Annex 3

Information on Methodological Issues

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1. Definition of context factors

Definition of context factors used in the web-survey (Study Question 2)

Difference between non-organic and organic support payments

The difference in the payment levels between non-organic and organic support payments might have an impact on farmers' willingness to convert.

Reliability & continuity of governmental support for organic farming

Extent to which producers can count on governmental support for organic farming in terms of continuity and foreseeability of public support. Furthermore, quick and reliable procedures ensure the liquidation of payments.

Commitment of government towards organic farming

Extent to which governments are committed to organic farming. This includes the policy orientation and policy climate towards organic farming (e.g. action plans).

Collaboration between organic actors and government

This describes the level of interaction and mutual development of the organic sector through collaboration between organic farming actors and the national or regional government.

Perceived profitability of organic farms

This factor addresses farmers' perceived profitability of organic farms compared to non-organic business strategies.

Perceived profitability of organic processing and retailing

This factor addresses processors' and retailers' perceived profitability of processing and retailing organic products.

Pressure on conventional farmers for change

At times when the conventional sector is settled and prosperous, there could be little change even though all the organic signals are very favourable. However price volatility for conventional products, exchange rate changes, increase in input prices (e.g. fertilisers), or policy changes can put pressure on conventional farmers to change the farm business strategy. This factor describes the extent of pressure on conventional farmers to change farm business.

Feasibility to comply with organic regulation

The regulatory and administrative burden for farmers to comply with the requirements of national implementation of Council Regulation (EC) No 834/2007 can be low or high depending on the site conditions, farm type or farm structure.

Farmers' access to organic market channels

The access to organic market channels determines whether organic farmers can market their produce as organic on domestic and export markets (good versus limited access to organic markets). Access can also be limited due to high shares of imported organic commodities.

Functioning of the organic supply chain

The functioning of organic supply chains is the better the fewer bottlenecks are found along organic supply chains or in the marketing structure of the organic sector. This includes the level of fragmented supply of organic produce, availability of organic raw material, processing capacities, level of cooperation and communication between relevant actors (e.g. farmers, processors, retailers), and economies of scale.

Availability of organic products for consumers

Organic products may be easily available for the majority of consumers in e.g. each supermarket, in each city or difficult to purchase when only available in a few specialised shops, only in bigger cities. The factor describes the extent to which organic products are easily available for consumers.

Availability of non-organic trademarks competing organic products

Non-organic trademarks in the marketplace that guarantee animal welfare, environmentally friendly production or claim to be GMO or pesticide free compete with organic products.

Clarity of organic labelling

Extent to which consumers are able to recognise clearly organic labels in the market place.

Role of large conventional retail chains in the organic market

Extent to which conventional supermarkets and discounters are relevant for the market and marketing of organic products. This includes market power, promotional activities, launch of own organic brands etc.

Domestic consumer demand for organic products

This factor describes the level of domestic consumer demand for organic products which depends on e.g. the actual or perceived price differences between conventional and organic food, consumer trust in organic food, consumer preferences for healthy and environmentally friendly produced food as well as on the knowledge and awareness about organic food.

Public attention towards organic farming

Public attention towards organic farming can vary depending on concern towards e.g. food safety, environmental and animal welfare issues or GMO risks.

Activities of organic farming interest groups

The factor describes the quality of organic farming interest groups' activities (e.g. organic farmer associations, environmental organisations etc.) to advocate organic farming development e.g. through playing an active role in the policy arena, lobbying or public relation activities.

Activities of mainstream farming interest groups

The factor describes the quality of mainstream farming interest groups' activities (e.g. general farmer associations, conventional marketer and wholesaler etc.) to advocate organic farming development e.g. through playing an active role in the policy arena, lobbying or public relation activities.

Availability of knowledge about organic farming

Extent to which information and advice is available for organic farmers or farmers who want to convert (demonstration farms, farm data, information about inputs etc.). This also includes knowledge from research that benefits producers, processors or retailers.

