



# From research based evidence to policies in school and preschool – the case of School Fruit Scheme.

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*Nutrition, Family and Consumer Studies*  
University of Malta, April 12 2014

**Abstract :** Food is on the agenda in school and the role that food and education can play for for health & food literacy among children is important. The paper takes as a point of departure the provisions in the EU School Fruit Scheme adopted by the memberstates in 2009. It gives a brief account of the background for the scheme and its content. It lists a number of new educational opportunities for learning about life & health skills in schools and institutions that the new version of the scheme offers. The presentation draws on experiences form the AAU research projects Dagmar project ([www.dagmar.plan.aau.dk](http://www.dagmar.plan.aau.dk)), FRIDA project ([www.frida.plan.aau.dk](http://www.frida.plan.aau.dk)) and the SoL local community intervention (Health & Local Community, [www.sol-bornholm.dk](http://www.sol-bornholm.dk)). It presents examples of food related hands-on food activities (HOFA's) that can be implemented in schools It finally discusses how accompanying measures and hands on food activities in school can contribute to increased food & nutrition literacy and healthier and more sustainable food patterns.



# How evidence becomes policy

prochildren

Internet Billeder Maps Videoer N

Ca. 116.000 resultater (0,26 sekunder)

**ProChildren**  
[www.prochildren.org/](http://www.prochildren.org/) ▼ Oversæt denne side  
Promoting and Sustaining Health through Increased  
among European Schoolchildren. **Pro Children.** clic  
Du har besøgt denne side 2 gange. Seneste besøg:



# Health and behaviour is tracking

- Lifestyle habits, such as dietary and physical activity habits are founded in early childhood and since **health status** have a tendency to track into adulthood (Whitaker et al. 1997; [Wright et al. 2001](#)).
- The same tracking patterns in **eating behaviour** is reported by Kelder et al (1994) and Neumark-Sztainer et al (2011).

# Common Agricultural Policy

- SFS
- SMS
- SMP

# Keyfacts 2012

Adopted in 2009

24 Member States

31 programmes

8,146,290 children

54,267 schools

# Background

Failing **the minimum intake** of 400 g fruit and vegetables per day (WHO)

Problem of **overweight** (approx. 17 million children in EU 25) and **obesity** (approx. 5 million children in EU 25)

EU **fruit and vegetable demand** shows a declining trend

**Proposal for EU SFS** by Agricultural Council of Ministers in 2008

EU **SFS started** in school year 2009/2010

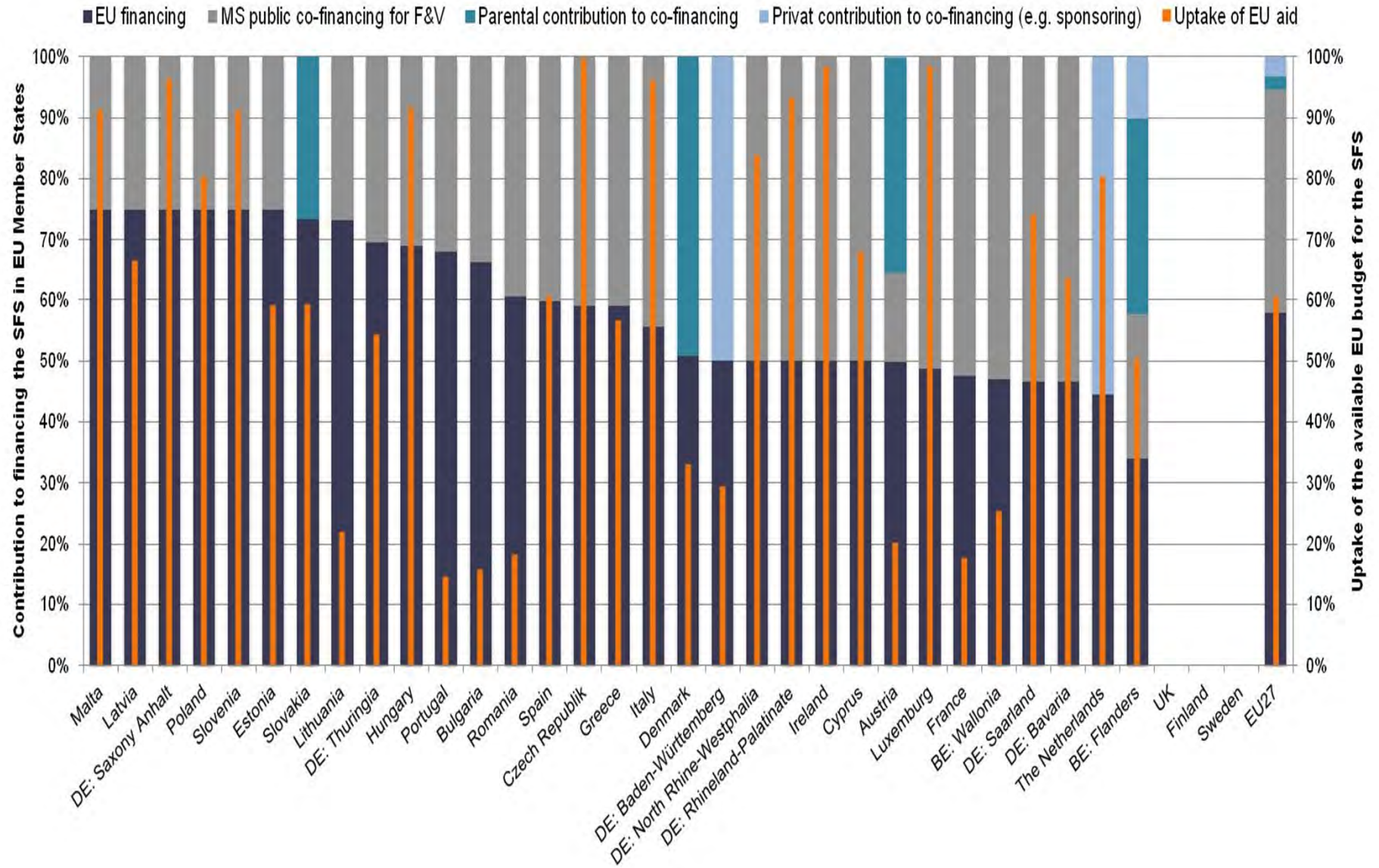
**Obligatory evaluation** of SFS after three years of implementation and presentation of a report before **the 31.08.2012** (with respect to Article 148(5) of Council Regulation 1234/2007)

