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GENERAL ORGANIZATION FOR HOUSING BUILDING AND PLANNING RESEARCH

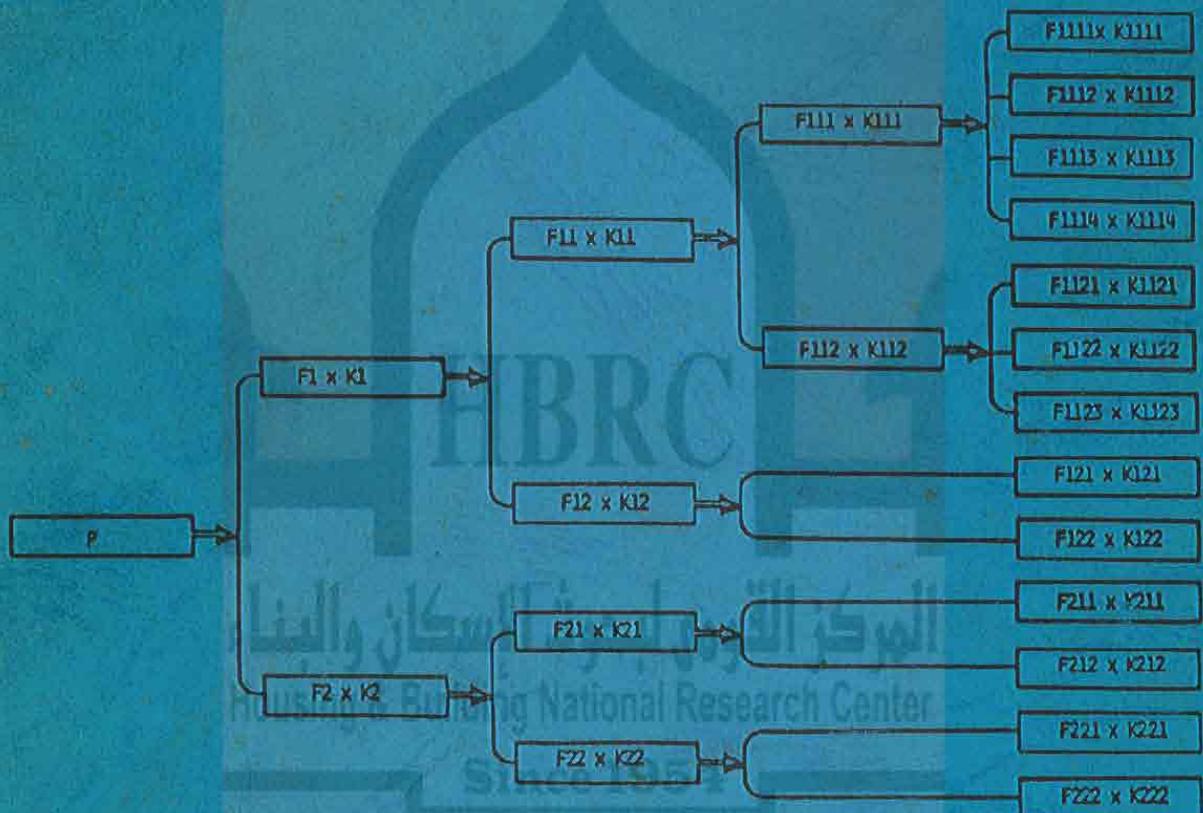
Department Of Housing And Urban Planning