2. Use of quantitative indicators based on EU FADN

2.1 Objective

For the case study countries, quantitative impact indicators are compiled or calculated on the basis of EU FADN to explore the effects of organic support policies on organic farming. These quantitative indicators provide a basis for a qualitative expert analysis of the causal relationships between support policies and the development of organic farming in the case study countries.

No quantitative analysis of the relationship between the development of the chosen indicators and of organic farming has been attempted: in view of the many factors which influence the development of organic farming (e.g. 30 context and policy factors addressed in the web survey), too few observations were available (maximum 8 observations per country) to allow any meaningful multivariate statistical analysis, especially as it can be expected that there is a lag between policy implementation (and related indicator response), and a change in the share of organic land.[1] Therefore, as already specified in the technical dossier of the tender contract, these quantitative indicators are intended to provide a basis for the qualitative expert analysis of the causal relationships. To facilitate the expert analysis, the development of the chosen indicators as well as the development of the share of organic farming in total UAA is presented graphically for the time period 2000[2]-2008.

2.2 Indicators

a) The web survey of experts identified 'profitability of organic farms' as context factor of particular importance for the development of organic farming. Also, the IRENA indicators (EEA 2005) related to organic farming include 'organic farm incomes', as the relative financial performance of organic farms as compared to conventional farms is seen a key determinant of both uptake and continued organic farming. Therefore, for this study **organic farm incomes** are compared to similar conventional farms (to indicate combined impacts of prices, agri-environmental support payments and other factors on financial viability of organic holdings). Income in EU FADN is measured as Farm Net Value Added per Agricultural Working Unit (FNVA/AWU).

b) The relation of the level of support for organic farming to that of competing policies (e.g. other agri-environmental measures non-combinable with organic farming, e.g., integrated farming) can serve as an indicator explaining the effectiveness of specific organic farming support (Häring et al., 2004). The **effective support to organic farming** via area payments within the agri-environmental programmes is measured as the difference of total agri-environmental payments of organic and comparable conventional farms (on the basis of the argument that the organic farms would at least get as many agri-environmental payments as comparable conventional farms if no specific support for organic farming was available). It should be noted that the level and the development of this indicator can be very different from those of the nominal rates of organic farming support specified in national regulations (Part A, Chapter 2, National Inventory and Case Study Monographs in the Annex) because i) it takes into account that the incentive effect is reduced by competing policies, and

[1] Daugbjerg et al. (2011) carried out a corresponding quantitative analysis for the UK and Denmark, which was however based on more observations (18 for each country) and assumptions (e.g. no influence of supermarkets on the development of organic farming, no changes in the influence of the general CAP, no lag in policy impacts) which do not hold for the selected study countries and time period under consideration.

[2] Starting year depending on data availability.

ii) the average rate of organic support payments actually received by organic farms differs from nominal rates for a number of reasons (e.g. not all farm area may be eligible, not all organic farms may apply or be accepted for support). It is exactly for these reasons, however, that this indicator is better suited to evaluate the effectiveness of specific area support than nominal programme rates. In addition, to complete the picture, total agri-environmental payments per ha received by organic farms are shown. The impact of this 'effective' support to organic farming on income is assessed by subtracting the support from actual income of organic farms. The profitability of organic farms without specific support measures compared with the profitability of conventional farming provides an indication of the importance of organic farming policies as a financial incentive to (re-) convert.

2.3 Data

EU FADN data is used to calculate selected quantitative indicators which may indicate the effectiveness of organic farming support. Data is available for the period from 2000 (the first year for which organic farms can be identified in the EU FADN) to 2008 (Table 2.1).

Table 2.1 Number of fully organic sample farms in the EU FADN for the case study countries

	2000	2001	2002	2003	2004	2005	2006	2007	2008
AT	316	296	289	299	320	337	370	377	399
CZ					66	71	72	69	79
DE	125	226	254	251	261	263	277	299	320
DK	75	79	75	73	288	94	84	89	293
IT		544	658	348	497	581	693	700	
UK		28	34	55	65	62	114	113	144

Source: EU FADN - DG AGRI.

The share of fully organic land in total agricultural land as an indicator of the development of organic farming is based on Eurostat data provided for this study.

