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FINAL REPORT

Re: Activities concerning the implementation of Project
UD/INT/89/095; XP/INT/89/032 "TRANSFER OF ADVANCED
METHODOLOGIES AND COMPUTER-AIDED PLANNING TOOLS TO
SELECTED DEVELOPING COUNTRIES (CUBA, YUGOSLAVIA)" and
Contract No. 89/*108*

Sofia, December 1989

In accordance with the conditions of the Project and Contract No. 89/111 implemented by a work group from Industry Development Institute, Sofia the following activities were implemented within the frames of UNIDPLAN Programme:

- Demonstration of FORECASTER computer-aided planning system in Cuba and Yugoslavia and study of the specific peculiarities of the planning and management processes in these countries,

- Adaptation of the system in accordance with the specific conditions in Cuba and preparation of User's Manual of the adapted version of FORECASTER,

- Pilot introduction of adapted planning and modelling system FORECASTER in Cuba and provided consultancy services and training,

- Selection of 3 computer-aided systems which could be proposed to the developing countries under the UNIDPLAN Programme. Demo versions of the following systems were developed and proposed:

1. FORECASTER modelling and forecasting system

2. LIES - An Expert System for Basing the Expedience of Buying Licences

3. Technology Renovation Expert System

These three computer oriented systems were demonstrated at the Expert Group Meeting in Havana, Cuba (November, 1989).

- Preparation of training programme on computerized planning system FORECASTER, organization and conduction of seminar for 2 planners from Cuba to facilitate the installation and use of FORECASTER system.

During the implementation of the taken responsibilities according to the Project and Contract No. 89/111 the work team of Industry Development Institute (IDI) was supported very actively on the part of UNIDO due to which the task was completed successfully in a very short period of time.

The contractor IDI, Sofia expresses its conviction that on the part of UNIDO it would be done best in a short period of time to meet its responsibilities concerning the provision of the ordered computer devices necessary for the future work.

The implementation of the task was accompanied by a serious work for adaptation of the basic system FORECASTER . In its essence the introduced software in Cuba represents a thoroughly new system for supporting planning process in accordance with the specific conditions and peculiarities of the planning process and process of management of national economy and its branches in Cuba. The essential renovation of the system is done in view of the possibility for graphic presentation of results.

As a whole we think that the activities implemented on the part of the contractor — IDI corresponds to the taken responsibilities a proof for which is the letter received from Cuban side.

Alexander Alexandrov,

Director General of IDI,

Head of the Work Group

USER'S MANUAL

1. Requirements to the technical devices complex

The functions of the system require:

- IBM/XT,AT or compatible with 640 MB RAM,

- Hard disk with 10 or 20 MB,

- Printer,

- 8027 Mathematical Co-processor.

2. Programme Starting

In order to start the system the following sequence of operations must be followed:

- to start the personal computer

- after finishing the necessary system check the old computer indicates on the monitor that it is ready to operate,

- User enters MFS directory containing programme files and start the system with MFSB.

After the described operations the front page of the system appears in which the necessary directories for operation (databases, FORTRAN modules and projects) are given. The user may change alternatively these directories by own directories (for example when using another database etc.).

After the confirmation of the directories the projects done so far appear on the screen. The following inscriptions appear on the bottom part of the screen:

Enter   New   Delete   Quit

Choose a function

Enter - confirm the chosen project

New - introduces new project

Delete - deletes the project

Quit - quit of the system.

When chosing a new project user must introduce :

Name of the project (1-4 symbols):......

Description of the project (1-60 symbols):...

Horizon: ..... - the final year of the forecast

Type of the model:

1. Linear econometric model of general type
Econometric models with utilisation of input-output tables.

2. Model A: Generalized structural model

3. Model B: Distributed structural model

When deleting a project user must introduce:

Name of the project (1-4 symbols)

In order to avoid accidental deleting of a given project user must confirm deleting of the project by answering with yes or no to the question:

Are you sure (Y/N)?

After the selection of a given project the main menu of the system appears giving a choice of a definite programme module. It includes the following modules:

1. Modelling

2. Forecasting

3. Computing indicators

4. DOS

5. Exit

2.1. Modelling Module

When selecting the first branch of the system the modelling module is started. The library of indicators appears on the screen from which the endogeneous variables and the influencing exogeneous factors could be selected successively /by Enter key/. The system creates the files necessary for identification of their interrelations. After entering one of the branches:

II and III quadrant variables, Fixed Capital and Labour

I quadrant input-output flows

Exit

a choice of indicators interrelations for a given branch is done using different estimation methods. Quantitative estimation of the parameters of the equations is done, too. A structural form describing most precisely the object of modelling is obtained as a result.

2.2. Forecasting Module

When selecting this branch of the system Forecasting Module is started. The following information appears on the screen:

Volume in drive C is PC 99999

Directory of C:\SP

EX6000.DAT   EX6200.DBF   ...   EXG...

... file(s) ... bytes free

The above information shows the current disk directory, the names of .DBF files with various variants of exogeneous indicators and the free disk space. The various variants of the exogeneous indicators are introduced in advance.

When choosing one of the variants introduces its number in

Choose   : EXG...

and presses the RETURN/ENTER/ key.

The chosen variant appears on the screen indicators being on the left hand side and branches on the right hand side. If the indicators included in the variant are too much for one screen user may list them by pressing PgDn key and come back to the previous screen by PgUp key. User marks the exogeneous indicators chosen by him using the arrow keys or RETURN/ENTER the enter serving for marking and unmarking. Then Ctrl Z is pressed and the creation of the file containing the chosen exogeneous indicators starts.

