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Summary Report on delivered Input data (Inputs per Agricultural Activity) for "Agricultural Sector Modeling for Candidate Countries"

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Note: This report has been drafted by Dr. Andreas Quiring on the basis of the ASM data input tables produced by ASA-Institute in Spring 2001

1. General Introduction

The main purpose of this report is to summarize first data deliveries from Candidate Countries to fill the AgrIS database at Eurostat, the Statistical Office of the European Union. An adjusted Activity Based Table of Accounts (ABTA) was sent to Candidate Countries by ASA. It contained only the part on input coefficients per activity describe the cost structure of agriculture, differentiated by several production activities.

The request was:

- to fill in available data,
- to check availability of further data sources,
- to present available time series,
- to outline envisaged updates,
- to specify prices and
- to give proposals for further improvement of the table structure.

2. Structure of the data evaluation

All Candidate Countries did sent the tables with data. Also most of them provided some explanations on data sources etc.. Within this report the data will be summarized in regard to completeness and quality. Especially the last aspect can only be carried out rather poor, since a more intensive qualitative assessment would require further comparative analysis.

As quantitative assessment the number of input items, to which input data were delivered, is used. Especially designed tables provide an overview, to illustrate the applied differentiation of input coefficients. In this context some specific problems are also addressed.

One qualitative aspect is also integrated in these data availability overview. The colour green indicates that input coefficients were elaborated for all production activities. If the colour is red, input data are missing for some or in few cases even most activities.

Afterwards data sources, as far as they were explained in the comments, are summarized for each country. Also the intended update schedule will be mentioned.

All these information together and some findings gained during the analysis of the data tables will be used for a final qualitative assessment. As conclusions in future necessary work steps will be outlined.

3. Differentiation and completeness of delivered data

Most Candidate Countries provided data which cover production costs of the year 1999. Only Poland delivered an intensive description of the years 1996 and 1997.

In most countries input data were not available for all production activities. Most times vegetables and fruits but also some times major crop or animal production activities were not described by inputs. In Romania and Bulgaria there are only input data for some major

crop activities. On the other side Latvia, Slovakia, Poland and Slovenia did provide a full set of input coefficients as far as the coverage of production activities is concerned.

Table 1 provides an overview on the quantity of data availability. It can be seen that the description of production costs is getting in average less sufficient going down the list of input items. While data positions like seeds and fertilizer are covered by almost all countries, the description of Fixed Capital Consumption, taxes and subsidies is rather poor.

But also veterinary expenses are not covered by all countries. Here it should be kept in

Table 1: Overview for delivered input data

	Number of input items, where data are provided: - Red = not for all production activities - Green = for all production activities	Bulgaria	Czech Rep.	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovakia	Slovenia
INPT	**TOTAL INTERMEDIATE CONSUMPTION**	1	19	24	11	14	25	18	9	27	22
ICSP	SEEDS AND PLANTING STOCK	1	2	2	1	1	2	2	1	2	2
ICEN	ENERGY; LUBRICANTS		1	3	1	1	2	1	1	5	3
ICFE	FERTILISERS AND SOIL IMPROVERS		2	1	1	1	3	1	3	2	1
ICPL	PLANT PROTECTION PRODUCTS		1	1	1	1	1	1	1	1	1
ICVT	VETERINARY EXPENSES		1	1		1	1	1		1	1
ICFD	FEEDINGSTUFFS		2	5	2	1	9	1		8	4
ICMM	MAINTENANCE OF MATERIALS		1	1	1	1	1	1		1	1
ICMB	MAINTENANCE OF BUILDINGS		1	1			1	1		1	1
ICAS	AGRICULTURAL SERVICES		1	1	1	1	1	1		1	1
ICOT	OTHER GOODS AND SERVICES		1	1	1	1		1		1	1
FCCT	**FIXED CAPITAL CONSUMPTION**		2	3		1	2	2	1	1	3
COMP	COMPENSATION OF EMPLOYEES		1	1		1	1	1	1	1	1
GTAX	TAXES ON PRODUCTION							1			
OTAX	OTHER TAXES ON PRODUCTION					1		1			
GSUB	SUBSIDIES ON PRODUCTION		1				1			1	1
OSUB	OTHER SUBSIDIES ON PRODUCTION			1		1				1	1
RENT	RENTS AND OTHER REAL ESTATE RENTAL CHARGES		1	1	1			1			
INTP	INTEREST PAID		1	1	1	1		1	1		

mind that the EAA methodology has changed. Under this position not only pharmaceutical products are included but also the service. This could be the reason for some countries being not able to provide these information.