# Funding mix

- EU community aid EUR 55,4
- MS co-financing: EUR 39.5 million
- parental co-financing: EUR 2 million
- private co-financing (sponsoring): EU 3

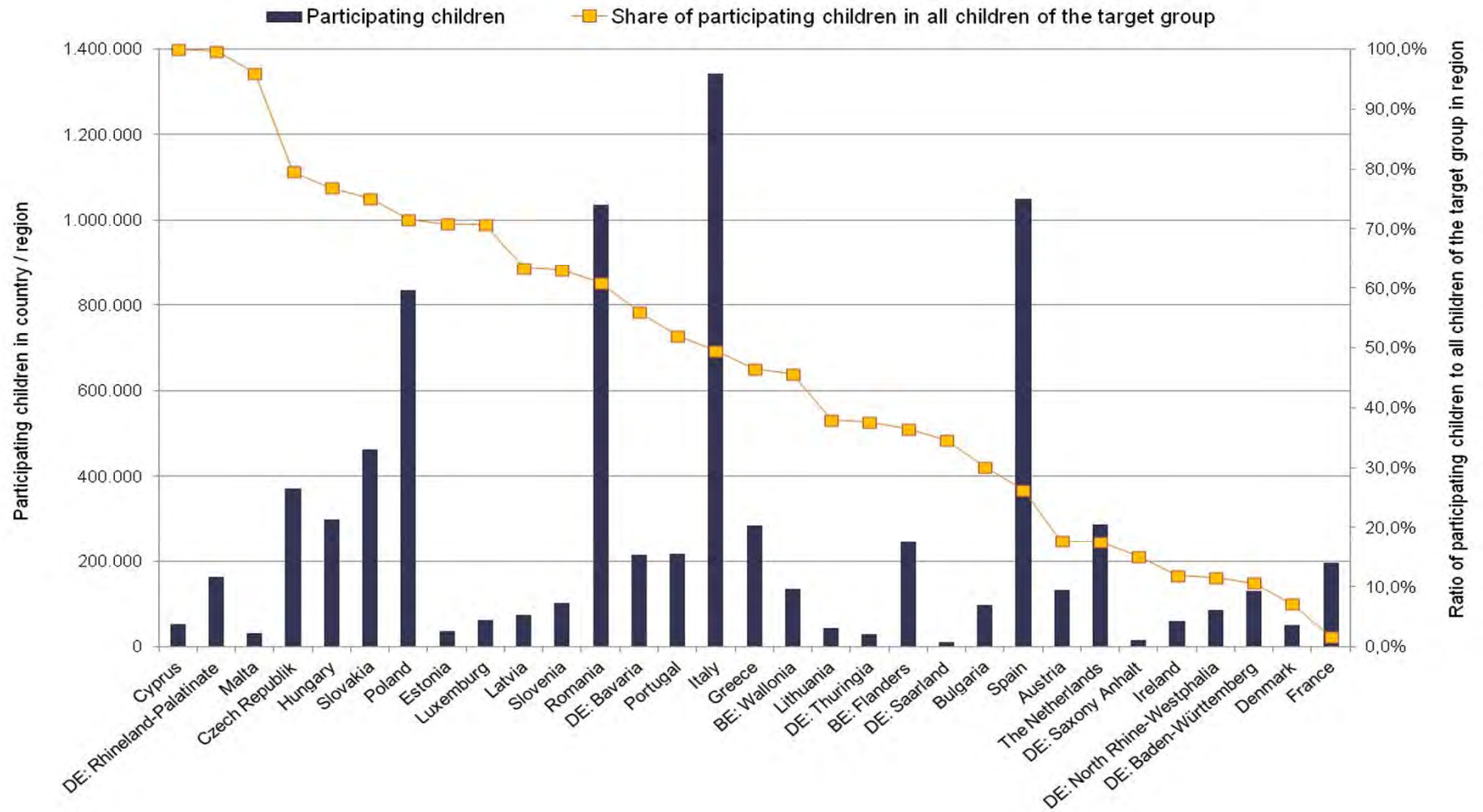
Compared to 2009/2010 the EU SFS significantly increased in 2010/2011 by reaching the following scale:

