Ernst Witzel, Darmstadt

Livestock building costs from the Internet

Normally it is not possible to order a complete building from a catalogue and at a set price. The individual requirements and conditions vary too much. To get an idea of the price framework before actual building begins, comparative data is required. Under the tile BAUKOST the KTBL offers an Internet databank with access to information on costs of nearly 100 different livetock houses.

The aim is to make cost assessment for planned livestock housing easier for building advisers especially, but also for all those who have anything to do with the preparation of building cost data.

The data

The basis was built on data collected in recent years from the national/regional working programme „Calculation papers". Based on information from the KTBL working groups the IfB created the FAL model livestock house and from this determined material amounts with unit prices apportioned from comparable buildings which had been already completed.

ple as possible access to all information from blueprints, building descriptions, key planning statistics and costings. Online (Internet) and offline (CD-ROM) access should be possible.

Data servicing was kept simple through introducing an MS access databank allowing data input and care without a requirement for expert knowledge and also enabling conversion to XML (Extensible Markup Language) – a versatile metalanguage introduced by the World Wide Web Consortium as standard for documents in internet. This allows data structures with any desired content to be built-up and the production of framework-aided transmission formats such as HTML, PDF or PS.

The choice

A prototype of the online version programmed by the FH Bingen was included November 2001 in the KTBL Internet site. Analogue to the machinery cost databank MAKOST the new model was called BAUKOST. Access is per menu on the KTBL homepage or direct under *www.ktbl.de/baukost/*

On the starting page the user finds a navigation bar with data structure information and a search tree for model livestock buildings. Type of production can be selected from the housing list with differentiations according to system and herd size. The resultant available buildings are then listed in the main window *(fig. 1)* where a mouse touch on a building discription results in the appropriate plan elevation with sectional drawing appearing making a first impression of the object and therefore a choice much easier. Two different elevations can be called-up from the building selection page:

Clicking the building description brings an *individual view* which conatins all available information on the selected building. To get a more precise idea of the model it is advisable to first study architect drawings, building description and key planning figures (area and interior space, slurry storage capacity). Only from these can one estimate whether and to what extent the shown costs can be transferred to one's own planned object.

If different livestock buildings are to be compared with one another it would be awkward to have to spring back and forward bet-

Fig. 1: Plan elevations are blended onto the screen per mouse contact allowing a rapid appreciation of livestock building choice.

Bau-Ingeneur Ernst Witzel works in the KTBL project department ªLivestock Production and Building , Bartingstr. 49, 64289 Darmstadt; e-mail: *witzel@ktbl.de*

Keywords

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From dairy cow cubicle housing through to aviary accommodation for layers, 95 housing types are represented from which so far only core data has been published in the available KTBL data.

The concept

This involved the creation of a user-friendly databank giving complete, rapid and as sim-

ween the various descriptions. For this reason the *comparison view* features the possibilitiy of displaying costs for a maximum three buildings alongside one another *(fig. 2)* so that the price digression, e.g., can be seen as it is affected by different livestock capacities or different feeding or dunging systems. Hereby the livestock housing selection page features a marking field in the column „Comparison selection". As soon as one marks two or three buildings, flags are shown on the sidehead for the cost comparison.

Cost classifications

BAUKOST offers different cost structuring, naturally coming to the same total investment requirement in each case.

Cost blocks structure the building in function-based parts or groups of parts whereby the costblock „feed", e.g., covers all building constructions and technical equiment for feed storage, feed preparation and rationing. This classification is above all for the benefit of the management consultant, building adviser and farmer for cost comparison as well as cost estimations in the pre-planning phase.

A further subdivision of the cost blocks featuring three usage periods (long, medium and short-term) also enables differentiated determination of annual building costs such as depreciation, interest charges, insurance, repairs and running costs.

In DIN 276 „Costs in building construction" the costs for planning and execution of building operations are classified as planning oriented. This classification applied first by architects in cost determinations, comprises three hierachical classification steps: cost groups, rough elements and elements.

