ranges between 50% and 75% of the eligible costs of the SFS but not of the whole programme costs. In particular ACM which are obligatory within the scheme have to be financed solely by the Member States. Hence, most of the Control Authorities recommend enlarging the EU funding coverage to ACM. Furthermore, a higher EU financing share (75 – 90%) is seen as an appropriate measure to extend the scheme’s scale and effectiveness in most participating Member States. Most Control Authorities mention that they would use such an increase to expand the scale and not to reduce the national co-financing volume.

Surprisingly low is the rating found in the evaluation for the factors “**Free distribution of fruit and vegetables**” and “**Adequate Accompanying Measures**” which both were beforehand assumed to be among the most important success factors. 61% of the interviewees regard the free distribution as very important and only 35% evaluate the ACM as a very important component of the scheme. However, most interviewees mention that the free distribution should be maintained. The 7% which state that a “free distribution” is not an important factor mention that, on the one hand, a child’s eating habit is a family education issue or, on the other hand, that they are on a high-income level where a closing of the free distribution would not matter.

Another aspect occurring from the fact that fruit and vegetables are valuable products and thus, should have a value when consuming. All other arguments for a free distribution have already been mentioned within the “Special Report No 10/2011” of the European Court of Auditors. Here, the SFS and School Milk Scheme (SMS) are compared regarding their effectiveness and with respect to the “free distribution” which is not given in the SMS it is mentioned that “Owing in particular to the low subsidy rate, the School Milk Scheme continues to be relatively unattractive and, as a result, generally has no more than a deadweight effect. […] The audit showed that, while the decision by certain Member States to organise distribution free of charge has resulted in a more satisfactory impact …”

With respect to ACM most Member States mention that the focus of the scheme should be on the distribution of fruit and vegetables. Only 35% of the interviewees think that adequate ACM complementary to free fruit distribution are very important for the success of the programme. However, 37% think that this factor is important and only 5% think that they are unimportant. The implementation of at least one ACM per school is a precondition for the EU subsidy. In the countries, these measures are implemented in different ways. The product

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121 Eligible costs for EU aid within the SFS are: product costs (f&v), evaluation and monitoring costs and costs for equipment and communication measures.
distribution in Belgium for example has to take place in a group and has to be accompanied by adequate information in form of lessons or visits to auctions or growers.

However, the bulk of interviewees (predominately the school headmasters) mention that topics like “healthy nutrition” are already part of the standard school curriculum and an additional input from the national government is an advantage but not essential for the success of the scheme. Further education with respect to these topics is welcome, but the current level is seen as already sufficient in most cases.

Options for further ACM could be for example project days or weeks, excursions to farms, or a “school garden”. This might be a welcome break from the lessons and the children might learn about practical aspects. However, many of the interviewees state that all these considerations should be made at schools level as various individual aspects have to be taken into account. Additionally, to increase the quality of ACM, teachers should be “educated“ for possible and specific ACM.

The evaluation in North Rhine-Westphalia for example shows that 70% to 80% of the school headmasters ask for help on this issue while 40% ask for specific training. In general, the training of teachers is a very effective and cost-efficient measure which should be supported within the scheme. Another aspect which might hinder the introduction of additional ACM is the additional time required.

Some headmasters report that they really would like to take more time e.g. for the preparation of the fruit and vegetables together with the children – which might be a very effective instrument to increase the children’s interest and knowledge on the quality of those products – but as they have to fulfil a given curriculum this time is often not available.

The alternative would be that initiatives like preparation of fruit and vegetables with the children are carried out outside the curriculum hours but this will require additional budgets for organisational costs etc. How and to which extent ACM are applied by the Member States will be further discussed within the next evaluation question and particularly in the case study on ACM (Annex 1.4).

The factors “accurate fruit delivery and reliable logistics”, “public contribution to financing” “proper monitoring and evaluation requirements” and “high time expenditure per child” are also mentioned as important factors for the success of the project. The factors “private contribution to Accompanying Measures”, “private contribution to financing”, and “parental contribution to financing” are considered by most interviewees as unimportant.

Up to 38% of the interviewed people consider “parental contribution to Accompanying Measures” (non-financial) as being very important. The situation of the parental contribution is very different over all countries. In most countries there is no parental contribution. However, most of the representatives consider this factor to be very important. Parents can encourage their children and support the programme from home, by giving the children fruit and vegetables to take with them to school. Thus, the real contribution of parents is to support the global educational concept. In general, a higher involvement of the parents is desired.

Another contribution which can be made by parents is the organisation and execution of the fruit and vegetables preparation and distribution at the schools. Again the real input of parents is very different and varies from school to school, depending of the social structure of the parents (e.g. both parents are full time employees or only one parent). Furthermore, if parental help is already engaged in the school the gain with respect to a reduced workload for the teachers varies also very strongly.
Some headmasters report that the introduction of the parents requires a lot of time and a high frequency of changing parents can reduce the overall gain totally. However, other headmasters report that the coordination of parental help with the distribution and preparation of fruit and vegetables is very efficient and uncomplicated. In fact, some state that they strongly depend on the parental contribution and if this opportunity would not exist they would have to employ an unskilled worker or even exit the scheme.

Especially the contribution of parents regarding the preparation and distribution of the products seems to be an important success factor of the scheme at school level which might be more important as a potential contribution of parents to Accompanying Measures. The development of an overall concept which supports the parental motivation to engage in the scheme might be very useful but also difficult as it depends strongly on school specific issues.

Only 16% of the representatives state that “private contribution to Accompanying Measures (non-financial)” is a very important success factor for the programme, 45% think that this factor is unimportant. In most countries the private contribution is marginal. Still, the idea of private contribution is very welcome. Local farmers for example could show the children their fields or fruit growers associations could participate. In Germany, there is already a high contribution by the agricultural associations, e.g. the “Landfrauen”.

In general, all contributions enrich the programme. 35% of the interviewees think that “private contribution to financing” is an unimportant driver. In most countries there is no private contribution (e.g. by sponsoring contracts) at all. Ireland will look for sponsorships in the next generation programme to cover the costs. Private financing could be an opportunity to reduce the community costs and to increase the number of schools participating but it is not seen as an important success factor. Another negative aspect which is stated by most interviewees not applying any sponsoring funding is that they do not want to rely on private funding as this might be an unstable and probably not continuous funding source.

The least discussed factor is the “parental contribution to financing”. 47% say that this factor is absolutely unimportant for the success of the programme. Just 12% consider this factor to be very important. In most countries there is no parental contribution at the moment (except for Slovakia, Denmark, Austria and Flanders). Latvia clearly says that a parental contribution to the financing is not realistic in the current economic situation and it is also not possible to realise the programme with this contribution. If a financial contribution becomes obligatory this might lead to an exclusion of those children whose parents are not willing or able to pay. In view of the objectives of the SFS this situation should be avoided.

An issue which is mentioned especially by school headmasters and which also is an argument against a parental contribution to the funding of the scheme is that the collection of the money requires a high organisational effort. However, supporters of a parental contribution argue that they want to enhance the value of fruit and vegetables as these are valuable products and thus, should have a value when consuming.

On the other hand, by asking financing from the parents, they tend to engage parents to the system. The financial contribution of parents is regarded very critically as most national evaluations have shown that the participation in the SFS without a public financing would be significantly lower. An additional aspect is that in particular children with high needs should be reached and some parents might not be able to pay the parental contribution and private sponsoring is often not available.
Answer to question (B): To what extent have socio-economic and other factors influenced the effectiveness?

This question intends to show whether there is a correlation between the specifications of socio-economic criteria, like for example the “social background” of children, their gender, or their age and the level of impacts resulting from the SFS. As an overall target of the SFS strategy is to foster in particular children with less privileged social background by the scheme, this question is highly important.

In the context of the impacts of socio-economic factors on the scheme’s effectiveness different opinions have been observed. Some interviewees do not think that socio-economic factors influenced the effectiveness of the programme. The representatives of Ireland for example say that the scheme works in all kinds of school, regardless of parental income and social background. Also the Italian representatives stated that the programme has been well supported by all parents no matter their cultural, social or income level.

Other voices state the opposite. Following observations in the Netherlands, Latvia, Sachsen-Anhalt and North Rhine-Westphalia, the child’s background definitely influences the programme’s effectiveness as there is a significant correlation between certain socio-economic groups and consumption habits, especially with respect to fruit and vegetables consumption.

Parents with a less privileged social background and less education were according to the observations mentioned before less able to see the benefit of an education programme like this and are more cautious to supply fruit to their children at home. Also fruit and vegetables would not be the first priority for these families since other necessary items need to be purchased first. In Germany, the National Evaluation Report (NER) identifies that especially the children with a less privileged social background show a very high interest in the scheme.

Furthermore, the national evaluations reveal that girls have a higher starting consumption of fruit and vegetables. Girls generally also show higher consumption increase of fruit and vegetables in the SFS than boys. From the national reports it becomes clear that these facts are partly driven by socio-economic factors. In almost all participating countries (except for only a few like Hungary, Bulgaria, Slovakia and North Rhine-Westphalia) there was no special focus on the involvement of children with high needs. Here, the criterion for the participation is the age group and not the social status. It was the decision not to focus on low-income school areas and not to differentiate the scheme in this way.

However, as the interviewees from Ireland state, the programme is adoptable for children with high needs. Autistic children for example are treated differently, as they get shown pictures in the first day and then they get used to fruit and vegetables step by step every day. In North Rhine-Westphalia (Germany), the Control Authority states that there is a special focus on the involvement of children with high needs.

The participation of schools which have a significant share of children with high needs is one of the core elements of the implementation strategy. For the identification of those schools, criteria were developed and applied on the basis of social indicators. In the first year, the criteria were measured by existing (predominately regional) programmes like “Soziale Stadt”, “Stadtumbau West” and “Kein Kind ohne Mahlzeit”. In the second year of operation, the criteria were measured even more regionally. The indicators which are not covered generally by official institutions are among others e.g. the social index, the migration quota, the share of welfare recipients and the share of single family houses.

Some Member States signalise that they decided explicitly against a focus on social criteria as they wanted to avoid any stigmatisation of schools or children. Within the survey it is
asked for a common share of children with less privileged social background participating in the national schemes. However, most of the interviewees are very uncertain about measuring such a share. In Ireland for example the representatives state different opinions which range between 15% up to 64%. The representatives from Latvia also state that such information is not directly available but they put the share at least at 50%. Italy does not cover this aspect in the national evaluation because the scheme does not focus on specific target groups.