# Funding mix

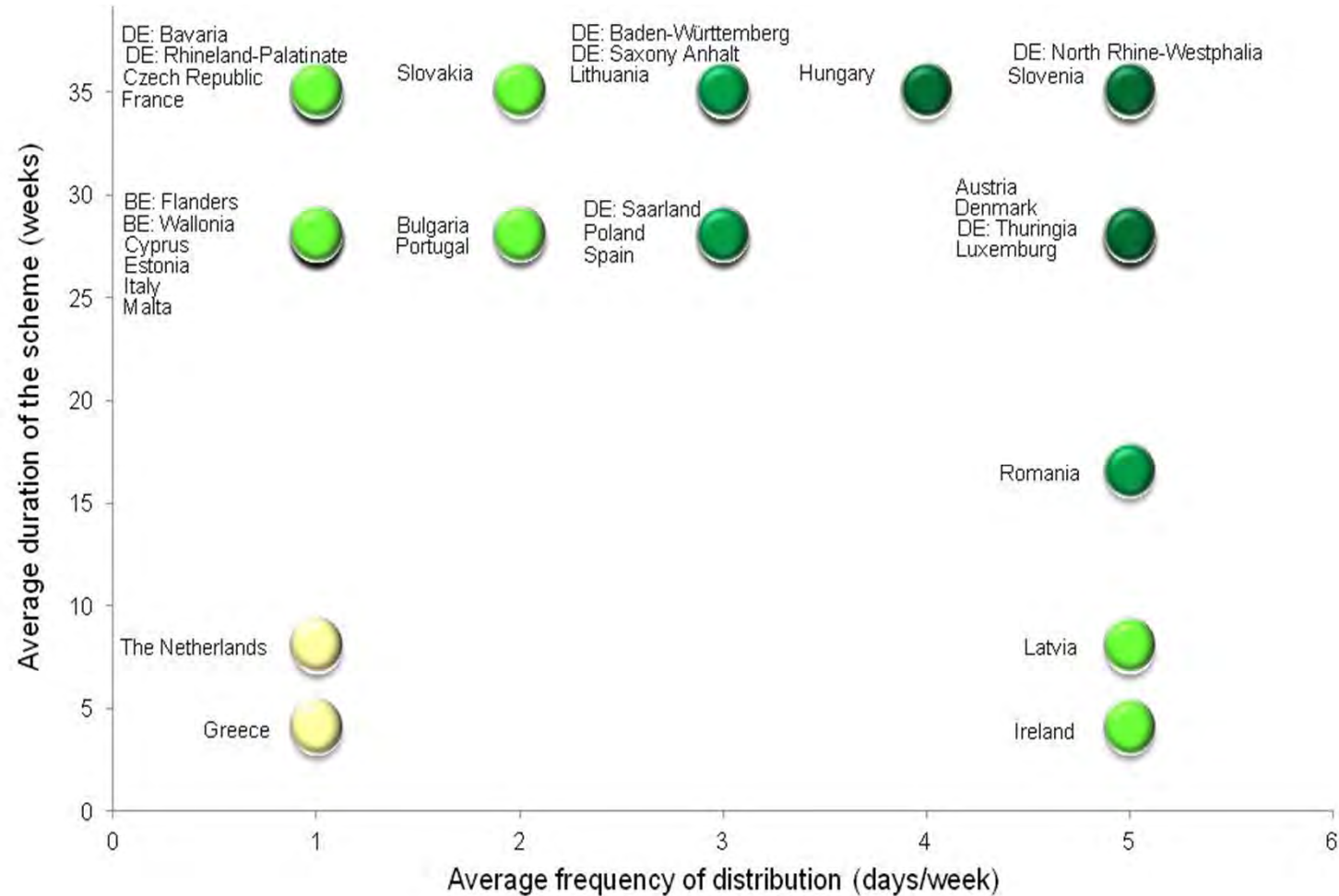




# Coverage

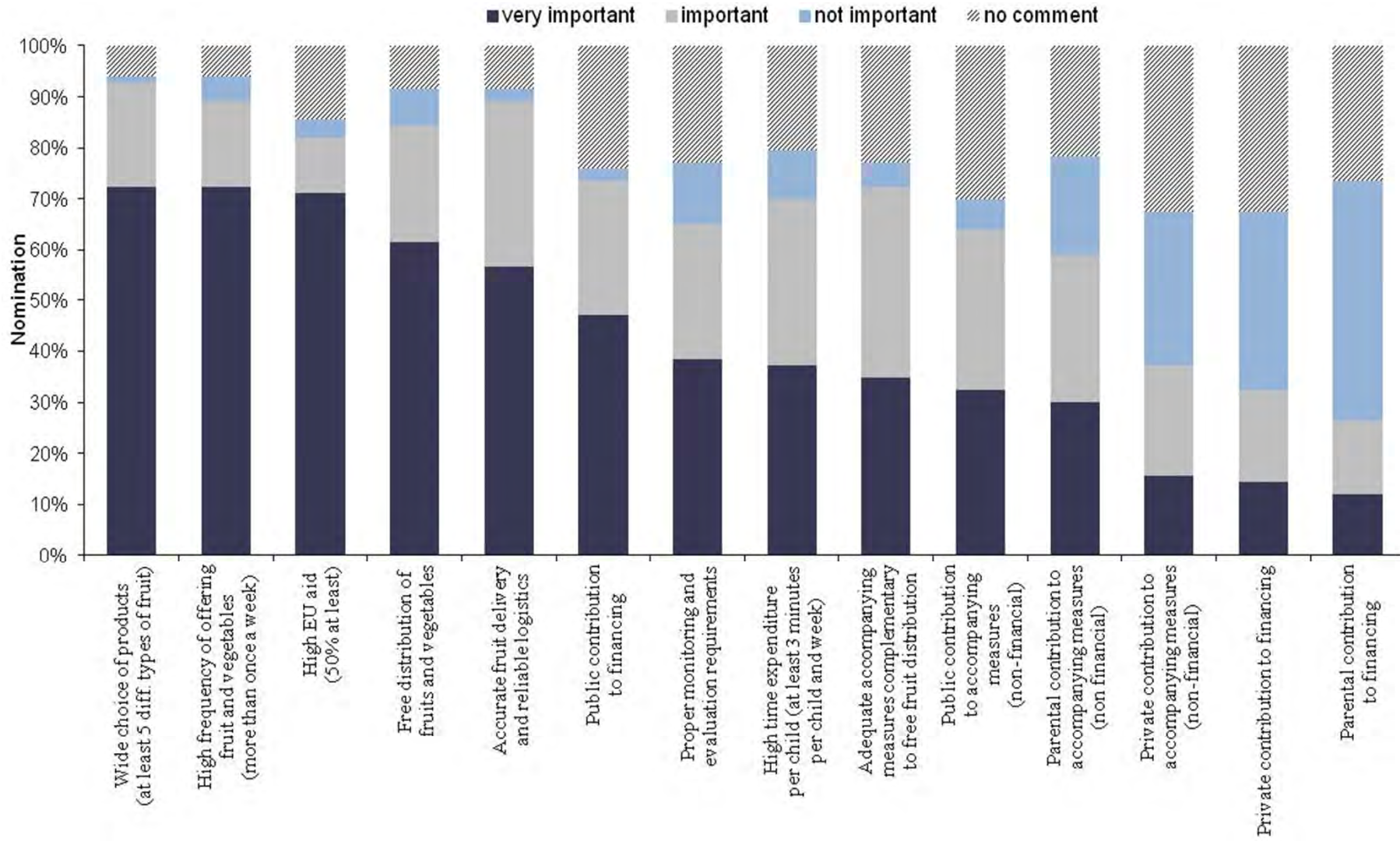


# Frequency & duration



# Implementation

## What is important



# School Fruit Scheme (SFS)

## the 2013/2014 school year.

- **24 Member States** (plus Croatia upon accession) have decided to participate in the programme for the coming year with only **Sweden, Finland** and the **United Kingdom** opting out.
- Out of €90 million of EU funds available, the **main beneficiaries** of the Scheme in 2013/2014 will be
  - Italy, who is set to receive over € 20.5 million
  - Poland (€ 13.6 million)
  - Germany (€ 12 million),
  - Romania (€ 4.9 million)
  - and France (€ 4.7 million), Hungary (€ 4.5 million), Spain (€ 4.4 million) and the Czech Republic (€ 4.2 million)

# Key points of the reform proposal

- A joint legal and financial framework will be set up, focusing EU support on the distribution of fresh fruit (including bananas) and vegetables, and drinking milk.
- **Distribution** will be backed up by **educational measures** to improve pupils' awareness of **farming**, the **variety of farm produce** available, **healthy eating habits** and **environmental issues**.
- **Funding rules will be changed**, enabling the schemes to maximise their impact within a set budget.
- **Implementation** rules and requirements will be simplified.

[http://ec.europa.eu/agriculture/school-scheme/legislative-proposal/index\\_en.htm](http://ec.europa.eu/agriculture/school-scheme/legislative-proposal/index_en.htm)

# What happens next?

- Debate in the European Parliament and the Council
- Approval of the legal and financial framework the reformed school scheme will probably take effect in 2016

# **New arrivals**

- 75 % community aid for F&V
- 50 % community aid for AM's

# What are accompanying measures?

official definition:

“Member States shall describe in their strategy which **accompanying measures** they adopt in order to ensure the successful implementation of their scheme. Those measures shall be educational and shall focus on improving the target group's knowledge of the fruit and vegetable sector or healthy eating habits and may involve teachers and parents”.