Another methodological change may be the reason, why the position seed and planting stocks are not fully covered. As table 2 indicates, only Lithuania has sent coefficients describing to what extent farmers did buy seeds from other farmers. But also for the other two positions a sufficient description of seed use can only be provided few countries. Where data are missing it is the question if the remaining figure describes the total input of seed or if it stands only for one specific source of seeds.

Table 2: Seeds and planting stocks

	Number of input items, where data are provided: - Red = not for all production activities - Green = for all production activities	Bulgaria	Czech Rep.	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovakia	Slovenia
ICSP	SEEDS AND PLANTING STOCK	1	2	2	1	1	2	2	1	2	2
SPOA	S.and p.s.supplied by other agricultural holdings						1				
SPPO	S.and p.s. purchased outside agricultural 'industry'		1	1				1		1	1
SPSH	S. produced and consumed by the same holding		1	1	1		1	1		1	1

The problem is even more relevant for the very detailed description of energy use (see table 3). While an aggregated figure is available for almost all countries, only few differentiated can be found. But there is almost no use of these differentiated data. If for example a few detailed figures are given but not for gas or even electricity. No one would assume that no electricity is used, so the other data do either not fit to the aggregate and are therefore without use. Or they fit to the aggregate which must be then wrong since they do not cover electricity.

Table 3: Energy and lubricants

	Number of input items, where data are provided: - Red = not for all production activities - Green = for all production activities	Bulgaria	Czech Rep.	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovakia	Slovenia
ICEN	ENERGY; LUBRICANTS		1	3	1	1	2	1	1	5	3
ELEC	Electricity					1	1			1	1
EGAS	Gas									1	
EOTH	Other fuels and propellants			1					1	1	1
EHGO	Heating gas oil										
ERFO	Residual fuel oil			1							
EMOS	Motor spirits										
EDIE	Diesel oil			1			1			1	
EOOT	Other energy									1	1

The description of fertiliser use is not very detailed (see table 4). Most countries only provide aggregated figures. Lithuania and Romania added precise information on the use of different types of fertilisers. In Lithuania, physical data are provided for 3 types of fertilizer and a value for the aggregate. But it is not clear, if these detailed figures are consistent with the aggregate, since they are only given in physical units.

Table 4: Fertilisers and soil improvers

	Number of input items, where data are provided: - Red = not for all production activities - Green = for all production activities	Bulgaria	Czech Rep.	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovakia	Slovenia
ICFE	FERTILISERS AND SOIL IMPROVERS		2	1	1	1	3	1	3	2	1
FEOA	Fert. + soil imp. supplied by other agricultural holdings										
FEPO	Fert. + soil imp. purchaged outside agric. 'industry'		1	1						1	1
FEAN	Ammonium nitrate (26% N)										
FENI	Ammonium nitrate (33% N)						1				
FEUR	Urea								1		
FESP	Superphosphate						1				
FETS	Triple superphosphate										
FEMP	Muriate of potash						1		1		
FESU	Sulphate of potash										
FETF	Ternary fertilizers: 1-1-1								1		
FESH	Fert. produced and consumed by the same holding		1							1	

Other countries like Bulgaria, Latvia and Slovakia claim that the input coefficients they could provide distinguish between nitrogen, phosphate and potassium. The requested differentiation is not available.

Covering feeding stuffs is for sure the most ambiguous aspect of an sectoral description of production costs. If a differentiation of several fodder types should be applied as well as a differentiation of the origin of this fodder it is already questionable if required data are anywhere available. But the table required an additional differentiation of the animal production activities where the fodder is used for.