The Italian representatives assume that the share might be very small. Hungary states that the proportion in the low-income regions is more than 80% and also other interviewees state a range between 50% up to 60%. The Netherlands did not collect a number but estimate the share to be up to 20%. As well Flanders (Belgium) does not have exact figures. An estimated share stated by the Control Authority is 15%. In Saxony-Anhalt (Germany), the share of children from low income groups is not evaluated either, but estimated very low. Likewise in North Rhine-Westphalia where a socio-economic focus is set, the share seems to be between 10% and 20%.
Box 6: Conclusions on success factors (Theme 2, Question 5)

- The **wide range of products** is an important success factor for the effectiveness of the SFS. At least 5 to 10 different products should be offered which is important to keep the children’s interests. As children need to explore different types of fruit tastes and textures a big variety is needed. However, there is a conflict between a wide choice and a regional and/or seasonal choice which is basically more limited. To ensure an individual choice based on the preferences of the respective children this decision should stay at school level.

- The **high frequency of offering products** is an important success factor for the effectiveness of the SFS. A distribution up to 3 times a week is often applied and Member States which offer fruit just once or twice a week recommend to increase the distribution. 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 better the positive impact is as a higher frequency leads to a higher probability that the scheme will have a long-term and thus sustainable impact on the children’s eating habits. A frequency of 3 times a week seems to be adequate as a higher number of supplies would certainly create higher organisational and material costs. Furthermore, a high frequency can lead also to a reduced scale of the scheme or alternatively to a reduced duration as the total budget available is usually the limiting factor.

- The **continuity of distribution** is of high importance for the effectiveness of the SFS as a long-term participation over several school years might increase the sustainable impact with respect to improving the eating habits of children. Here, the relation between the duration of the scheme (absolute weeks where the scheme is applied at the schools) and the delivery days per week (frequency of the delivery) varies strongly across the participating Member States.

- Most Member States / Regions are going to maintain the **free distribution** of fruit and vegetable. When comparing the SFS and School Milk Scheme regarding their effectiveness and with respect to the “free distribution” which is not given in the SMS it can be observed that “owing in particular to the low subsidy rate, the School Milk Scheme continues to be relatively unattractive and, as a result, generally has no more than a deadweight effect.” (Court of Auditors) This observation underlines the relevance of the free distribution for the success of the SFS.

- Most Member States / Regions point out that the focus of the scheme should be more on the distribution of fruit and vegetables. Only a minority think that **adequate Accompanying Measures** complementary to the product distribution are very important for its success.

- **Socio-economic criteria** influence the effectiveness of the SFS as there is a significant correlation between certain socio-economic groups, consumption habits and the possibility to change consumption habits. Children from a less privileged social background show a very high interest in the scheme. Furthermore, in the SFS girls show a higher consumption increase of fruit and vegetables than boys.
4.2.4 Question Q6: To what extent have the Accompanying Measures influenced the effectiveness of the School Fruit Scheme?

- Understanding of the question

Question Q6 wants to answer the question whether ACM are a success factor which leads to an effective outcome of the SFS.

- Accompanying Measures within Member States SFS

Conceptual designs to integrate ACM in the SFS vary between the Member States as it is shown for France, Ireland and the Netherlands in the case study report (Annex 1.4). The most common approach (six out of the ten focus countries) is to offer schools a variety of teaching material and suggestions for ACM and to let them decide how to implement the measures.

Ireland has a totally different approach. Within the Food Dudes programme ACM are regarded as a key factor for the effectiveness of the scheme. The significant impact of these standardised measures is proved by scientific research. More details on design and impact of the Irish concept are given in the case study (Annex 1.4).

Two of the ten focus countries do not provide any support to the schools for carrying out ACM and leave their implementation completely to the schools. In Germany, France and Latvia ACM are merely carried out within the regular school curriculum.

This may be an explanation on why for example 70% of the participating children in secondary schools in France are not aware that ACM have been carried out\(^\text{122}\). In such cases it depends strongly on teachers whether the lessons are linked to the SFS and hence, identified as part of it\(^\text{123}\). In general it has to be questioned how these Member States ensure that the measures carried out as part of the regular lessons can be considered as ACM in the sense of the scheme's regulation.

According to the interviews with headmasters, the themes education, health and agriculture are integrated in the ACM. However agricultural themes are not as well addressed as the other topics. Ireland for example does not focus on agricultural themes, in several other States / Regions (the Netherlands, Italy, Belgium, NRW, Saxony-Anhalt, Hungary) the integration depends on the school or on the initiative and engagement of suppliers.

In those cases where schools are fully in charge of ACM, stakeholders like fruit and vegetables growers or suppliers are less involved than in schemes with shared responsibilities. This result has been found in the case study\(^\text{124}\) as well as in interviews and in National Evaluation Reports\(^\text{125}\). Explanations for the low integration concentrate on problems of finance measures like farm visits and school gardens or on difficulties in getting in contact with producers/suppliers. Hungary mentions good experiences in shared responsibilities: In order to in-


\(^\text{123}\) The European Court of Auditors draws the same conclusion. The EUROPEAN COURT OF AUDITORS (2011) : „Are the school milk and the school fruit schemes effective?“, Special report o. 10, p. 38

\(^\text{124}\) See case study on Accompanying Measures, (Annex 1.4).

Integrate farm visits and agricultural themes suppliers are responsible for this theme, whereas schools are responsible for lessons on health and nutrition.

Table 33: Themes covered in Accompanying Measures

<table>
<thead>
<tr>
<th>Integration of the themes education, health and agriculture</th>
<th>High integration</th>
<th>Moderate integration</th>
<th>Marginal integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accompanying Measures related to education</td>
<td>16</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Accompanying Measures related to health</td>
<td>14</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Accompanying Measures related to agriculture</td>
<td>10</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>

Attitudes towards ACM

Regarding ACM two main attitudes appear:

(1) Several participating Member States and the United Kingdom\(^\text{126}\) apparently believe that free distribution of fruit and vegetables is the most important key for changing eating habits. They stick to the principle of situational prevention. The strategy to change living and environmental conditions in order to achieve healthier eating habits is a common technique to fight overweight and obesity among children and adolescents.\(^\text{127}\) The basic idea implies that children eat fruit and vegetables if they have the opportunity to do so. Through a regular free distribution they get used to eating fruit and vegetables. Therefore, ACM in these Member States / Regions are regarded and implemented as ‘additional extra’.

(2) A small group of Member States argues that it is necessary to change children’s awareness and attitude towards fruit and vegetables consumption in order to influence eating habits. They argue that only ACM will help to keep the fruit and vegetables consumption on a higher level in a sustainable way even after the free distribution is stopped.

75% of all interviewees state that ACM contribute positively to the SFS. Positive impacts which they expect from these measures are presented in detail within the case study on ACM (Annex 1.4) and can be summarised as:

- Increase of knowledge on fruit and vegetables and healthy eating
- Impulse to try new fruit and vegetables and getting to know these varieties
- Sensitise to eat five portions of fruit and vegetables per day
- Motivation to change eating habits
- Enrichment of school education
- Fun for children to deal with fruit and vegetables

Some of the participating Member States which expected a rather marginal impact of ACM on eating habits did not evaluate the impact of ACM (e.g. Saxony-Anhalt, Hungary and Latvia). Hungary mentions problems to differentiate the impact of ACM related to the SFS from impacts of the general education on ‘healthy living’. Italy evaluated which of the ACM carried out children like best rather than evaluating their impact.

\(^{126}\) However the national Health Department in UK discusses a shift towards strengthening Accompanying Measures. Personal information by F. Lowe, 02.05.2012

According to the Evaluation Reports from Flanders, North Rhine-Westphalia and the Netherlands, the contribution of ACM to the programme remains unclear. Indicated in the case study, France and the Netherlands cannot determine any short-term impact on eating habits. In Flanders, where an intensive pedagogical programme is carried out it even appeared that children from a non-participating school had more knowledge about the nutrition triangle than children in participating schools.\textsuperscript{128} Differences in knowledge increase have not been witnessed for participating and non-participating schools.\textsuperscript{129}

For North Rhine-Westphalia, the evaluation shows a significant knowledge increase in the intervention group if baseline and follow-up measurement are compared\textsuperscript{130}, whereas the increase in consumption differs from school to school. For the message of “5 a day” however a significant knowledge increase over time is analysed for the control group.\textsuperscript{131} The Dutch Evaluation Report shows an increase in children’s knowledge but no additional consumption, which suggests that that knowledge necessarily does not influence consumption behaviour directly.\textsuperscript{132} This point is also addressed in the Evaluation Report of North Rhine – Westphalia.\textsuperscript{133}

Even if the way ACM contribute to the scheme’s success needs to be analysed further, the instrument is regarded as an assurance for the successful implementation of the EU SFS.\textsuperscript{134} According to the results found in the case study and supported by National Evaluation Reports, the integration of ACM and the evaluation of their impact could be carried out more effectively.

By establishing an incentive for the Member States to pay more attention to their conceptual design, the importance of ACM would be strengthened. The European Commission suggests in its CAP 2020 reform proposals, among other measures to support the EU SFS, to make expenditure on ACM eligible for EU aid. If these measures become eligible they are subject of the evaluation and assessment of the scheme’s effectiveness as well.\textsuperscript{135} In addition, the Commission may guide Member States towards more effective strategies by providing criteria for ACM in order to qualify for EU financing.

\textsuperscript{128} Evaluation report of Flanders, p. 15
\textsuperscript{129} Evaluation report of Flanders, p. 13
\textsuperscript{130} Evaluation report of North Rhine – Westphalia, p. 18
\textsuperscript{131} Evaluation report of North Rhine – Westphalia, p. 18
\textsuperscript{132} Evaluation report of the Netherlands, p. 11-12
\textsuperscript{133} Evaluation report of North Rhine – Westphalia, p. 18
\textsuperscript{134} See Article 12 (2) of Commission Regulation (EC) No 288/2009 of 7 April 2009
\textsuperscript{135} See Article 3 (4) of Commission Regulation (EC) No 288/2009 of 7 April 2009
Box 7: Conclusions on Accompanying Measures (Theme 2, Question 6)

- Accompanying Measures are either regarded by Member States / Regions as a key factor for changing children’s eating habits or as “additional extra” within the scheme. Therefore, the measures are different in emphasis, design and implementation. However, all approaches integrate action-orientated and sensory measures as well as knowledge transfer.

- Accompanying Measures are mainly carried out by teachers, who are supported by parents, farmers or other stakeholders occasionally during action days. Providing teachers with (physical) teaching materials and support contributes to the effectiveness of Accompanying Measures.

- As scientific literature and the case study report (Annex 1.4) show, their impact is highly dependent on the methodological design. Research in Ireland demonstrates that the Food Dudes programme is essential for the sustainable increase in children’s fruit and vegetables consumption. Other Member States, which implement different approaches for Accompanying Measures, cannot determine a short-term impact on consumption behaviour. Therefore, the way of how they contribute to the scheme and which methodological approach is most effective needs to be analysed further.

- In order to examine the effectiveness of certain Accompanying Measures it is essential to define specific evaluation questions in the National Evaluations and that the measures that are carried out are well documented. As long as the implementation of Accompanying Measures depends on school individual concepts there might be as many concepts as schools involved. Problems occur if these measures cannot be addressed separately from regular school education.