COMMISSION REGULATION (EC) No 288/2009 of 7 April 2009, Article 3, M2 4.



# Evidence on effect of AMs is weak

The development and promotion of farmers' markets and community gardens is growing in popularity as a strategy to increase community-wide fruit and vegetable consumption. Despite large numbers of farmers' markets and community gardens in the United States, as well as widespread enthusiasm for their use as a health promotion tool, little is known about their influence on dietary intake. This review examines the current scientific literature on the implications of farmers' market programs and community gardens on nutrition-related outcomes in adults. Studies published between January 1980 and January 2009 were identified via PubMed and Agricola database searches and by examining reference lists from relevant studies. Studies were included in this review if they took place in the United States and qualitatively or quantitatively examined nutrition-related outcomes, including dietary intake; attitudes and beliefs regarding buying, preparing, or eating fruits and vegetables; and behaviors and perceptions related to obtaining produce from a farmers' market or community garden. Studies focusing on garden-based youth programs were excluded. In total, 16 studies were identified for inclusion in this review. Seven studies focused on the impact of farmers' market nutrition programs for Special Supplemental Nutrition Program for Women, Infants, and Children participants, five focused on the influence of farmers' market

programs for seniors, and four focused on community gardens. Findings from this review reveal **that**

**few well-designed research** studies (eg, those incorporating control groups) utilizing **valid and reliable dietary assessment** methods to evaluate the **influence of** farmers' markets and community gardens on nutrition-related outcomes have been completed. Recommendations for future research on the dietary influences of farmers' markets and community gardens are provided.