1985

Dr. Magda Metwally

SYSTEMATIC APPROACH TO

HOUSING PROJECTS EVALUATION



3. THE PERFORMANCE OF HOUSING UNIT DESIGN

Computer Program, Input preparation, Applications

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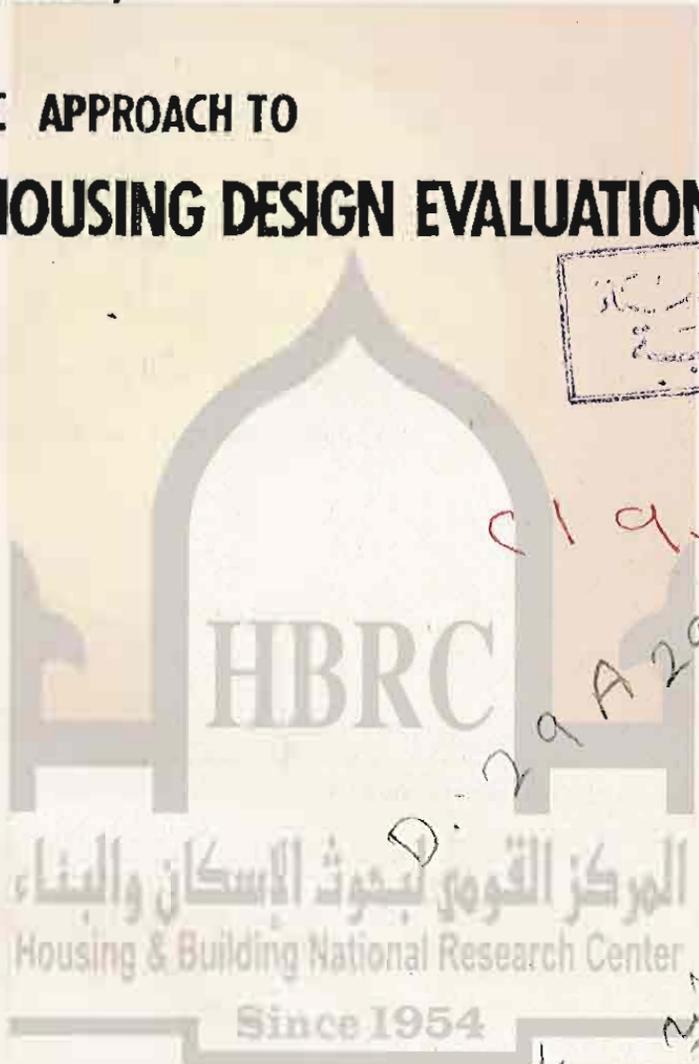
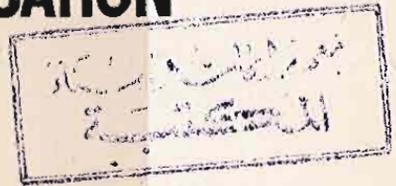
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SYSTEMATIC APPROACH TO

HOUSING DESIGN EVALUATION



ASSISTED BY :

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PROGRAMMING :

Dr. FAYROUZ EL-DEEB

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3. THE PERFORMANCE OF HOUSING UNIT DESIGN

Computer Program, Input preparation, Applications

Computer Program: (By Dr. Fayrooz El Deeb)

A program is specially developed to calculate the performance of Housing Unit Design.

The computer program is written in BASIC language to be executed on the HP 9845 T Desktop-Computer.

A- The Program Structure:

The program is structured in the following major modules:

- A.1 Input module
- A.2 Processing module
- A.3 Output module
- A.4 Correction module for input.
- A.5 Paging and arrangement module.

A.1 Input module

The input is made in dialogue mode. the program displays sequentially the required type and size of information . The screen is also used to input each required set of information immediately upon request.

Mainly 12 sets of matrices are requested to mobilize the processing. Long matrices are being input after reasonable subdivisions to facilitate the input prompting.

The matrix sizes are different from variable to another. The matrix dimensions are adjusted each time for saving CPU-size.

No special attention is requested in differentiating between integers and real constants, without wasting CPU-space, since all reals are input in short precision.

A.2 Processing Module:

Starting from the room geometry until the input of the quality

parameter, the program mobilises the evaluation of 46 different numerical parameters.

Some of the processes include looping for statistical evaluation of the different elements.

The matrices processed in this manner are:

- a- Room Geometry
- b- Nuisance restrictions,
- c- Room micro climate,
- d- Performance of circulation links,
- e- Performance of functional links, and
- f- Performance of circulation area.

The individual results are temporarily stored in relevant variables for later use to evaluate the semi-final results (Quality, Economy) as well as the final results (Design Performance).

A.3 Output Module

In this module, two parts are individually printed:

- A. The complete sequential input.
- B. The 15 final and prefinal results.

The printout of the matrices is auto-matically adjusted according to the given dimension and size of the matrix. Therefore, it is possible to check all input data precisely. Any types of input mistakes could be easily located.

A.4. Correction Module

Since all data are input in dialogue mode, the data are input promptly and the program requests the check before activating the next sector requested.

This module also provides for correcting the false data individually. The input data can therefore be corrected without re-inputting the whole matrix in each case.

Once the matrix is checked, the correction module switches back to the normal input flow, continuing from the sector next to the corrected and checked one.

A.5. Paging module

The program provides the professional method of print out-formatting.

This module provides for subdividing the continuous paper source in pages.

It starts, each page, with the sheet and page number, as well as the fixed and variable headings of the output.

The printout is automatically interrupted when the maximum line number specified is reached.

The paging format can be manually adjusted to any requested format

B. The program listing.

In the following is a genuine program listing presented. It is made using the advanced BASIC II of HP-machines. The program uses 18 k of the CPU and 4 k of was storage on tape.

The program has 742 lines.

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