- The way to strengthen the importance of Accompanying Measures as part of the SFS and to overcome several existing difficulties is making the Accompanying Measures eligible for EU aid under the EU School Fruit Scheme.

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4.2.5 Administrative and organisational burdens in the School Fruit Scheme

For reasons of effectiveness and efficiency of the EU School Fruit Scheme the question is important if administrative and organisational burdens caused by the legislation of the SFS (e.g. documentation and reporting obligations like monitoring and evaluation requirements) are critical factors for Member States’ decisions on participation in the SFS and thus, may hinder the scheme’s uptake and limit its scale and impact.

This evaluation has addressed explicitly this questions by case studies carried out in the participating Member States/Regions Italy, Catalonia (Spain) and Saxony-Anhalt (Germany). The design and the results of these case studies are described in detail in Annex 1.4 of this report. The methodology and results of the CEPS Report of 2011 on administrative burden caused by the European School Fruit Scheme and School Milk Scheme\(^{139}\) are taken into account in the case study analysis. Some main methodological issues and findings are summarized and discussed here.

Following the definition given by the CEPS report Administrative Burdens (AB) are those parts of the administrative costs\(^{140}\) resulting from collecting and processing information which would not be collected or processed by an undertaking in the absence of the measure. Finding that a measure generates many burdens does not imply any judgment on its usefulness and benefits. Within the EU SFS such burdens might occur e.g. from reporting obligations (monitoring and Evaluation Reports), product checks, annual strategy definition and adaptation, etc.

This definition limits administrative burden explicitly to those burdens which result from any legislative obligations for documentation, reporting and product controls. Taking this more restricted definition into account the case studies (as described in Annex 1.4) try to measure the burdens resulting from the described causes in terms of expenditures and time requirements in the three different regions by comparing a centrally organised scheme (Italy) with regionally organised schemes (Catalonia and Saxony-Anhalt).

Furthermore, recommendations from the Control Authorities of the case study regions have been considered and the results have been compared with the findings of the CEPS Report which permit to draw general conclusions with respect to the above mentioned definition of burdens:

- Administrative burdens in the SFS are on average level with regard to other agricultural aid schemes such as direct aid and thus, seem not to account for a main barrier for schools/countries to participate.
- Administrative burdens in the regional organised schemes are higher in relation to the number of participating schools and children than centrally organised schemes.
- Administrative burdens to some extent behave like fix costs and might not increase if the scale of the scheme increases (relative burdens will fall if the participation rate will increase).

\(^{139}\) CEPS Special Report (by RENDA AND LUCHETTA): “Measurement of Administrative Burdens generated by the European Legislation – AB Quantifications of the School Fruit Scheme and the School Milk Scheme”. Brussels, 7th December 2011

\(^{140}\) Administrative costs are defined as the costs incurred by a normally efficient enterprise in meeting legal obligations to provide information on its action or production, either to public authorities or to private parties. RENDA AND LUCHETTA (2011)
Reduction of product checks, especially if overlaps with obligatory quality checks from national legislation exist, seem to be an appropriate approach to reduce administrative burdens.

Merging the monitoring and reporting obligations or even the whole administrative framework of the European School Fruit and School Milk Scheme could reduce administrative burden in both schemes provided that reporting requirements etc. are aligned between these two schemes.

A more detailed discussion on these findings is provided in the detailed case study report in Annex 1.4.

However, even though these observations show that administrative burdens caused by the documentation, reporting and control obligations of the scheme’s legislation are on average level compared with other CAP policy measures and thus, do not constitute as main obstacle for schools / countries to participate, the interview survey executed within this evaluation analysis emphasised an additional and probably more critical aspect of burdens within the implementation and execution of the scheme. This aspect appears rather at school level than at the higher administrative level (ministries) and is caused more by organisational challenges than by administrative obligations.

In this regard the interview survey points out that in most participating Member States / Regions in particular **schools have to overcome two organisational challenges:**

1. Managing the accurate fruit and vegetables delivery and the related reliable logistics which is one of the most important success factors for the effectiveness of the scheme. This can only be ensured by an intensive and well working collaboration with the fruit and vegetables supplier.

2. Managing the accurate fruit and vegetables preparation and distribution to the children at school.

Following experiences of participating school headmasters both aspects cause significant time requirements which is a very critical aspect as the available teaching staff is in most cases working to full capacity within the school’s curriculum and the necessary man-power is scarce. While the first challenge mentioned above is usually dealt with the school headmasters, the second challenge can also be dealt with parents.

However, parents who are willing and able to help are also scarce, especially in schools which are located in socially less privileged regions and quarters where both parents are obliged to work in full-time employments. As in particular those regions and quarters which have a high share of children with high needs are in the focus of the scheme it is important to ensure that the occurring organisational burden for the schools can be compensated and will not occur as a main barrier for participation.

Because of this, the definition of the scheme’s burden should be enlarged to cover also organisational aspects which by contrast to administrative burden have the potential to act as a critical barrier for schools to participate in the scheme.

Following the experiences and recommendations of participating school headmasters it is therefore recommended that National Strategies give more attention to the role of organisational and logistic costs of the schools that are not eligible for aid as these costs limit the uptake and thus the impact of the scheme.
Box 8: Conclusions on administrative and organisational burdens

- The **administrative burden** resulting from any legislative obligation for documentation, reporting and product controls in the School Fruit Scheme is on average level and thus, does not constitute a main obstacle for schools / countries to participate. Thereby, the regional organised schemes show higher administrative burdens in relation to the number of participating schools and children than centrally organised schemes.

- Administrative burdens largely behave like fix costs and might not increase when the scale of the scheme increases (relative administrative burden will fall if the participation rate will increase).

- Discontinuing product checks that overlap with obligatory product quality checks from national legislation seems to be an appropriate approach to reduce the administrative burden.

- 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.

- **Organisational and logistic burdens** for the schools which are currently not eligible for aid need more attended in the national Strategies in order to increase the uptake and thus the impact of the scheme.
4.3 Theme 3: Efficiency and coherence

4.3.1 Q7: To what extent has the School Fruit Scheme been implemented efficiently?

Understanding of the question

For answering Q7 it has to be evaluated whether the implementation and the impacts of the SFS have been realised in an efficient way. A definition of efficiency is given first.

The word efficiency in general describes the extent to which the time or (financial) effort is well used for the intended task or purpose. It is often used with the specific purpose of relaying the capability of a specific application of effort to produce a specific outcome effectively with a minimum amount or quantity of waste, expense, or unnecessary effort. In different disciplines the meaning of "Efficiency" varies highly.

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 output\textsuperscript{141} of a particular scheme. Even if the sustainable quantitative output 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.

The scheme’s output can, for example, either be formulated in terms of reaching children in the target group or as the amount of fruit and vegetables distributed to the children. These two output indicators can be used to measure efficiency in an approximate way.

Efficiency can also be approximated by adding or multiplying the two output indicators and thus calculating an indicator of total budget efficiency. However, it has to be stressed that this is still only one approximation of efficiency.

Following this approach indicators in which the described output is divided through the budget used can be defined. This makes it possible to at least roughly compare the very different individual schemes on a monetary basis. The following indicators are further investigated:

- Amount of fruit distribution in relation to the budget spent [kg/EUR]
- Coverage of the programme [number of children]
- Cost of coverage per child [EUR/child]
- Average number of distributed portions per child and per week in relation to budget spent

\textsuperscript{141} Comparison of efficiency of national or regional schemes would require a method to calculate and add up in a harmonized way the individual results (achieved duration and frequency of distribution, percentage of target group reached etc.) of a scheme.
EU aid used for other purposes than fruit and vegetables distribution

Before investigating the budget spent for fruit and vegetables it is necessary to have a look on the spending for other purposes. The percentage of EU financing is thereby strictly regulated:

- If transport and distribution are invoiced separately, it should be no more than 3% of the costs for the products (Art. 5(1), Sub.7, Commission Regulation (EC) 288/2009)
- Costs of communication and equipment should be no more than 5% of the Member State’s envelope of Community aid (Art. 5(2) Commission Regulation (EC) 288/2009)
- Evaluation should be not more than 10% in the year of evaluation of the Member State’s envelope of Community aid (Art. 5(2), Sub.2, Commission Regulation (EC) 288/2009)

Taking the EU-expenditure being split up by purpose (Table 34) it becomes visible that 17 out of 24 participating Member States state separate costs for distribution, equipment and communication or evaluation. The available data at hand show no discrepancy to Art. 5, Commission Regulation (EC) 288/2009.

Table 34: Use of EU aid at national level for purposes other than buying products

<table>
<thead>
<tr>
<th>MS</th>
<th>Transport + Distribution (% of costs of products)</th>
<th>Equipment + Communication (% of MS’s final allocation)</th>
<th>Evaluation (% of MS’s final allocation)</th>
<th>Stated Anything</th>
<th>Stated Transport + Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT</td>
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<td>0,15%</td>
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</tr>
<tr>
<td>BE</td>
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<td>2,16%</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
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<td>0,00%</td>
<td>2,73%</td>
<td>x</td>
<td>-</td>
</tr>
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<td>CY</td>
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<td>0,00%</td>
<td>0,00%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CZ</td>
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<td>0,04%</td>
<td>0,22%</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
<td>DE</td>
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<tr>
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<td>1,50%</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
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<td>0,00%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
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<td>0,00%</td>
<td>0,00%</td>
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<td>-</td>
</tr>
<tr>
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<td>0,00%</td>
<td>0,00%</td>
<td>-</td>
<td>-</td>
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<td>IE</td>
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</tr>
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<td>4,42%</td>
<td>0,91%</td>
<td>x</td>
<td>-</td>
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<tr>
<td>LT</td>
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<tr>
<td>LU</td>
<td>0,00%</td>
<td>0,00%</td>
<td>3,14%</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
<td>LV</td>
<td>0,00%</td>
<td>0,14%</td>
<td>7,43%</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
<td>MT</td>
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<td>1,03%</td>
<td>6,74%</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
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<td>0,00%</td>
<td>0,00%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PL</td>
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<td>0,47%</td>
<td>1,14%</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
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<td>0,00%</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>RO</td>
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<td>0,00%</td>
<td>0,38%</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
<td>SI</td>
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<td>0,00%</td>
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<td>-</td>
</tr>
<tr>
<td>SK</td>
<td>2,37%</td>
<td>0,72%</td>
<td>0,00%</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>TOTAL</td>
<td>0,09%</td>
<td>1,21%</td>
<td>0,75%</td>
<td>17</td>
<td>4</td>
</tr>
</tbody>
</table>
Only four of all Member States invoiced transport and distribution separately. Thus, it has to be assumed that in fruit and vegetables expenditures the costs for transport and distribution are in the majority of cases included. This could even be the case for Member States which stated transport and distribution costs separately since just part of these costs could be invoiced separately by the often locally and on school level organised distribution.