**Review of the nutritional implications of farmers' markets and community gardens: a call for evaluation and research efforts.** McCormack LA, Laska MN, Larson NI, Story M., <sup>1</sup>E. A. Martin Program in Human Nutrition, South Dakota State University, Brookings, USA.

# Accompanying measures

## Hands on Food Activities, HOFA

- Taste education
- Farm2School links
- Roof gardens
- Edible school gardens
- Cooking classes
- School gardens
- Outdoor cooking

# Teachers are role models

- Role models are important for change of behaviour and preferences (Wardle et al., 2003) (Wardle & Cooke, 2008)
- Acceptance of new foods dependant on social factors, including teachers and peers (Birch, 1980).
- Vicarious learning – the fact that children learn from adults through observation and interaction (Bandura, 1962) is a potential powerful role in the creation of food literacy among preschool aged children

# In nature





Individual book of season

# Is nature edible?



# Potato project



# The kinder garten garden





# From planting to harvest



# End of season: preserving for winter



# Taste shop (Sapere)



# Theoretical framing

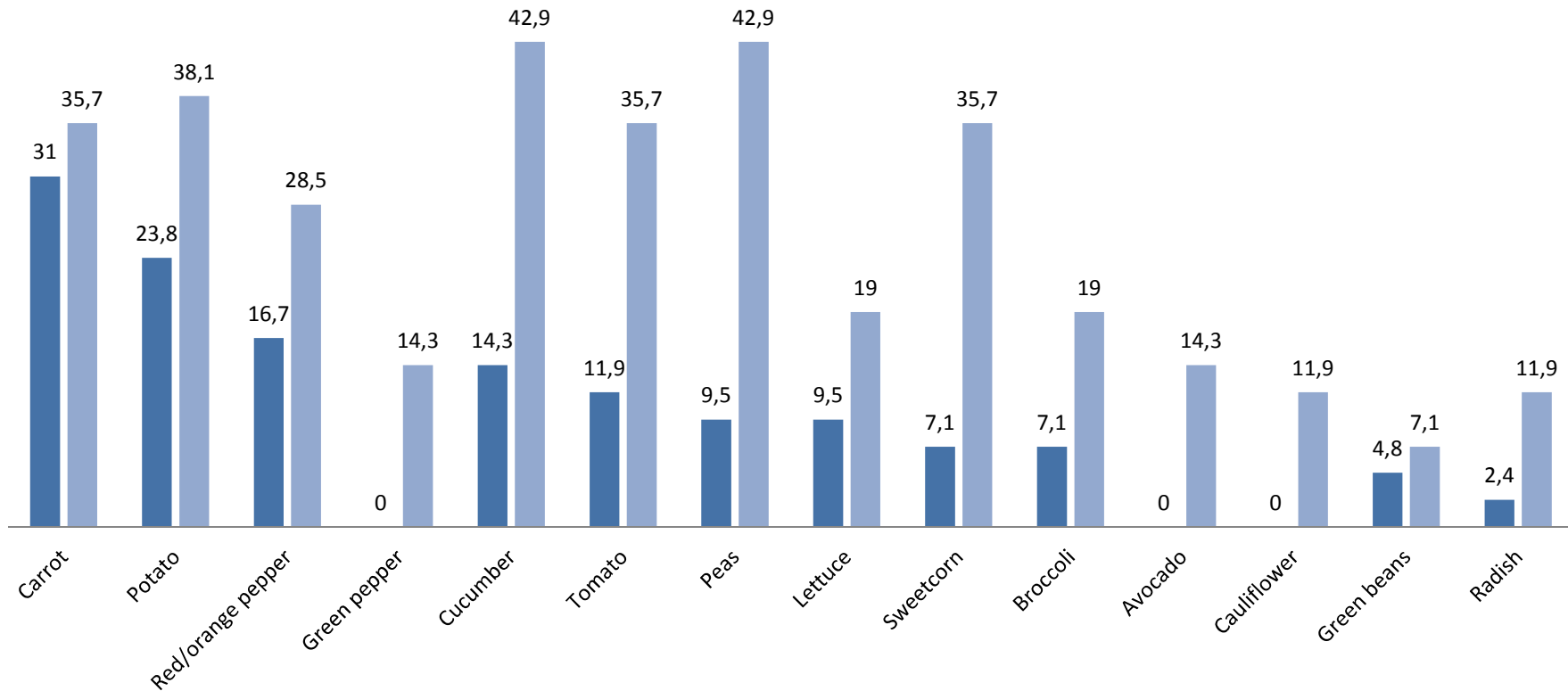
How can we capture learning as outcome?

