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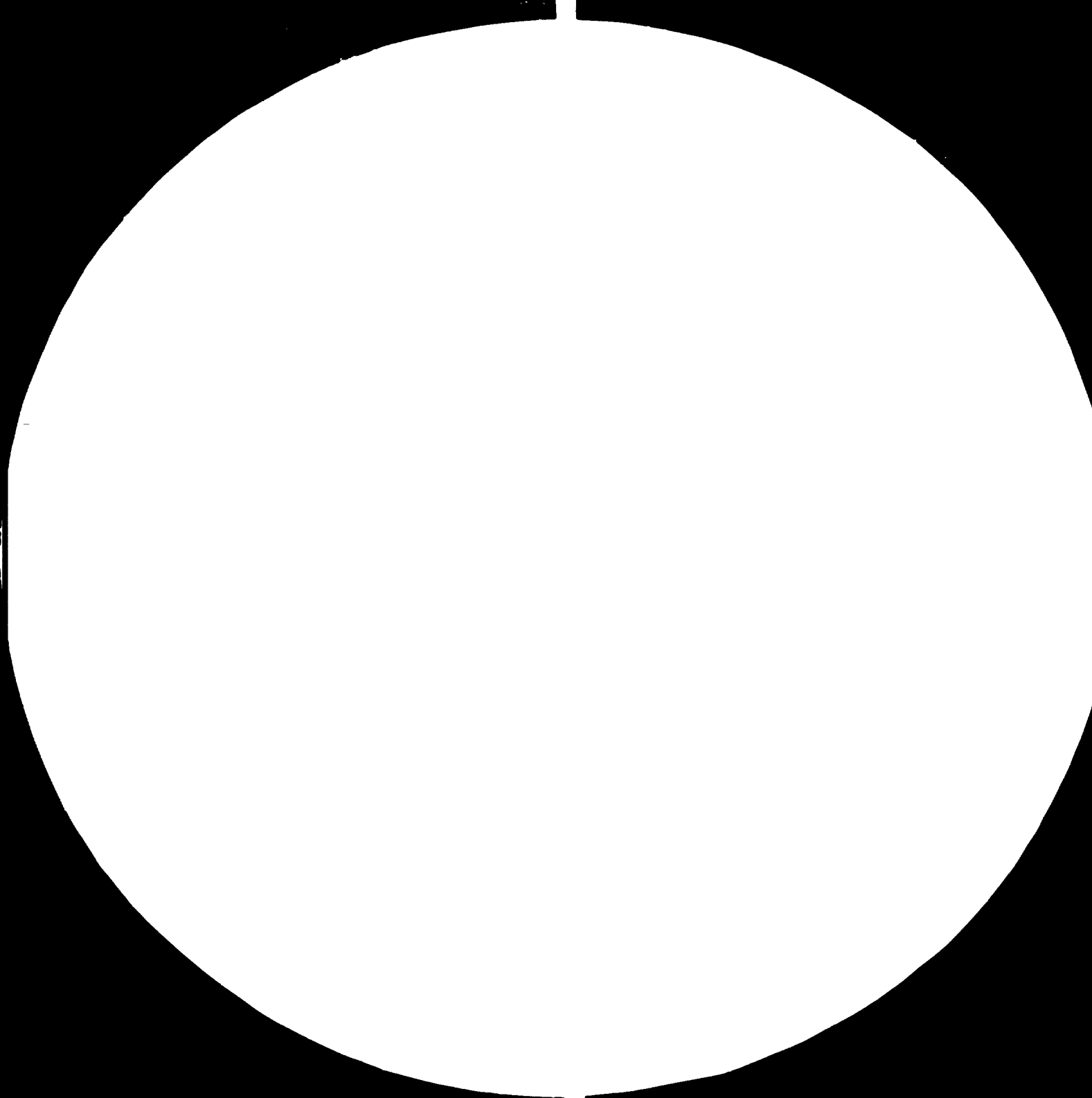
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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

REPORT

for

(Construction industry, Libya)

THE GOVERNMENT OF THE SOCIALIST PEOPLE'S LIBYAN
ARAB JAMAHIRIYA

5 - 16 april 1981

by

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who may not therefore agree with the views expressed.

SUMMARY

Two UNIDO experts , Mrs. M.Bucquoye and Mr.Patfoort , visited the Socialist People's Libyan Arab Jamahirya from 5-16 april, in view of the presentation and the establishment of a draft proposal of a construction technology known as the Patfoort Building System .