In order to take sufficient account of the specific cost factors of building construction some elements are further sub-divided in BAUKOST in accordance with DIN 276. This applies above all to the element „379 other building constructive installations" and „479 other usage- specific equipment".

Application

In all cost classifications the investment requirement is basically directed to two values for every position. While the absolute value
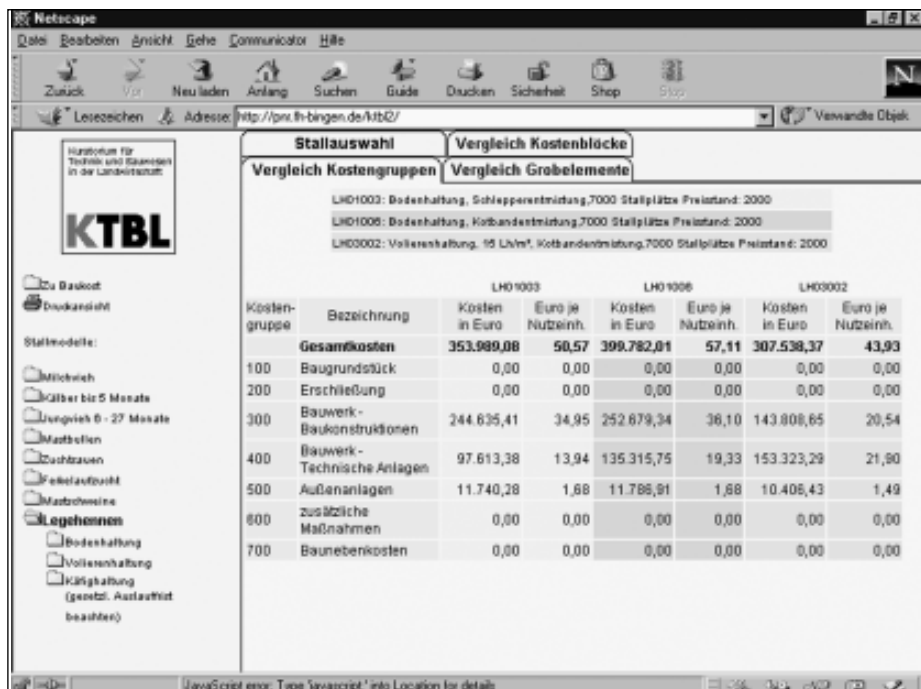

Fig. 2: In a comparive display the investment requirements of two or three different livestock houses are shown alongside one another.

for the total building, e.g., is of importance for the financing frameworks, that based on the use unit (animal place) offers a better comparison of diferent systems or herd sizes.

In the finest subdivision, concerning the elements, additional classifications give amount and the unit price. Through this it is possible in principle to deviate from the building model. However especial care is advised here. If, e.g., a compartment wall is removed from a building in calculations it must be clear as to whether the load-bearing capacity of roof or ceiling is thus influenced and what the following financial effects are. In using the data it has to be remembered that fundamentally BAUKOST works on the basis that all jobs are executed by professional companies and that purchase tax is not included. If own-labour is envisaged its value must be brought into the plans according to individual capabilities and requirements.

In that the starting prices were established in the north German area, they feature a uniform standard which reduces the error risk in comparisons. However, regional differences are not taken account of and, if known, those must be acknowledged through additions or reductions.

As the price is also given with every building it is possible with the help of official building price indices to estimate adjustments taking account of the current financial situation. The price levels for all the objects included are from the period from 1999 to 2001. In that the building cost index has not changed to any noticeable extend since then the data can be applied practically unaltered for current planning.

Outlook

BAUKOST is already a good aid for estimating building costs but there is still a wide range of development possibilities. Quite apart from an increase in the data included, different calculation functions would be desirable including simple index calculation to adjustments for regional and economic influences over interpolation of costs for the same building type with different livestock capacity through to the input of own amounts and unit prices. For a start, the existing version is to be used in a field trial in building advisory work. The experience thus collected will have a large influence on further development.