- **Food & Nutrition Literacy**
- the ability to organise one's everyday nutrition and food in a self-determined, responsible and enjoyable way.
- **Cultural Capital**
- a non-financial social asset that can be “saved” and foodwise can be “spent on a healthy life”
  - Embodied. Experiences you bring, “inherited”
  - Objectified. For instance cook books, utensils
  - Institutionalized. The “degrees you got”

Bourdieu, P. 1986, Forms of Capital  
Dyg, PM 2012

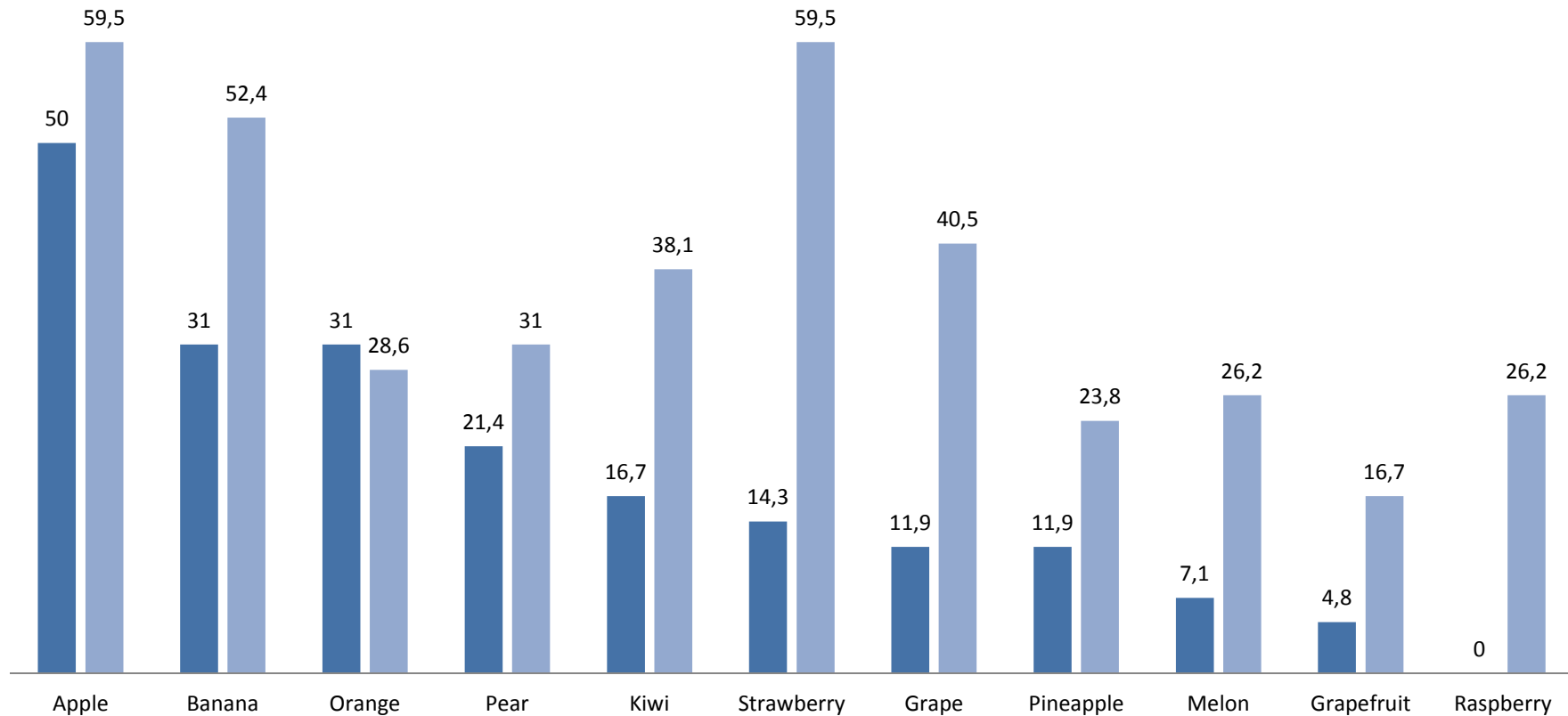
# Preferences, veg's

■ Baseline image-based questionnaire    ■ Follow up image questionnaire



# Preferences, fruit

■ Baseline image-based questionnaire    ■ Follow up image-based questionnaire



# Types of evaluation

- GREX
- AFCO Concept
- National reports

# Evaluation of the scheme

- ▲ **Implementation:** The extent to which the SFS has been implemented as envisaged in the National Strategies
- ▲ **Effectiveness:** The extent to which measures can be expected to achieve the objectives of the strategy
- ▲ **Efficiency:** The extent to which objectives can be achieved for a given level of resources and at least cost
- ▲ **Coherence:** The extent to which the intervention does not contradict other interventions with similar objectives
- ▲ **Relevance:** The extent to which the intervention is an eligible instrument to reach the specific objectives of the strategy



# School Fruit and Vegetables Scheme External Evaluation Report

Report commissioned by the Ministry for Resources and Rural Affairs  
Prepared and compiled by APS Consult Ltd



RESEARCH  
Evaluation of the  
School Fruit Scheme  
2010-2011 School Year

October - November 2011

Edited by:



FRUIT IN SCHOOLS

Evaluation of the implementation and  
effectiveness of the School Fruit scheme

Ministry of Agricultural, Food and Forest  
Policies

Department of Competition Policies for the Rural World and for  
Quality  
Directorate General for Agri-food Development and Food Quality

Monitoring and evaluation actions within  
the context of the EU Programme

"Fruit in  
Schools"



# **GREX Group of Experts**

group of experts give advice to MS on

- How to evaluate it
- How to implement it
- How to carry out accompanying measures

# GREX members

- Mario Mazzocchi, IT
- Bent Egberg  
Mikkelsen, DK (chair)
- Loes Neven, BE
- Martine Padilla, FR
- Saida Barnat, FR
- Margherita Caroli, IT  
(co chair)
- Bela Franchini, PT
- Victoria Anna Kovacs,  
HU
- Athena Linos, GR
- Fergus Lowe, UK (co  
chair)