Nevertheless, it is a surprising evaluation result that so few Member States use the budget shares for equipment, communication and evaluation, especially when considering the small extent to which they use their EU budget at disposition. Seven Member States do not declare any additional spending of the EU aid than the one for fruit and vegetables, even though every Member State carried out an evaluation in 2010/11.

The discrepancy between the implemented evaluations and the EU aid declared can be explained through the fact that the numbers provided are not final, yet. Member States have still time until 30th June 2012 to pay the evaluating institutions and will declare these expenditures afterwards to the EU. Costs for the evaluation can also be allocated to the 2011/12 budget. Thus 11 Member States have not yet declared evaluation costs and the one that did may still give a later update to their numbers.

Efficiency of the schemes

Answering the question will demand for a general differentiation between the cost for fruit and vegetables on the one hand and, on the other hand, further eligible cost mentioned in Article 5 of Commission Regulation 288/2009. The differentiation made is:

- **Total Budget Efficiency**: All indicators related to the total budget spent
- **Net Budget Efficiency**: All indicators related to the spending on fruit and vegetables only

Efficiency in distribution

Figure 21 shows the “Density of Distribution” and the amount of fruit and vegetables distributed in relation to the money spent directly on fruit and vegetables in 2010/11. These indicators belong to the group of Net Budget Efficiency and the budgets on fruit and vegetables are derived by dividing the EU expenses on products for each country by the percentage of EU aid eligible for this country. For the federal states of Belgium and Germany the average is shown in these scales since no financial data differentiated for the participating regions were available.

For the purpose of measuring overall density of distribution, an indicator is used to standardise the factors duration of distribution, frequency of distribution, participating children and portion size in all schemes; given as:

- **Density of Distribution**[^142] = delivered portions per week in a 200 days’ school year[^143] * portion size in g

[^142]: Due to its specialty in distribution patterns, the results for Ireland in terms of Density of Distribution and Price per kg have to be taken with care.

[^143]: Number of Portions per Child / (200 days / 7 days / week)
The Indicator for efficiency is then given by:

- **Distribution Efficiency** = \( \frac{\text{density of distribution}}{\text{budget spent on fruit and vegetable}} \).

The higher the Distribution Efficiency the more efficient the programme can be considered.

Figure 21 shows that Estonia is leading strongly with a very low rate of money spent on fruit and vegetables (EUR 0.91 per kg fruit) for a relatively high frequency of distribution (2.6 portions per week). Other countries spend a lot more money on fruit and vegetables without reaching a high density of distribution, namely Italy, Spain and the Netherlands.

**Figure 21: Distribution Efficiency in relation to price per kg**

The high distribution efficiency for Estonia in terms of products distributed can partly be explained by a lower price spent per kg of fruit and vegetables, since seven out of nine over-averagely efficient Member States pay a relatively low price per kg. They range below or at the average price per kg estimated by the European Union during the creation of the School Fruit Scheme’s concept\(^{144}\) (light blue line in Figure 21).

The EU estimation of EUR 1.66 per kg is considered as realistic by experts of the branch. This price, however, does not only contain the price for fruit and vegetables, but also distribution costs and can vary highly due to factors like geographical particularities (islands), population density and choice of products offered in the participating Member States. These factors have to be taken into consideration when analysing the price per kg in the different Member States. A low price per kg, however, does not guarantee an efficient distribution, as can be seen in the below-average Member States. Romania and Poland, e.g., have prices per kg as low as Estonia, but their distribution is not as efficient. A budget of approx. EUR 4.5 million and almost EUR 10 million, respectively, is used for about 1.5 distributions per week.

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**Efficiency in reaching children**

The second indicator for efficiency is the number of children reached by the total budget spent in the participating Member States. Figure 22 displays the performance of the scheme with respect to participating children. It may be assumed that the higher the budget spent the higher is the absolute number of children reached by the programme, however a strict linear correlation has not been found. Some Member States reach more children with a relatively small budget than others.

**Figure 22: Performance of the scheme with respect to participation**

A deeper analysis must also take the share of children reached in a Member State / Region by the scheme to the overall number of children in the target group into account. This is a better reference value compared to the absolute number of children. In order to include the Regions the total budget spent is taken instead of the expenditures on fruit and vegetables. Furthermore, to reach comparability across Member States and to evaluate the efficiency, the budget spent per child is used instead of the total budget spent.

Thus, the Efficiency in Reach of Children is an indicator of Total Budget Efficiency:

- \[ \text{Efficiency in Reach of Children} = \frac{\text{Ratio of children reached by the programme}}{\text{total number of children in the target group}} \times \text{budget spent per child} \]
Figure 23: Efficiency of the scheme with respect to participation

Eight Member States / Regions in Figure 23 have a share of participating children in the target group above 60% (compare Figure 16): Romania, Slovakia, Luxemburg, Slovenia, Latvia, Estonia, Cyprus and the Czech Republic. Romania, Portugal and Wallonia reach this group because of their significantly low spending per child. Member States / Regions with very high spending per child reach generally only a small percentage of children with some exceptions like Hungary (76.8%) and Greece (63%).

It can be argued that a higher and more intensive distribution takes place in Member States / Regions ranging below the EU average. This means that a limited number of children get more fruit and vegetables in relatively higher quantity and/or frequency. It is as well likely that a programme is less efficient in terms of reaching an extensive share of the target group due to high expenditures on ACM displayed in Figure 24.

Figure 24: Efficiency in reaching children and spending on ACM

The regions Saarland and Saxony-Anhalt (Germany) use almost their entire budget on fruit and vegetables distribution and do so very efficiently, meaning they used relatively less
money for a dense distribution. But, like expected, they do not reach a high share of children compared to their budget. Ireland’s, Flanders’ and Baden-Württemberg’s budget contains each more than 50% of spending on ACM which could explain their in-efficiency in terms of reaching as much children as possible.

Estonia, Luxembourg and Latvia are countries with an above-average distribution efficiency and an above-average efficiency of children reached according to their budget. While Estonia and Luxembourg still spend a share of their budget on Accompanying Measures, they can be rated as Member States with the most efficient use of their budget.

In addition to the evaluation of efficiency, the impact of the ratio of EU aid on the number of participating children has been examined. Setting the share of participating children of the target groups into relation with the percentage of EU aid, it can be seen that the median above and below the average of EU aid (61%) differ. Member States / Regions whose total budgets were financed to more than 61% by the EU reach in median 63% of all children of their target group. Member States / Regions with an EU aid below 61%, however, only reach in median 36% of all children of their target groups.
Box 9: Conclusions on efficiency (Theme 3, Question 7)

- The efficiency of the schemes cannot be adequately measured by single input parameters. The ratio between budgets spent on fruit and vegetables distribution and the distributed amounts of fruit and vegetables shows big differences among the Member States. This is mainly caused by distribution costs, which differ between EUR 0.90 and EUR 7.00 per kg. A significant correlation between participating children in the schemes and total budget spent in the schemes cannot be observed.

- The analysis of the distribution efficiency of individual schemes shows that Estonia has a high efficiency with a very low amount of money spent on fruit and vegetables for a relatively high frequency of distribution (2.6 portions per week). Other countries spent obviously a lot more money on fruit and vegetables without reaching a high density of distribution, namely Italy, Spain and the Netherlands. The higher distribution efficiency in terms of products distributed can partly be explained by a lower price spent per kg of fruit and vegetables, since seven out of nine over-averagely efficient Member States pay a relatively low price per kg.

- EU calculations are based on average spending of EUR 1.66 per kg fruit and vegetables. This estimation is considered to be realistic by experts. 12 Member States pay a lot more. Mainly the Eastern EU Member States stay below this level. This leads to the conclusion that high distribution costs in particular in the large Western EU Member States increase the prices.

- Analysing the efficiency concerning the children reached it is found that eight Member States / Regions have a share of participating children of more than 60% of the target group.

- The percentage of the EU aid influences the coverage of the target group. The higher the percentage of EU aid, the more children are reached within the target group.

- In general the expenditures for ACM do not influence the efficiency negatively.
4.3.2 Q8: Has the implementation of the School Fruit Scheme been coherent with general CAP objectives and EU policies and principles?

The answer to the question Q8 aims at identifying whether the objectives and implementation of the SFS are coherent with existing EU policy principles and policies as given e.g. by the Common Agricultural Policy (CAP), Treaty provisions on health, social affairs and education as well as the EU Strategy on nutrition.

Coherence

Within Chapter 1 (Introduction) and Chapter 3 (Theoretical Analysis) of this report the background and objectives of the EU SFS have already been described. Basically two objectives are addressed by this policy:

- **Increase the consumption of fruit and vegetables** of European citizen in a sustainable way- in particular of children - as the consumption of fruit and vegetables in most EU Member States has been falling - largely unexplained at this stage, probably a result of average income increase, relative price increases for fruit and vegetables as well as more women working outside their households - and on average do not reach the WHO minimum net recommended intake. This problem tends to affect to a greater extent less privileged socio-economic groups and poorer regions in Europe.

- **Stabilize the EU fruit and vegetables market** and thereby increase the income of European farmers as a higher consumption would subsequently lead to a higher production of fruit and vegetables in the long-run.

Both aspects are important objectives of the CAP.

The legal justification of the EU SFS relies on Article 39, 41(b), 43 and 168 of the TFEU\(^\text{145}\) corresponding to the Common Agricultural Policy. Among others, it is mentioned that measures have to contribute to the stabilisation of the market for fruit and vegetables and should tend to implement the objectives of the CAP. Article 41(b) of the TFEU is specifically provided for joint measures within the framework of the CAP in order to promote consumption of agricultural products. Especially Article 168 of the TFEU states that a high level of human health protection is to ensured in the definition and implementation of all Union policies and activities.

The SFS fits into the *Strategy for Europe on Nutrition, Overweight and Obesity and related health issues*\(^\text{146}\). The basis for the SFS implementation is the “Single CMO Regulation” (Council Regulation 1234/2007)\(^\text{147}\), its amendment of 2008 (Council Regulation 13/2009)\(^\text{148}\).

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147 Council Regulation (EC) no 1234/2007: establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation).

148 Council Regulation (EC) no 13/2009: amending Regulations (EC) No 1290/2005 on the financing of the common agricultural policy and (EC) No 1234/2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation) in order to set up a School Fruit Scheme
and subsequently Commission Regulation 288/2009 which “lays down detailed rules for applying Council Regulation No 1234/2007 as regards Community aid for supplying fruit and vegetables, processed fruit and vegetables and banana products to children in educational institutions, in the framework of a School Fruit Scheme”.