2.4 Methodology

Comparable conventional farms (CCF) are selected as a reference system (the counterfactual) according to the methodology described in Nieberg et al. (2007). Comparable conventional farms shall serve as a proxy for the hypothetical situation of the organic farms if they had not converted. Often, with panel data like FADN, this identification of the counterfactual is done using econometric approaches (e.g. difference-in-difference estimators; propensity score matching), but as in EU FADN often no information (accounts) of the organic farms before they converted is available, this is difficult/impossible, and the simplified matching using 'comparable conventional farms' is the alternative chosen here to reduce the problem of selection bias. Comparable conventional farms should have similar natural production conditions, be located in the sane region, have a similar endowment with production factors and an identical farm type. However, it should be noted that compared to the analysis carried out in Nieberg et al. (2007), which was based on national FADNs, fewer variables for identification of comparable farms are available in the EU FADN. For this study, CCF have the same general farm type, similar altitude and less-favoured area (LFA) status, and similar size of agricultural land (UAA) and milk production. For the UK, CCF additionally have similar total grassland and rough grazing areas. Horticultural, and, with the exception of Italy, wine and permanent crop farms have been excluded, due to difficulties in identifying truly comparable farms.

The reported results are based on unweighted sample averages. As organic faming is not a stratification criteria employed when calculating the EU FADN weights, the reliability of these weights might be low, especially in countries where organic holdings represent only a small proportion of farms (Hansen et al., 2009). An illustration of the technical approach to generating a set of comparable conventional farms is given in Box 1.

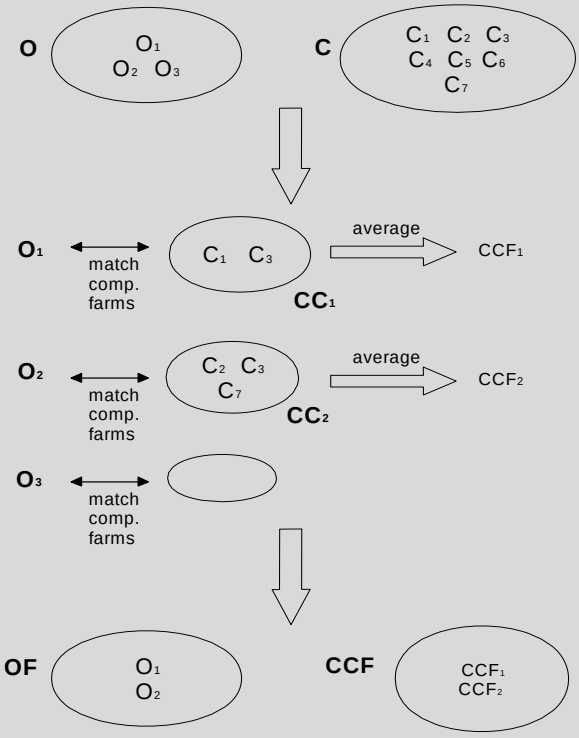
Box 1 Technical procedure for the selection of comparable conventional farms

How to set up samples of organic and comparable conventional farms?

1. Creation of two samples from FADN data: Sample O (organic farms); Sample C (conventional farms)
2. For each farm of Sample O, a sample of comparable conventional farms CCi is selected from Set C, i.e. for a single organic farm often more than one comparable conventional farm is identified. To avoid distortions, these comparable conventional farms (Set CC) must be weighted for further analysis. This is done by calculating the average of the sample CCi to get a single ('artificial') comparable conventional farm CCFi for each organic farm, i.e. each of the conventional farms found to be comparable to a specific organic farms gets the same weight(alternatively, weights 1/NCCi can be assigned to each of the conventional farms in set CCi. Set CCF is the weighted set CC.).
3. This procedure implies that a conventional farm from Set C can be a member of more than one Set CCi.
4. To arrive at Set OF, all farms for which no comparable conventional farm could be selected are eliminated from Set O.

Sets CCF and OF constitute the basis for further comparative analysis.

The technical approach to extracting organic and comparable conventional farms for further analysis is illustrated below.



Source: Nieberg et al., 2007.

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