# Key facts of GREX work

- 6 meetings
- 2342 emails
- 567 files

School Fruit Scheme  
Protocol for the work of Expert Committee  
Version 5.0

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# GREX: Interdisciplinarity

- Nutrition
- Pediatrics
- Practitioner
- Behavioral economic
- Public health nutrition
- Medicine
- Health promotion
- Food service research
- Behavioural psychology

# Objectives of GREX work

- raise **children's consumption of F&V at school, home and other environments.**
- make sure that this is done through combining provision of fruit and vegetables with effective accompanying measures that can bring about ***sustainable changes in eating*** habits. This should be done within a whole school approach which enables increased fruit consumption to become embedded in children's lifestyle patterns. It should not be limited to the school environment but should include **families and parents** to be (the adults of the future...)
- help Member States, if they wish, also to consider other factors, such as the effects of increased F&V consumption on the intake of **energy dense and nutrient poor foods (ie., displacement)**, effects on parental food consumption, effects on children's knowledge about F&V

	AT	BE-FL	BE-WL	BG	CY	CZ	DK
<b>Country</b>	<i>Austria</i>	<i>Belgium (Flanders)</i>	<i>Belgium (Wallonia)</i>	<i>Bulgaria</i>	<i>Cyprus</i>	<i>Czech Republic</i>	<i>Denmark</i>
<b>Evaluation of SFS</b>							
<b>1.Target group</b>							
Children		x		x	x		x
Age of the children	6-10	2,5-12	6-12	6-10	6-12	6-10	6-17
Parents	x	x		x	x		
Headmasters/Schools	x		x	x	x	x	x
Teachers	x			x			x
Suppliers						x	
Other groups							
<b>2.Type of study</b>							
Single evaluation (Cross-sectional)	x				x	x	
Baseline/Follow-up							
Intervention/Control group		x	x	x			x??



# Feasibility

how ALL schools can benefit

- Programme administration should be convenient to administer and apply for headmasters.
- They should have support with administrative burden
- Both schools and should benefit



# Feasibility

how ALL families can benefit

- Parents should be involved in supporting the program
- Program should not require co finance from parents.
- Municipal contribution is important
- State contribution is important





## **GREX recommends**

- SFS needs to be branded more effectively
- Need a logo for SFS to support branding
- Need a new name that covers also vegetables
- Should be relaunched
- Need for a wider public involvement i.e. communication, contests, competitions etc

# GREX recommends



- Should target both schools and preschools (kindergartens)
- Should primarily target age 2-11
- Should be targetted all
- But due to limited resources instead of trying to reach all at once it could be rolled out over time
- Intensity is important:
  - Duration: Provision + AM should be for a full year (either or both)
  - Frequency: often, at least twice a week



# GREX recommends

- Importance of AMs is widely understood among experts
- Need for AMs to be appreciated by Member States
- AMs are essential for effectiveness
- Effective AMs should be based on principles of behavioural change
- New name for AMs i.e. Essential Supportive Measures

# GREX recommends

- Possibility to relate to other agendas
  - School Meal Programs
  - Milk schemes. No evidence that it provides health
- But need to get the SFS right first



# GREX recommends

- Scientific evidence should be used in
  - Implementation
  - Evaluation
- Scientific evidence should be encouraged nationally by operating a scientific panel to guide both implementation and evaluation



# Students group work

## future of SFS

- Prochildren project  
<http://www.prochildren.org/>
- New SFS regulation  
[http://ec.europa.eu/agriculture/school-scheme/legislative-proposal/index\\_en.htm](http://ec.europa.eu/agriculture/school-scheme/legislative-proposal/index_en.htm)
- Malta report
- SFS Malta  
[https://education.gov.mt/en/education/student-services/Pages/Projects\\_and\\_Initiatives/EU-School-Fruit-Scheme-\(SFS\).aspx](https://education.gov.mt/en/education/student-services/Pages/Projects_and_Initiatives/EU-School-Fruit-Scheme-(SFS).aspx)