As a decreasing consumption of fruit and vegetables might lead in the long-term to a declining health situation (e.g. more sickness days) and an increase of overweight and obesity, this measure might counteract this trend at a time when the eating habits of people are formed. Thus, beside the economic dimension, this policy has a socio-economic target and constitutes a long-term investment in the future aiming at avoiding or reducing health expenditure resulting from poor nutrition. A Norwegian study has analysed the economic profitability of school fruit schemes. It concludes that, assuming a linear relationship between fruit and vegetables consumption, lifespan and the estimating that each life year saved has an equivalent value of approximately EUR 158,500, economical profitability is gained if 3% of the pupils increase their permanent intake of fruit and vegetables by only 25g. Thus, the EU SFS is a policy measure implemented to realize on the one hand the explicit and overall policy objectives of the CMO as part of the European CAP regarding the stabilization of the European fruit and vegetables market so that clear coherence with CAP objectives exists.

On the other hand, the specific socio-economic objective of the SFS to address children is coherent with the Treaty provisions on health, social affairs and education and in particular with the objectives of the EU Strategy on Nutrition, Overweight and Obesity related health issues which set out an integrated EU approach to contribute to reducing ill health due to poor nutrition, overweight and obesity. The strategy aims at an integration of policies “…across the board; from food and consumer, to sport, education and transport. Obesity has higher prevalence among people in lower socio-economic groups indicating the need to pay particular attention to the social dimension of the issue.” The SFS is coherent with this strategy. We therefore expect that the current evaluation of the Strategy will confirm our judgement.


151 1.2 Million Norwegian crowns and 158,500 € respectively refers to the equivalent value applied to prevent road accidents in the road sector

152 In the school year 2010/2011 the EU School Fruit Scheme reached about 25% of the pupils in its target group and increased their intake of food and vegetables in that year with on average at least 40 gr.

153 The overall objectives of the CAP are set out in Article 39 of the Lisbon Treaty on the Functioning of the EU (TFEU) , Title III – Agriculture and Fisheries: increase productivity, by promoting technical progress and ensuring the optimum use of the factors of production, in particular labour; ensure a fair standard of living for the agricultural community; stabilise markets; secure availability of supplies; provide consumers with food at reasonable prices.

154 However, it has to be kept in mind that the EU legislation for the SFS does not stipulate products originating in the EU for the SFS. Such a stipulation would risk being not in accordance with WTO rules, unless specific justifiable reasons would be given for such a stipulation e.g. environmental reasons, rural development, educational reasons linked to for example to ACM.

155 The Strategy for Europe on Nutrition, Overweight and Obesity related health issues adopted by the Commission in 2007 was conceived as a six year strategy. A mid-term progress report was produced by the Commission services in December 2010 as required by the White paper. The aim of the final evaluation is to give a substantiated knowledge on the de-
The SFS is also coherent with the overall EU policy principles and targets as formulated in the current 2020 Strategy\textsuperscript{156} - A strategy for smart, sustainable and inclusive growth - which are:

- **Smart growth:**
  Developing an economy based on knowledge and innovation.

  *Introducing healthier diets over the lifetime will reduce sickness days and increase labour supply and economic growth. Reducing costs for adequately raising children will reduce inflation and may lead to more children in the long run. Health cost will be a limiting growth factor via increased public financing and taxation. Thus, improving health generates growth, most directly by decreasing the number of disease days of parents.*

- **Sustainable growth:**
  Promoting a more resource efficient, greener & competitive economy

- **Inclusive growth**
  Fostering a high-employment economy delivering social and territorial cohesion.

  *Providing food at schools (for free) can contribute to reduce poverty and social disparity.*

- **Subsidiarity**

  Subsidiarity is a general principle of the EU Treaty as it considers the EU as a Community. The principle is explicitly introduced in European law by inclusion of Article 2 of the Treaty of Maastricht. According to this principle, the EU should only act where actions of individual Member States are not sufficient. The present formulation is contained in Article 5(3) of the Treaty on European Union (consolidated version following the Treaty of Lisbon): "Under the principle of subsidiarity, in areas which do not fall within its exclusive competence, the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central level or at regional and local level, but can rather, by reason of the scale or effects of the proposed action, be better achieved at Union level." With respect to the EU SFS it can be concluded that this scheme is in line with the subsidiarity principle as:

  - Almost all participating Member States mention that the programme is necessary to permit for a large-scale and nation-wide SFS which is in most cases not practicable without the framework of the EU SFS and its aid.
  
  - The EU SFS produces additional added value above already existing national schemes as it leads to a continuative knowledge and experience transfer among participating Member States and their responsible administrative bodies.
  
  - The Member States are free in defining the SFS strategy and execution of the SFS in their country / region which permit for incorporation country specific aspects.

Box 10: Conclusions on coherence (Theme 3, Question 8)

- The SFS is coherent with the targets of the Single CMO as part of the CAP, as 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 for vulnerable groups like children, which is a core element of the CAP.

- The SFS is coherent with the Treaty provisions on health, social affairs and education and in particular with the objectives of the EU Strategy on nutrition, overweight and obesity related health issues which set out an integrated EU approach to contribute to reducing ill health due to poor nutrition, overweight and obesity.

- The SFS is coherent with the EU policy principles. In particular with health protection, economic growth and poverty reduction thus benefiting the objectives of the EU 2020 Strategy.

- The SFS is in line with the subsidiarity principle as the scheme permits for large-scale and nationwide beneficial policies for EU citizens that in most cases are not feasible without the EU aid.

- The EU SFS produces additional added value above already existing national schemes as it leads to a continuous knowledge and experience transfer among Member States.
4.4 Theme 4: Relevance

4.4.1 Q9: To what extent are the specific objectives and the design of the School Fruit Scheme relevant for the needs of increasing fruit and vegetables consumption and of improving in a sustainable manner the eating habits of children and parents in the European Union?

Understanding of the question

Evaluation question Q9 asks in a more general way, whether the scheme design and its objectives are appropriate for addressing the needs of increasing the consumption of fruit and vegetables in the EU and to foster a sustainable improvement of eating habits.

Methodology

To answer question Q9 it has to be remembered first (A) the general problem setting which causes the need for a policy intervention as well as (B) the envisaged short-term outputs and (C) long-term impacts which should be reached by the implementation of the SFS. As all three aspects are based on two different target dimensions (1) a socio-economic dimension and (2) an agri-economic dimension as already described in Chapter 3 the relevance of the SFS has to be evaluated independently for both dimensions.

Various considerations can be made if the scheme is of relevance for the achievement of the above mentioned targets. The main challenge to be addressed with respect to both specific target dimensions listed under (A) is that the envisaged long-term impacts cannot be satisfactorily measured at this stage of the programme, after only three years of programme execution – particularly as in the first year the number of participating Member States is very limited. Therefore it is decided to use in our evaluation of relevance primarily the knowledge and experiences of the interviewees (85 people, including national Control Authorities and national evaluators of the SFS) as a starting point for a discussion on the single aspects.

In the surveys we asked the interviewees how they evaluate the schemes relevance with respect to changing the eating habits of children in the short-term and long-term and how they evaluate the capability of the scheme to reverse the decline in European fruit and vegetables consumption and thus, stabilize this particular market in the EU.

The results of the surveys are displayed in Figure 25 and Figure 26. As the results of the interviewee group Control Authorities (CA) and Single Contact Points (SCP) (Figure 25) differ to some extent from the results of the interviewee group School Headmasters (SH) and parents (PA) (Figure 26), they are separately presented.
Figure 25: Relevance of the SFS with respect to different targets: Opinions of Control Authorities and Single Contact Points

Figure 26: Relevance of the SFS with respect to different target: Opinions of School headmasters and parents

Socio-economic target dimension
Evaluation of the European School Fruit Scheme

Final Report

European Commission
Directorate-General for Agriculture and Rural Development

(A) Problem setting

The consumption of fruit and vegetables in most European Member States is decreasing and on average does not reach the World Health Organisation minimum net recommended intake of 400 g/day. This situation is in particular worrying among children. This trend might lead in the long-term to poor diets and in turn to a decreasing health situation of European citizens thus causing a lower supply of working hours and lower potential economic growth. This problem tends to affect to a greater extent less privileged social-economic groups and poorer regions of the EU.

(B) Envisaged short-term outputs of the SFS

- Increase the consumption of fruit and vegetables at schools
- Increase the share of fruit and vegetables in children’s diet
- Increase children’s knowledge about health issues and the agricultural market
- Involve high level of private, public and parental contribution
- Integration of children with high needs into the SFS
- Increase children’s health situation and physical activity

(C) Envisaged long-term impacts of the SFS

- Improve share of fruit and vegetables in children’s and parent’s diet
- Decrease diseases and better physical conditions of EU citizen
- Address real concerns of European citizen
- Contribute to social cohesion

According to the answers of the interviewees (both, SCP+CA and SH+PA; Table 25 and Table 26) the SFS is highly relevant for the change in children’s eating habits in the short-term (more than 80%). The interviewees indicate that a better education and forming of healthier eating habits in younger years e.g. through a school fruit scheme is undeniable a very sufficient measure to change children’s eating habits in a sustainable manner. However, some suggested that such a measure should be combined by a ban on sweets, soft drinks and later cigarettes at the schools. Those who see only a moderate relevance on this specific topic argue that such a change cannot only be reached by an educational intervention at the schools as the education in the families is an important, if not the most important factor for a sustainable change in children’s eating habits.

On the other hand, some parents, especially in countries with a very low per capita income, signalise that a national funded scheme is the only conceivable instrument to make fresh fruit and vegetables available for children as the parents – independently if they are willing or not willing to foster a healthy nutrition of their children – are not able to finance a continuous purchase of those relatively expensive products. However, the relevance of the scheme for a long-term and thereby sustainable change in children’s eating habits is evaluated differently by SCP+CA and SH+PA.

43% of the SCP and CA evaluated the relevance of the scheme regarding to the change of eating habits of EU citizens in the long-run as high, while 57% evaluate the relevance as moderate. Contrary 58% of the parents and school headmasters see a high relevance. For the parents and school headmasters it is therefore the second important factor. Again the argument of a better education and very sufficient possibility to influence children in younger years is given here. However, some who only see a moderate relevance argue that a small population is reached by the scheme and thus, an overall impact is very uncertain. With respect to this issue some of the interviewees mention that the “sustainability” of the scheme would be significantly higher if the number of ACM would increase. Again some interviewees
state that changes cannot be made only through the scheme other actions need to be done as well.

Agri-economic target dimension

(A) Problem setting

A low intake of fruit and vegetables affects also negatively the market for fruit and vegetables as a declining demand leads subsequently to a declining production and thereby to a reduced agricultural income.