If necessary user may review and correct the values of the indicators included in the given variant for the whole forecasting period. For this purpose the red blinking pointer is positioned over the chosen indicator by the arrow keys, L key is pressed and the values of the indicator for the different years of the forecasting period appear on the right hand side of the screen. User may correct the information if necessary and by pressing PgDn key he may return to the screen showing the chosen variant of the exogeneous indicators. The above operation is repeated for each indicator which values have to be corrected or reviewed by user prior to the marking of the given indicator.

Procedure is the same when choosing a variant of endogeneous indicators.

The chosen forecasting variant could be generated only if the structural forms of the respective models in Modelling Module are created beforehand.

The system begins to generate the forecast.

When creating the programmes of Modelling Module the following messages appear on the screen:

1."The base and forecasting period do not coincide" — the system interrupts its operation.

2.When the number of years in the file containing exogeneous indicators is small "Insufficient number of years in the exogeneous file" message appears and on the following line the system asks whether to continue its session under these conditions or not. User answers with Y — yes or N — no and presses RETURN/ENTER/ key.

After ending the operation of Forecasting Module the main menu appears on the screen.

2.3. Calculating Indicators Module

When selecting this branch of the system Calculating Indicators Module is started and the following information appears on the screen:

Period MENU

1) Base

2) Forecasting

0) Exit

Using this menu user may determine the kind of information he wants to select from the database — base or forecasting. When selecting :

- 0 — the main menu appears on the screen ;

- — user indicates to the system that he wants to deal with the retrospective information contained in databases, giving him the chance of following and

analyzing the development of a given branch based
on a selected indicator. (Next menus could be
selected).

- 2 -   User indicates that he would work with the
forecasting variant developed in Forecasting Module
beforehand.

After the indication of the desired number there is no
need of confirmation of the choice, i. e. no need to press
RETURN/ENTER/ and the next menu appears immediately on the
screen the level of aggregation and the selected in the
previous menu time period being located on the upper left hand
corner:

          Period   .   Base (Forecasting)
          Level   National Economy

                 Indicators I MENU

                 1> Basic Indicators
                 2> Derivative Indicators
                      0> Exit

Working with that menu user may decide whether to derive
out of databases information about the basic indicators (
basic or forecasting depending on the choice made by user in
the previous menu) or to calculate derivative indicators.
Pressing 0 key means return to the previous menu. Confirmation
of the choice is not necessary (no need to press /RETURN/ENTER
key) and the next menu appears on the screen:

Period   Basic (Forecasting)

Level   National Economy

Indicators I   Basic (Derivative)

Indicators II MENU

1> Indicator

2> Basic Indexes

3> Chain Indexes

4> Structure

P> Printer Setting

O> Exit

Choosing a number user indicates to the system :

- 1 - Derives out of database information about basic
      indicator or calculates a basic indicator. That
      depends on the choice made in the previous menu
      indicated in the upper right hand corner of the
      present menu.

- 2 - calculates a basic index for a basic or derivative
      indicator (indicated in the upper right hand corner
      of the screen) of concerning the relative level of
      aggregation (indicated in the upper left hand corner
      of the screen) and for the chosen period of time in
      one of the previous menus.

- 3 - chain index for the already chosen period of time,
      level of aggregation, indicator (basic or
      derivative)

- 4 - calculates the structure of the chosen indicator for

the given level of aggregation

- 9 - issues a message to the system to prepare the

printing device in case user wants to print the

information displayed on the screen.

- 0 - return to the previous menu.

The choice is not confirmed (no need to press RETURN/ENTER key) and the list of the basic or derivative indicators appears on the screen depending on the choice made in one of the previous menus.

When list is displayed on the monitor user may position the blinking red point on the number of the indicator chosen by him. If the list of indicators (basic and derivative) is too large for only one screen user may review the next screen by pressing PgDn key. Then user marks the indicator(s) chosen by him by pressing RETURN/ENTER, (unmarking is in operation by pressing the same key second time), presses Ctrl Z and a table for the respective indicator, chosen level of aggregation and chosen unit appears on the screen after the end of the necessary calculation.

In this table the data for the respective indicator are given by five-year periods and by years within the frames of the five-year period. The transition from one five-year period to another one is done by the use of arrows and after the information about the last five-year period a new table containing data for the whole period of time appears on the screen. The moving from indicator to indicator is done by PgDn and PgUp keys.

There is provision for graphic data presentation and two branches including in the graphic are displayed in the lower right hand corner of the screen in a separate window. The

movement across the branches is done by the arrow keys and marking and unmarking by ENTER key. The maximum number of rows for graphic presentation is 6. After selecting the chosen branches G key is pressed and the graphic presentation for these branches by the respective indicator is displayed on the monitor.

The return to the above menu is made by the simultaneous pressing of Ctrl and Z keys.

·Mr. Yuri Akhvlediani
UNIDO Officer, IO/IIS/PLAN

As provided in UD/INT/89/095 project contract, the modelling and forecasting system (FORECASTER), designed and developed at the Bulgarian Institute of Industrial Development, was transferred to the Central Planning Board of the Republic of Cuba. The training of Cuban experts was thus completed.

During the adaptation of FORECASTER, by the Bulgarian and Cuban experts working together the original system was improved in order to increase its flexibility and possibilities of application.

The present version of FORECASTER is being tested at the Research Institute of the Central Planning Board, as a previous step to the practical work of the long term plans in our country.

Going into a new Bulgarian-Cuban line of work, as a UNIDPLAN project in the area of economic modelling and forecasting, is considered as very useful. Such a new line shall be later proposed.

José Eduardo González García

cc. Alexander Alexandrov
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    Bulgary

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