

2.8 COMMON HANDBOOK FOR MAINTENANCE AND CONTINUATION OF INTERFACES FOR ECONOMIC AND BIOPHYSICAL DATA HANDLING FOR FARM MODELLING AT IDM UNIT LEVELS

This report summarizes the work carried out for the update of a methodological approach for linking economic and bio-physical data. Although often collected, spatial location of the farms in underlying databases are not available due to confidentiality regulations. This is also the case for the data base FADN used in MINDSTEP to develop single farm models and modules. To overcome this shortcoming researchers have developed in the past different strategies to adjust their models to address spatially relevant topics, e.g. environmental indicators. The literature review showed that, for EU wide approaches, the locations of farms represented by the FADN sample are estimated as a probability estimate to belonging to a spatial unit with homogenous conditions. The allocation in the Constraint Optimization approach is based on a set of variables (altitude zone, less favoured areas classification, chop/land use shares, crop yields, farm type area shares). Land use shares and expected yields in the spatial unit are calculated by a statistical procedure in the CAPRI model. However, the CAPRI spatial unit definition has been modified so the allocation procedures from previous studies require a full revision and update.

To be more precise, the work objective was to update and develop methodologies to merge economic (full population data estimated from FADN survey data) and biophysical data sets of high spatial and temporal resolution. The methodology builds on biophysical data bases provided at the level of Spatial Units, which have shifted from HSU to FSU, and socio-economic data by geo-referencing farm clusters. The result is a location-probability of a sample farm or farms represented by it, which allows to link economic behaviour to climatic, soil and landscapes information.

The following categories of data, parameters, sets and code of the FADN spatial allocation routine have been updated.

- HSU/FSU sets, parameters, data and their reading by the programme
- LFA/ANC area maps and their adaptations to different mappings depending on the years of the FADN data
- FADN regions sets

The updates of the software have been implemented and the tests performed by the Thuenen institute are positive although still need more exhaustive quality checking. Running times are still long but run smoothly, without errors on infeasibilities.

As mentioned above the procedures are integrated in the CAPRI data and model procedures. To access this, the TortoiseSVN software has to be installed which helps different users to manage different versions of the source code for their programs (version, revision and source control). Afterwards the software for the farm allocation procedure can be downloaded from the Thuenen repository (with user permission and a password) from: "https://svn1.agp.uni-bonn.de/svn/FADN_spatial/". The software is contained in the Trunk folder or directory ("https://svn1.agp.uni-bonn.de/svn/fadn_spatial/trunk"). To open the program, the Graphical User Interface (GUI), double click in the file "`\\Trunk\\GUI\\start_FADNspatial.bat`".