(B) Envisaged short-term outputs of the SFS

- Increase total EU consumption and production of fruit and vegetables
- Increase children’s knowledge about the agricultural production and market

(C) Envisaged long-term impacts of the SFS

- Reconnect urban citizen with food and its producers
- Stabilize the European agricultural market for fruit and vegetables

While SCP+CA think that the scheme’s relevance for the reverse of the decline in European fruit and vegetables consumption is high (61%) only 34% of the parents and school headmasters are supporting this view. This fact might be due to the different points of view of both interviewee groups. While the SCP and the CA are in general employees of the national ministries or the underlying administrative bodies as well as scientific personnel from universities or private research or consulting institutions which have executed the national evaluations and thus, regard more the big picture, parents and school headmasters look first and foremost on the children and all educational aspects connected to them.

Those interviewees who see a high relevance of the scheme state that this is due to the given knowledge of healthier diet which might be multiplied by the participating children. Others who see only a moderate to no relevance mention that the decline in consumption can only be reversed by various additional factors and not just through a single scheme, for example by a direct support of children in families with a limited financial budget.

The relevance for stabilizing of the European fruit and vegetable market is regarded as low by both interviewee groups. Only 17% to 19% of all interviewees see a high relevance while 13% see no relevance of the scheme for this issue. Two of the interviewees argue that there are no requirements in the scheme that the fruit and vegetables have to be produced in European regions and thus, can be supplied from non-EU countries. However, some report that also a partial promotion of the sector, which is given by the scheme, is a positive incentive.

Regarding the relevance of the scheme for the overall market target (economic dimension) the Special Report No 10/2011 of the European Court of Auditors confirms the identified appraisal by stating that “[…] even when national co-financing is factored in157, […] the budget ceiling set in the regulation equates to around 0.3% of the production value of fruit and vegetable in the EU. […] Even if these amounts were spent effectively the volumes to which they correspond are not likely to have a significant direct impact on market equilibrium.”

157 EUROPEAN COURT OF AUDITORS (2011): „At the average EU co-financing rate of around 58%, the current budget ceiling of 90 million euro translated into total expenditure (Commission and Member States) of some 155 million euro.”
However, the idea behind the scheme is a multiplier effect which assumes that the SFS effects first children which later become parents and then grandparents and might eat more fruit and vegetables during their whole lives. Thus, there might be a lot of influence resulting from the 0.3% mentioned by the report of the European Court of Auditors which could subsequently lead to an increased relevance of the scheme with respect to the market target.

**Box 11: Conclusions on relevance (Theme 4, Question 9)**

- The School Fruit Scheme has a high relevance for its socio-economic target which intends to increase the fruit and vegetables consumption of children in the short-run to achieve healthier nutrition behaviour in the long-run which is supposed to have beneficial socio-economic effects.

- The relevance of the SFS is more difficult to assess for the agri-economic target which intends to increase the EU fruit and vegetables consumption; an increase that subsequently should lead to a stabilisation of the whole EU fruit and vegetables market in the long-run. Here the immediate consumption increase generated by the EU aid seems to be marginal compared to the total monetary volume of the European fruit and vegetables market. However, there might be a larger consumption impact of the scheme assuming a multiplier effect coming from influencing consumption of children over their entire lifetime and from participating children to parents and even grandparents. This mechanism, even though it cannot be measured shortly after the start of the programme, is likely to lead to an increased relevance of the EU School Fruit Scheme with respect to the market target.
4.4.2 Q10: To what extent have the National Strategies contributed to the relevance and added value of the scheme?

Understanding of the question

Answering question 10 will show which contribution to the relevance and added value of the SFS has resulted from the National Strategies. Therefore, the focus of this question is on the National Strategies as strategic tool for the relevant and effective implementation of EU SFS on national/regional level.

The analysis of the contribution to the scheme’s relevance will include the high level of health protection of the eligible products as well as the cases where regular school meals are consumed at the same time as products are financed under the SFS. School canteen systems are known for the United Kingdom, Austria, Bulgaria, France, Poland, Slovenia, Slovakia, the Netherlands and partly for Luxembourg, Germany.

In addition to the scheme’s contribution towards a healthy diet, Q10 also deals with the added value of the EU SFS with respect to (pre-) existing national schemes. Within the 10 highlighted Member States existing schemes are known for Flanders, France, Ireland and the Netherlands. The SFVS in United Kingdom was also established prior to the EU SFS, which is one of the arguments for not participating in the EU programme.

Background on strategies within the EU SFS

Article 103ga(2) of the Council Regulation (EC) No 13/2009 binds the participating Member States to set up a national strategy prior to the implementation of the SFS. Obligatory indications include the implementation, the budget for the scheme, the types of contributions, the duration, the target group, the eligible products, the involvement of relevant stakeholders and ACM. According to the foreword of the Commission Regulation (EC) No 288/2009, this prior strategy shall ensure the added value of each national SFS carried out under the regulation.

“Member States should explain in their strategy how they will guarantee the added value of their scheme, especially where regular school meals are consumed at the same time as products financed under their School Fruit Scheme.”

Thus, the strategies establish the national/regional framework for the implementation of the EU SFS ensuring that the programme is established in compliance with EU regulations. Strategy Papers are the result of a planning process and are also important for the explanation on how a Member States existing schemes will use its budget. Due to the fact that the strategies are published and the Member States/ Regions have to notify any changes to the Commission, this tool adds also to the transparency of the EU SFS. Together with the AMR it supports all stakeholders in their responsibility for the implementation of the scheme.

Review of Strategy Papers as strategic tool for planning and managing the scheme’s implementation

As the review of strategies shows, these documents vary highly in terms of content (themes covered), type of texts (e.g. scientific description of initial situation vs. planning figures), structure, layout and length (e.g. 3 pages for the Greek strategies 2011/12 and 2012/13 vs.

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158 E.g. Strategies can be downloaded from the schemes website of the European Commission: http://ec.europa.eu/agriculture/sfs/european-commission/index_en.htm

159 See Article 15 (4) of Commission Regulation (EC) No 288/2009 of 7 April 2009
81 pages for the Flemish strategies 2011/12 and 2012/13). Since Member States are relatively free in drawing up strategies, the comparability of the documents is limited.

The observation leads to the conclusion that the extent of the contribution to the scheme resulting from National Strategies is not uniform. Its input is more important in Member States that built their planning decisions on a thoroughly situational analysis dealing with the national/regional health and nutrition status quo, the fruit and vegetables consumption in particular among children, consumption habits and trends, objectives and links to the national/regional nutrition and health policy and the school system.

Good examples for the reflection of the baseline situation are the Dutch, the Flemish, the Portuguese or the Lithuanian strategies. However, none of the strategies deduct the conceptual design for the intervention on information on the present situation or nutrition background. Decisions on frequency and duration of the programme are based on calculations for the number of schools and children reached and the budget spent.

Since deviations between the strategies and their implementation can be noticed (compare Section 4.1.1) it becomes evident that Strategy Papers are primarily regarded as a declaration of intentions and far less as a strategic tool for the implementation and (long-term) management of the SFS. Although changes of the strategies are possible and may occur for different reasons the comparison between Strategy Papers and National Evaluation Reports strengthens this impression as only few evaluations present a balance of objectives and (interim) results.

Contribution towards a healthy diet

The question of ensuring added value of the scheme is covered rather indirectly in the strategies. Based on a low consumption rate of fruit and vegetables and on the benefits of nutrition rich in fruit and vegetables, Member States refer to the fact that each additional piece of fruit or vegetables eaten creates an added value for the children. Since the SFS allows only for fresh and processed fruit and vegetables without added sugar or salt, the added value of the programme is justified by the positive effects of fruit and vegetables consumption.

Fruit and vegetables are health protecting and according to the WHO considered as the foodstuff which has the potential to prevent from cardiovascular diseases, type 2 diabetes and overweight. Furthermore, the WHO report summarizes that although single substances such as micronutrients, fibre and vitamins are valuable, it is the diversity of many biochemical substances that provide combined protective effects. Therefore, a diet rich on fruit and vegetables should include a wide range of different kinds of products. The SFS is the cornerstone for distribution of free fruit and vegetables in schools throughout the EU. National Strategies offer the possibility to include on the one hand a wide range of products and, on the other hand, to incorporate regional fruit or vegetables varieties or specialities.

161 See also evaluation question 1, (Section 4.1.1)
162 A balance is given for the Flemish programme in the summary of the Evaluation Report, p. 8, 11.
163 WHO (2005): „The dietary intake of fruit and vegetable and the risk of diabetes mellitus and cardiovascular diseases”
164 WHO (2005): „The dietary intake of fruit and vegetable and management of body weight”
165 WHO (2005): „The dietary intake of fruit and vegetable and the risk of diabetes mellitus and cardiovascular diseases”, p. 19
Every extra portion eaten by a pupil is a contribution and an added value to a healthier diet. Most effective are programmes, which last a whole school year and offer a daily extra portion. But according to a verbal statement from experts of the German Society on Nutrition (DGE) also shorter programmes with a reduced frequency of distribution are a contribution to healthier eating habits among pupils.

Added value therefore is not only created by the scheme in terms of changing eating habits but also in terms of a higher fruit and vegetables consumption. Therefore, the fruit and vegetables distribution in educational institutions provides added value itself. Since the provisions in schools which take place under the SFS reach more or less all participating children additional benefits result from including children from less privileged social backgrounds that enter the scheme with a lower than average per capita consumption of fruit and vegetables.

Added value for regular school meals

Taking the positive effects even from small (extra) portions into account, the SFS is relevant not only for Member States in which families provide children with fruit and vegetables but also for Member States that offer school lunch. From general statistical data about fruit and vegetables consumption it can be concluded that children’s under-supply has not been diminished by school lunch.

The national Strategy Papers of the country/region generally do not specify explicitly how the programme guarantees added value. Instead Member States regulate the conditions and times of distributing the fruit and vegetables. The Spanish Strategy points out three reasons why the provision during regular meals is not recognized as adequate: “not all children attend canteens”, “control difficulties” and “substitution of other products on the menu”. The Italian strategy proclaims a “stand-alone moment of training and information” and therefore prohibits the distribution during regular school meals. Malta asks the schools for a “fruit break” and advises them “to make this event as enjoyable for children as possible”.

In its Evaluation Report, Slovakia has outlined several observations of combining canteen meals and the SFS. Municipalities and school agencies tend to implement the scheme trough the school canteens, neglecting the fact that some pupils do not eat in canteens. Sufficient supply with fruit and vegetables is stated for children in primary schools who attend canteens. When they participate in the SFS and are served with an additional fruit or fruit juice after their meals, children cannot eat an additional portion. Therefore, fruits are partly wasted. Much better experiences have been made if the fruit portion is distributed as snack or at “tea time”. The Strategy Paper discusses also a distribution of fresh fruit and juices through vending machines which might help to reach all children apart from canteens and lunchtime.