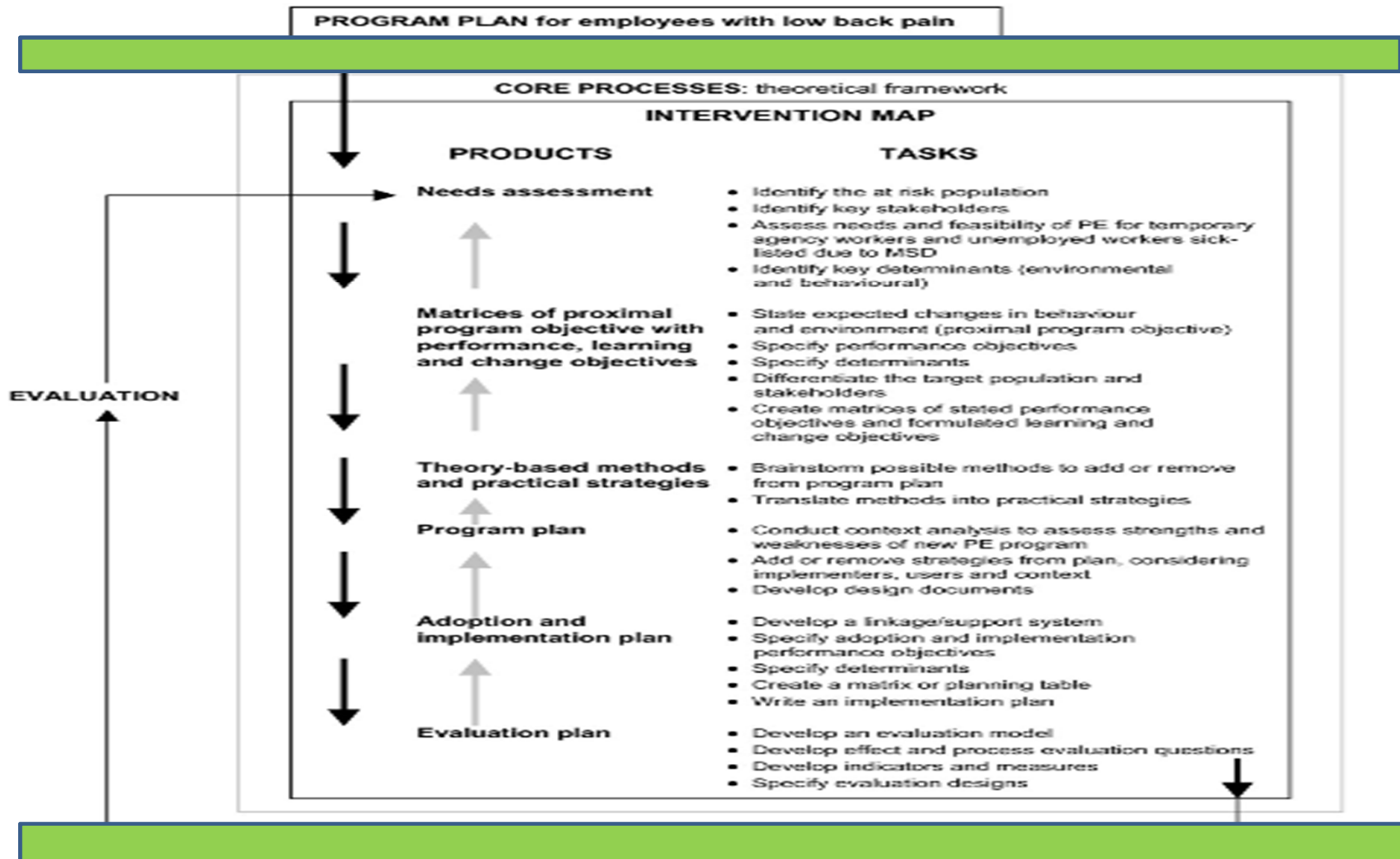
# Students group work - the task

## future of SFS

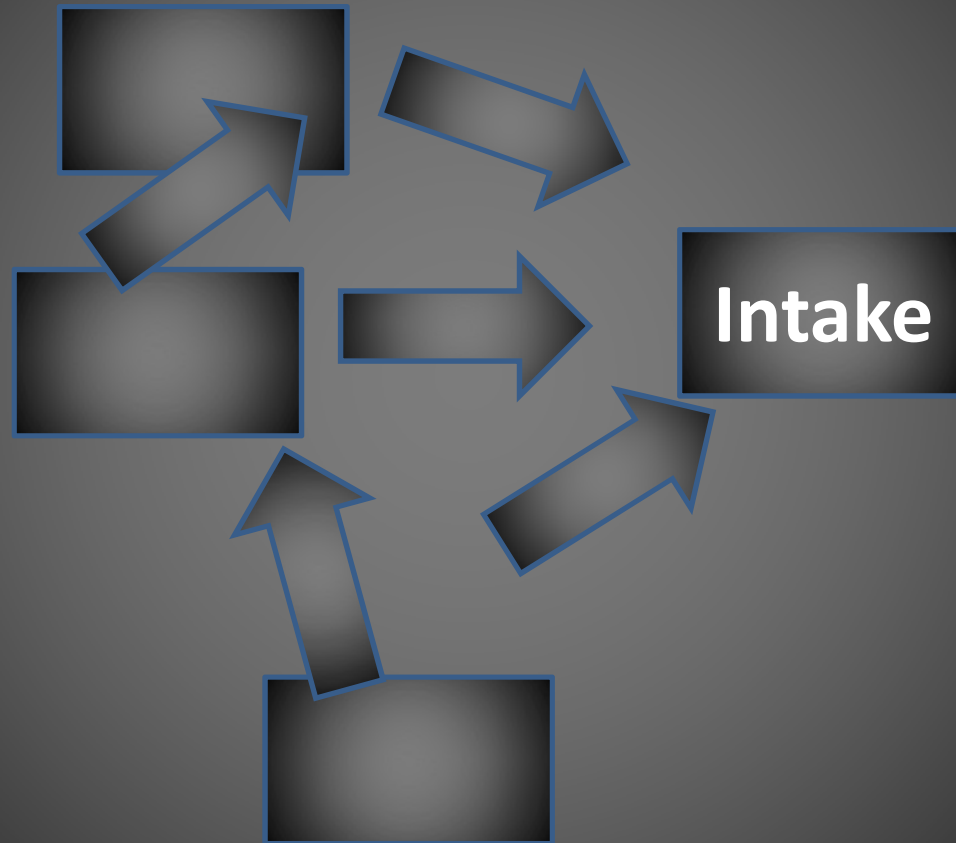
- Discuss: What could be **the link between accompanying measures and food literacy**
- Discuss: is **food literacy** a **determinant** for **intake**
- Make a list of **potential accompanying measures (AM's)** for the SFS
- Suggest outlines of methods/protocol to test the **effectiveness/impact** of such AM's



# Intervention mapping



# The pathway to FV intake?



# Thanks for your attention

- Questions?