Table 5: Feeding stuffs

	Number of input items, where data are provided: - Red = not for all production activities - Green = for all production activities	Bulgaria	Czech Rep.	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovakia	Slovenia
ICFD	FEEDINGSTUFFS		2	5	2	1	9	1		8	4
FDOA	Feedingstuffs supplied by other agricultural holdings		1	1	1		6				
FDFW	Feedingstuffs: fodder wheat						1				
FDBA	Feedingstuffs: barley						1				
FDOT	Feedingstuffs: oats						1				
FDMA	Feedingstuffs: maize										
FDWB	Feedingstuffs: wheat bran										
FDGB	Feedingstuffs: ground barley										
FDGM	Feedingstuffs: ground maize										
FDFB	Feedingstuffs: field beans						1				
FDFP	Feedingstuffs: field peas						1				
FDFO	Feedingstuffs: fodder peas										
FDDL	Feedingstuffs: dried lucerne										
FDCS	Feedingstuffs: cereal straw						1				
FDPO	Feedingstuffs purchaged outside agricultural 'industry'			3			1			7	1
CFRC	Complementary feed for rearing calves									1	
CFMI	Milk replacer for fattening calves										
CFBC	Baby chick feed										
CFDC	Complementary feed for dairy cattle			1						1	
CFCF	Complementary feed for cattle fattening			1						1	
CFPI	Complete feed for rearing pigs			1							
CFSO	Complete feed for sows									1	
CFFP	Complete feed for fattening pigs						1			1	
CFRP	Complete feed for rearing pulle										
CFLH	Complete feed for battery laying hens									1	
CFBP	Complete feed for broiler production									1	
FDHO	Feedingstuffs prod. and consumed by the same holding		1	1	1		2			1	3
FDMH	Meadow hay						1				1
FDMI	Milk replacer for fattening calves										1
FDOT	Other			1			1				1

Table 5 illustrates that such a task can not be solved with pure gathering of data. An special model needs to be designed to solve such an allocation problem. Lithuania for example applied some special calculations, to distribute grain among the animals. But it is not clear, what kind of assumptions were applied. Also all grain was in the category “supplied by other holdings”. It is questionable that no feed grain was produced and consumed on the same holding.

As result: The description of feeding stuffs is rather poor in all countries.

4. Data sources and update

Bulgaria

No information were available about the data sources, which were used. And only seed and fertilizer data for the main crop activities were put in the table.

Czech Republic

FADN data and cost analysis results were used to fill the table. Better differentiated data are not available by now. Future research work will probably provide such data.

Estonia

The FADN database for 1999 is the main data source. The results were grouped by type of holdings and then coefficients were generated taking norm data, research results and expert data into account. But input data are only available for main agricultural activities. Updates will be available annually at the end of the year.

Hungary

The main data source are farm accountancy data from larger agricultural entities (they provide input coefficients per activity). Also seed statistics from the Statistical Office were used. Data from 1994 onwards could be made available.

Latvia

Input data for Latvian agriculture are by now only available for the aggregates. A further differentiation is partly available but in another structure. Since input coefficients are also used for other projects it requires additional efforts to elaborate input data in the AgrIS structure. Support will be provided by a subproject.

Lithuania

Standard coefficients were used as well as expert assumptions to elaborate input data. The total amount for the agricultural sector was gained from FADN data or from OPAL. All monetary input coefficients were based on 1999 prices. More support is requested.

Poland

Input data are provided in SPEL methodology. They cover the year 1996 and 1997. The differentiation is not coherent to AgrIS structure. Additional surveys would be necessary to be able to provide all required data.

Romania

There are almost no input data available, which correspond to the proposed structure of the ABTA. That is why only some data are included. They are derived from cost estimations. But the data availability will improve in future.

Slovakia

Most data are based on research results covering the variable costs. They cover the year 1999 and 2000. An update is expected every 3 to 5 years. Only information on fertilizer and subsidies will be probably updated annually. Price information were also provided for many input items.

Slovenia

Model calculations were used to generate input coefficients. The aggregate is coherent to EAA values. So, input data can be updated as soon as EAA data are available.

5. Assessment of data quality

An assessment of data quality is rather difficult in this case. There are a lot of problems in the data tables which do not allow to apply standard analysis routines. Such routines are necessary for a more comprehensive analysis exercise.

- There is for example the distinction between missing data and zero values! Data processing at Eurostat requires clear definitions.
- It was mentioned that the fact of not including non agricultural activities can cause overestimation of input coefficients.
- In Hungary and some other countries the differentiation of animal production activities does not correspond with the proposed table structure. Also Polish tables, which provide a good description of the input costs in agricultural production, have a different table structure. Besides it covers the years 1996 and 1997.

Slovakia mentioned that no consistency check was applied due to time restrictions. But it must be said, that for tables were input coefficients were only provided for main production activities, there is no chance to check consistency with EAA values.

6. Summary

The continuation of data gathering in a not very homogenous structure will cause severe problems for anyone using the data for economic analysis. It must be the aim to achieve a full description of agricultural production costs. Checking **consistency** and **plausibility** of data tables is a “must” for the continuation of this highly important task!