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166 Spanish strategy: ‘School Fruit Scheme 2010-2011’, p. 20
168 Maltese strategy: ‘Malta’s National Strategy for the implementation of the School Fruit Scheme 2010/2011’, p. 8
Contribution to (pre-)existing national schemes

National Strategies submitted by Member States which implemented school fruit schemes before 2009 merely describe the genesis and recent situation of their national/regional schemes (e.g. The Netherlands, Flanders and Ireland as well as regional schemes in France and Italy). The papers point out either synergies between the programmes or the integration of existing programmes into the EU SFS. The Dutch strategy identifies the contribution of the EU scheme to existing programmes in the integration of free fruit and vegetables distribution which had not taken place before. Furthermore, the programme can involve more children, an advantage also stated in the French strategy.

The Italian strategy refers to the possibility of giving regional schemes a “proper profile” by supporting these initiatives to link the programmes to the EU SFS and to develop ACM. Eight of nine interviewees of Member States with pre-existing schemes recognize the two-way complementation of the programmes. Only France states that regional schemes might interfere with the EU SFS because schools prefer to participate in existing schemes rather than in the scheme based on the initiative of the EU.

Box 12: Conclusions on National Strategies (Theme 4, Question 10)

- Present Strategy Papers appear to be merely guidelines for the implementation of the School Fruit Scheme on national/regional level. They are hardly used as a strategic tool.
- The lack of strategic planning and controlling limits the contribution of National Strategies to the added value of the scheme.
- Added value of the School Fruit Scheme has been confirmed empirically by the observed increase in fruit and vegetables consumption through regular fruit and vegetables provision.
- The School Fruit Scheme is relevant in all Member States / Regions since the positive effects of an additional fruit or vegetables portion occur in any case, regardless of a regular offer of school meals.
- With regard to (national) schemes which existed prior to the School Fruit Scheme, Member States report two-way positive complementary effects. They point out in particular that the EU scheme helps to expand existing schemes to more educational institutions.

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5 CONCLUSIONS AND RECOMMENDATIONS

(1) Change needed

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. A gender gap is noticed with increasing age. Thereby, prevalence among boys and male adults appears more frequently than among girls and women. Within the age group of 19 to 65, 21% to 37% of women are overweight, 7% to 36% are obese among the European Member States. Prevalence among men reaches 34% to 54% and obesity reaches 6% to 29% in the same age group.

At the same time 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. 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.

(2) Implementation

Compared to the initial school year 2009/10, the scale of the School Fruit Scheme increased significantly and reached in 2010/11 8,146,290 children (equal to 25% of all children in the target group within the participating countries) in 54,267 schools. The expansion of the scheme is related to the positive experience gathered in the initial phase of the programme and the demand of additional schools willing to participate. Further, the current development indicates that Member States / Regions have overcome organisational problems referring to the initial phase, so that a positive impact of the exchange of experiences in meetings at EU level can be noticed. Further, taking into account the statements of the interviewees, recent strategies and the general positive resonance on the scheme a further expansion is expected in the third year.

According to the Annual Monitoring Reports, an additional demand on fruit and vegetables of 43,730 tons has been created in 2010/11 which is 0.06% of the total gross net supply in the EU 27 fruit and vegetables market. 24 Member States participate in the scheme of which 21 apply a central organisational structure at national level and 3 apply a decentralised structure at regional level (Spain, Belgium and Germany).

The EU aid used by the Member States in the school year 2010/2011 was about EUR 55,418,259\textsuperscript{175} according to the AMRs which is only 61.6% of the total available EU budget of annually EUR 90 million, leaving 38.4% of EU funds unused. The public co-financing at national level in 2010/2011 was about EUR 39,538,991. Additional parental co-financing amounts up to EUR 1,992,043 and other private institutions co-finance EUR 2,998,544. This

\textsuperscript{175} Reporting date: 31\textsuperscript{st} March 2012. Expenditure can still evolve due to the gap between allocation and payment of the aid.
leads to total expenditure of the School Fruit Scheme of approximately EUR 100 million in 2010/11.

This amount includes also spending on Accompanying Measures which are obligatory within the scheme but not eligible for EU aid. These measures have to be entirely financed by individual Member States and other stakeholders. 95% of total expenditures were spent on fruit and vegetables (EUR 94,680,603) while only 5% was spent on Accompanying Measures (EUR 4,521,508). The latest available data on SFS expenditure – preliminary as the accounting period is still open – reveal the Member States’ / Regions’ emphasis is on the fruit and vegetables distribution. Only 2% of all final allocations are spent on equipment, communication and evaluation.

For the planning period (strategy development) and for coordinating the schemes the envisaged broad partnership between education, health and agriculture has been accomplished. Public and private stakeholders have been involved. However, partnerships at school level during the operation of the scheme are less advanced.

> Therefore, the idea of partnership between stakeholders needs further encouragement in order to take more advantage from the given capabilities. In line with this effort, the steering group and the national / regional authorities should discuss how to support schools in the process of building partnerships to out-of-school stakeholders.

Many changes between the initial strategies and the final implementation occurred, which are mainly due to the general start of the SFS in 2009/2010. For example, Member States try to expand the scale of the SFS (number of participating schools and children) even during the first school years. For this reason, however, some Member States reduced the frequency in distribution, accepting prospective negative effects on sustainability. The uptake of EU aid indicated in the strategies is in most cases far from being reached by used budgets.

The way Accompanying Measures are implemented and carried out remains unclear because responsibility is often passed down to individual schools and not reported in the Annual Monitoring Reports.

> Adequate Accompanying Measures are necessary to change eating habits in a sustainable way. Since their impact is highly dependent on the methodological approach, Member States / Regions should be encouraged to pay more attention to the approach used. With respect to the comparability between information covered in the Strategy Papers and the Annual Monitoring Reports, it is recommended that, beyond the general descriptive part, strategies should contain an obligatory form with the same statements and variables as the ones given in the Monitoring Reports. This would provide a stronger orientation for the Member States, reduce evaluation time significantly and increases comparability.

Among Member States the frequency of product distribution varies strongly. The majority of Member States supplies on average one to two times per week which is considered as not sufficient to reach the envisaged targets of the programme.

> A frequency of offering fruit and vegetables as often as possible, but 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 to children every day. In addi-
tion a high continuity of distributors should be aimed at as long-term participation for several school years might increase the sustainable impact with respect to improving the eating habits of children.

Furthermore, there is a significant variation within the costs per portion and per kg among the Member States / Regions, which can partly be explained by differences in distribution, namely different fruit and vegetable choices and variant logistic costs. In median, EUR 0.29 was spent per portion in 2010/11. Especially when costs exceed EUR 0.40 per portion or EUR 4.00 per kg further investigation is needed. It is possible that hidden logistic costs in the fruit prices increase the costs per portion significantly, but this hypothesis is impossible to test in a significant way with the limited data available. Therefore, it is necessary to gain further knowledge about the cost components “fruit and vegetables” and “logistics” within the obligatory monitoring procedure and experience exchange between Member States.

- Organisational measures e.g. expanding the delivery patterns from daily supply to a two-day interval can increase the efficiency of fruit and vegetables distribution. To gain further knowledge about the spending on “products” and “logistics” these cost components should be displayed explicitly within the monitoring procedure.

(3) Effectiveness

A positive short-term impact on children’s fruit and vegetables consumption is identified for the intervention period. In cases where no increase is noticed methodological problems or the short intervention period have been considered as the reasons for this outcome. However, the increase – apart from the quantities distributed in the school in the framework of the SFS - cannot be specified in terms of an absolute quantity of consumption increase. Whether the short-term increase in consumption will lead to a long-term change in eating habits needs to be examined at a later stage of the SFS. According to recent research a positive impact can be expected if the duration of the programme exceeds one year and fruit and vegetables are provided for free. For a change in eating habits a high frequency of distribution is a critical success factor as well. Taking into account that the duration of the intervention in most Member States is less than a school year and distribution takes place once or twice a week these extensive distribution patterns may have been insufficient to obtain sustainable changes in children's eating habits. Due to methodological limitations it was not possible at the moment to determine an impact on parents' consumption as an indirect effect of the SFS.

- Since some of the results found for children indicate that fruit and vegetables consumption in school and at home is closely linked, parental consumption is a point of interest for the effectiveness for the scheme. Therefore, and in order to determine the scheme’s indirect impact on parents, further research on the impact on and influence of parental consumption is needed.

The EU aid - the EU financing share as well as the available EU funds - has a positive if not essential impact on the effectiveness of the SFS. The EU funds are essential for the realisation of nation- (or region-) wide SFS in nearly all participating Member States. Ex post counterfactual analysis has revealed that an increase of the EU funding share (beyond 50% and 75% respectively) would have lead to an increase of the SFS scale.

Furthermore, beyond the financial support, the EU framework of the SFS has led to greater credibility and priority of the programme in the Member States. The visibility of the EU within
the SFS makes the SFS more important and acceptable in the eyes of the public and leads to an improved image and awareness of the EU.

- Therefore, an increase of the EU funding share (beyond 50% respectively 75%) is recommended as an instrument to expand the School Fruit Scheme's scale and thus its impact on eating habits in order to achieve the fruit and vegetables intake necessary for protecting the children's health adequately.

Various success factors have been identified and analysed in this evaluation which all have a positive impact on the schemes effectiveness in terms of increasing the fruit and vegetables consumption of children. The most important ones are listed below:

- Wide choice of product (at least 5 to 10 different should be offered for keeping the children’s interests)
- High frequency of offering products, which means not less than three times a week
- Continuity of distribution (as a long-term participation for several school years might increase the sustainable impact with respect to improving the eating habits of children)
- Free distribution

Socio-economic criteria also influence the effectiveness of the SFS as there is a significant correlation between certain socio-economic groups, consumption habits and the possibility to change consumption habits. However, socio-economic criteria are not used by the scheme in most Member States e.g. for avoiding stigmatisation of children.

- As socio-economic characteristics seem to have an impact on the effectiveness of the scheme respective target groups should be addressed and children with higher needs should be especially encouraged to taste and eat the fruit and vegetables by the teachers in school.

Accompanying Measures, that are obligatory in the SFS, can help to change eating habits and therefore increase the effectiveness of the SFS. Their impact, however, is as explained before highly dependent on the methodological approach. Since eating habits are not directly knowledge-driven it is recommended to focus on measures which stimulate behavioural change rather than on those that increase knowledge. Within the Member States strategies, Accompanying Measures are either seen as key factor for changing eating habits (like e.g. in Ireland or Flanders) or as “additional extra” which is true for most of the participating countries/regions. Accompanying Measures are usually planned by a steering group which includes persons from different scientific backgrounds such as nutrition, health, education or agriculture. The design of Accompanying Measures is relevant for including different stakeholders, addressing parents and continuing fruit and vegetables consumption after the intervention period. Within the SFS Accompanying Measures are mainly carried out by teachers, who are supported by parents, farmers or other stakeholders occasionally during action days. In some Member States it is observed that problems in differentiating Accompanying Measures from regular lessons in schools occur. The overall impact of Accompanying Measures can hardly be evaluated at this juncture as all decision related to these measures are left up to individual schools and their adequate observation is therefore not possible.

- A way to overcome the current difficulties relating to Accompanying Measures is seen in allowing these for EU aid. If these measures become eligible for aid under the EU School Fruit Scheme they are subject of the monitoring, evaluation and assessment of the scheme’s effectiveness. In addition, the Commission may guide
Member States towards more effective strategies by providing criteria for Accompanying Measures to be met in order to qualify for EU financing. EU aid may encourage Member States / Regions to carry out Accompanying Measures in a more visible way, creating added value for children, such as excitement and hands-on activities, and strengthening the awareness of Accompanying Measures as part of the EU SFS.

Research analysis of the Irish “Food Dudes” concept shows that the way these Irish Accompanying Measures are set up and implemented have a positive impact on children’s eating habits. It is therefore recommended to examine how principles and elements of this Irish concept can be transferred to other concepts. Elements to be considered in this transfer are e.g. integration of role models and reward systems for children, easy-way long-term monitoring of fruit and vegetables consumptions in schools, ensuring fruit and vegetables provision even after the actual intervention period and getting parents involved.

(4) Efficiency

In order to approximate efficiency this evaluation has developed the criterion of distribution efficiency, the relation between the achieved distribution of fruit and vegetables and coverage of the target group on the one hand and the costs of this distribution on the other. With regard to the distribution efficiency nine Member States range above the average of all participating Member States. In the School Fruit Scheme the EU assumes a priori an average spending of EUR 1.66 per kg fruit and vegetables. This estimation is considered as realistic by experts. Twelve Member States pay a lot more; mainly the Eastern EU Member States stay far below this level. The analysis reveals that high distribution costs play a significant role in relative high prices of fruit and vegetables distribution, in particular in the large Western EU Member States. The schemes of Estonia, Luxembourg and Latvia reach a relatively high level of distribution efficiency as these Member States reach the highest fruit and vegetables distribution and at the same time the highest coverage of their target group related to their money spent. In general, the expenditure for ACM does not influence the efficiency negatively. Furthermore, it has been observed that the percentage of the EU aid influences the coverage of the target group and the distribution of fruit and vegetables. The higher the percentage of EU aid the more children are reached within the target group.

Since the annual EU aid for the scheme is only taken up partly until now, while at the same time demands from schools have been turned down, the co-financing of Member States / Regions is a limiting factor for a wider implementation of the scheme. The search for additional co-financing from parents or private institutions does not seem to be a solution for this co-funding problem, since only 6 out of 31 Member States / Regions decide to follow this strategy. Furthermore, the scheme does not expand in regions where public contribution is very limited and private funding needs to be organized by participating schools.

In order to find ways to increase the efficiency of the SFS it is recommendable to find out about the reasons behind the higher prices of distribution in the larger Western EU Member States. Stakeholders have been hesitant to involve private co-financing because of dangers of discontinuity and because of the workload involved. However, the possibilities of private contribution to co-financing (sponsoring) should be further explored to increase the efficiency of the scheme. Parental contribution to financing is not recommended as children with less privileged so-
cial background are excluded from the scheme if their parents are not able to pay for it.

(5) Coherence

The SFS is coherent with the CAP, in particular with the targets of the Single CMO as 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 for vulnerable groups like children.

The SFS is coherent with the Treaty provisions on health, social affairs and education and in particular with the objectives of the EU Strategy on nutrition, overweight and obesity related health issues which set out an integrated EU approach to contribute to reducing ill health due to poor nutrition, overweight and obesity.

The SFS is coherent with the EU policy principles. It is in particular coherent with the protection of the health of the EU citizen, which is obligatory for all EU policies. The SFS is also coherent with the objectives of economic growth (less diseases, more working days) and reducing poverty of the EU 2020 Strategy.

The SFS is in line with the European subsidiarity principle. The scheme permits for large-scale and nation-wide applications which are in most cases not feasible without the EU aid as the required high national budgets without EU aid, unlike the UK case, are not available. Furthermore, the scheme has produced additional added value beyond already existing national schemes as it has led to continuous knowledge and experience transfers among Member States.

(6) Relevance

The SFS has a high relevance because it adequately addresses the socio-economic need to increase the fruit and vegetables consumption of children in the short-run and to achieve healthier nutrition behaviour in the long-run. The relevance of the SFS is after just two years of operation of the scheme less clear when it comes to the economic target. The latter is to increase the EU fruit and vegetables consumption in the short-run; an increase that should lead to a stabilisation of the whole EU fruit and vegetables market in the long-run.

- **In order to increase the relevance of the SFS for the EU fruit and vegetables market it is recommended to require a major share of regional fruit and vegetables to be used in the distribution programme. The usage of regional products originating in the EU could be enhanced by increasing the EU aid especially for products with high added value e.g. regional or organic grown products.**

The present Strategy Papers appear merely as guidelines for the implementation of the SFS at national/regional level rather than as a strategic tool to address the relevance of the scheme for national needs. The limitation in strategic planning and controlling limits the contribution of National Strategies to the value added of the SFS. Added value of the SFS has not only been observed in terms of a possible impact on eating habits. The scheme is also relevant in all Member States / Regions, since the positive effects of additional fruit and vegetables portions occur regardless of a regular offer of school meals.
(7) Administrative and organisational burden

The administrative burden in terms of reporting obligations etc. induced by the School Fruit Scheme is on 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 regionally organised schemes show higher values relative to the number of participating schools than centrally organised schemes. This results from the fact that burdens appear like fixed costs, meaning that relative administrative burdens fall if the participation rate in the scheme increases. Nevertheless some principles are hereafter identified to further reduce the administrative burdens:

- Product checks can be reduced where overlaps with obligatory quality checks from national legislation exist. To reduce administrative burden, 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.

Even though administrative burdens caused by the documentation, reporting and control obligations of the scheme’s legislation do not constitute a main obstacle for schools and countries to participate. The survey carried out as a part of this evaluation emphasized an additional and probably more critical aspect of burdens within the implementation of the scheme. This aspect concerns rather the school level than the administrative level (ministries) and deals with organisational challenges rather than with administrative obligations.

The surveys point out that in most participating Member States / Regions particular schools have to overcome two organisational challenges: (1) Managing the accurate fruit and vegetables delivery and the related reliable logistics (2) Managing the accurate fruit and vegetables preparation and distribution to the children at school. Both tasks cause considerable time requirements which is very critical as the available teaching staff is in most cases working to full capacity within the school's curriculum and the necessary man-power is scarce. While the first organisational task mentioned above is usually dealt with by the school headmasters, the second task can also be handled by parents. However, parents who are willing and able to help are also scarce, especially in schools which are located in socially less privileged regions and quarters where both parents are obliged to work full-time to make ends meet. In particular those regions and quarters deserve special care in dealing with the scheme. In general, in order to strengthen the uptake and impact of the scheme, in particular in less privileged regions and quarters, it is important to find ways to make sure that the occurring organisational burden for the schools does not constitute a main obstacle for participation.

- Special focus on organisational and logistic burdens for the schools is recommended, e.g. in the National Strategies, to increase the uptake and impact of the scheme, in particular in less privileged socio-economic regions and quarters. Ways should be found to ensure adequate support for schools that have difficulties to carry out the necessary organisational and logistic work with the teachers and parents available.
(8) Strategies, monitoring and evaluation requirements

Within the analysis of the National Evaluation Reports two main problems have been identified. The first is that the executive summaries of the single Evaluation Reports vary highly regarding their extent and content. Neither sufficient content which highlights all central findings nor an English translation are included in each available report.

- Summaries should be provided also in an English version to enhance the experience exchange between Member States by reducing expenditure of time and effort for translation.

The second problem is that the extent of the reports varies from approximately 50 to 300 pages and the central aspects focused on by each evaluation are often very different.

- In order to support the Member States in their efforts towards an effective and efficient implementation of the SFS their experience exchange can be simplified by agreeing on certain standards. The question how precisely - following which method and using which indicator - to evaluate an increase in children’s fruit and vegetables consumption could be a starting point for such discussions on basic standards and formats since increasing fruit and vegetables consumption is the core criterion of the scheme’s overall success.

This would also be useful for future EU evaluations of the SFS. As it is a central objective of an overall EU evaluation to provide a comparable overview of policies across all involved Member States, the comparability of the underlying national reports is crucial for an adequate overview.

- Thus, it is recommended that a more standardised structure and focus of the single national reports should be suggested by the Commission. As the key questions which have to be answered to achieve an adequate evaluation of the scheme (implementation, relevance, effectiveness and efficiency) are already known, they should be formulated explicitly in a common format and should be used as guidelines for the single national evaluations.
This report evaluates the EU School Fruit Scheme launched in 2009. In the school year 2010/11 more than 8.14 million children participated in 31 EU Member States and Regions, receiving fresh fruit and vegetables during a certain programme period and gaining experiences with fresh food through educational Accompanying Measures. A total budget of EUR 90 million was agreed on by the Agricultural Council of Ministers as financial aid for the fruit and vegetables distribution in the EU School Fruit Scheme. The evaluation report describes the different ways of implementation of the Scheme in the Member States and Regions and shows the overall positive impact on children's fruit and vegetables consumption.

Whether the increase in consumption will be sustainable depends amongst others on the National or Regional SFS Strategy as well as on the frequency and duration of the fruit and vegetables distribution. Reviewing the School Fruit Scheme’s development, it becomes evident that the participating Member States try to expand the Scheme to as many children as possible and therefore often reduce the frequency or duration of the programme in order to meet the defined national/regional co-financing funds. In the majority of Member States distribution takes place on average only 1 to 2 times per week, which must be considered as insufficient to reach the desired effects and goals of the Scheme.

In order to strengthen the effectiveness of the Scheme one of the key future challenges will therefore be to ensure a high frequency of distribution over a long period for as many children as possible. From this, the need for additional financial aid becomes evident. The national and regional co-financing is found to be a limiting factor for the implementation. A higher share of EU funding should therefore be considered when seeking to increase the impact of the scheme on fruit and vegetables consumption to the level required for their health protection.

Given the potential effectiveness of Accompanying Measures in terms of changing eating habits in a sustainable way and in view of their role in the visibility of the Scheme and in the spill-over effects to healthy consumption in general, it is recommended in this evaluation to raise the national and regional administration bodies' awareness for including the Accompanying Measures more in their strategic planning and in the evaluation of the National and Regional Schemes.

The EU School Fruit Scheme is evaluated to be in general an adequate and necessary contribution to a more balanced nutrition in the vulnerable target group. Small modifications in the implementation of the EU School Fruit Scheme will further increase and deepen the Scheme’s impact. The current situation as it is presented in the interviews with stakeholders and experts, at meetings and in the evaluation reports is encouraging: the involved stakeholders are very positive and schools and children are excited about the Scheme and they all wish for a long-lasting participation in future.
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