This construction system has been experienced through UNIDO projects in Cyprus , Upper-Volta, Uruguay, Ecuador and Mexico . Taking into account the speed of construction , the use of petrochemicals and the very low labor intensivity, the construction system would possibly be of interest for the Libyan Government .

INTRODUCTION

The two experts arrived at Tripoli on the 7th of april 1981 and left the country on 14.4 .

The very rapid growth and development of the country as well in the industrial , agricultural, commercial and social field, had as a consequence , in spite of using at maximum the potentials of the country in the building sector , the permanent shortage of housing .

The Governmental Authorities of Libya are aware that every possible effort has to be made to make use of modern construction methods to solve the building problem in the shortest possible delay . Extensive work has already been performed in several cities and also by the planning of new towns as Brega and Ras Lanuf .

FINDINGS

On 8.4 , the experts had a first meeting with Mr. Roejkjaer Resident Representative UNDP and the DRR Mr. Bashin .

Situation in the building and housing sector was clearly analysed and especially the difficulties of UN Experts in the country were emphasised in relation with the difficulties they encounter to find suitable housing .

Mr. Roejkjaer RR, emphasised how discussions had taken place with the Government of Libya, during which the plan was considered to build a small quantity of houses that would be used as demonstration for the building technology and the design versatility. They could be a starting point for a more extensive project .

The same day the experts and the DRR were received at the Ministry of Heavy Industry by its sub-secretary : Mr. Ali Geriani . Mr. Anwar Saai chairman of the high committee of Brega and Ras Lanuf and Mr. Amed Mtier responsible for the petrochemical industry , were present . The experts demonstrated the technology using drawings, photographs and material samples .

After the meeting the experts had a short briefing with Mr. Roekjaer RR UNDP , to make some short resume of the present situation .

On the 9th of april , the experts had a meeting at the headquarters of the High Committee for Brega and Ras-Lanuf . Mr. Anwar Sassi, chairman of the committee assisted by Mr. Faugé, civil engineer, and Mr. Hossein Shenety , architect, emphasised the new short and long term projects and plans of execution for the new towns with the use of slides and drawings. The same was done by the experts in relation with the building system presented by UNIDO .

After the meeting , Mr. Anwar Saai visited with the experts different building sites , prefabricated units and others to give a clear and better idea of the living standards and requirements in the country .

On 11.4 a new meeting took place at the office of Mr. Sassi together with Mr. Faugé and Mr. Shenety . They expressed their interest in the presented building system and discussed how it would be possible to install a small quantity of houses in the country to demonstrate the suitability of the building method .

Different technical matters were discussed as fire regulations and thermal insulation . A deep analysis of the price structure was made . It appeared however difficult to appreciate fully the advantages of the UNIDO proposal . The necessity to make an investment in a building machine and the difficulties to coordinate several building activities for a few houses , made direct comparison of prices impossible on a draft project price calculation .

Indeed there is no labour (manpower) available in the country and nearly every skilled worker has to be brought in the country from outside . The same has to be done with all tools, raw materials , machinery and equipment . So, much the lower is the quantity of houses foreseen in the project, so much more accumulation of non-productive activities and time wasting during the projects since the building technology is a mass production system .

On 12.4 the experts had a meeting at UNDP with Mr. Ahmed Bashin DRR and Mr. Kenro Oshidari JPO . It was decided that a new meeting with Mr. Ali Geriani sub-secretary of the Ministry of Heavy Industry would be necessary .

On Monday 13th of April, the experts accompanied by Mr. A. Bashin visited Mr. A. Geriani at the Ministry of Heavy Industry in Tripoli. Mr. Geriani was assisted by Mr. Khalefa Boashi. A second meeting took place in the afternoon to illustrate extensively the use of polymers in building applications with slides and samples.

On 14th day of departure, the experts had to give a last technical survey of the building system to a technical staff at the Ministry of Heavy Industry. The team was composed of Mr. K. Boashi, Mr. Shah (civil engineer), Mr. Khaled (architect) and Sub secretary Mr. Geriani. Mr. Geriani wished indeed to have justified technical advice.

It would be difficult to deny the general enthusiasm of as well technical as non-technical people for the realisations with the proposed construction system. The reasons that made the building system attractive may be summarised as follows:

1. Augment the added value to oil derivatives
2. Adapt construction methods to a productive economic system.
3. Diminish the use of heavy and energy consuming materials in favor of petrochemicals.
4. Lower the labor intensity in traditional construction and bridge the gap to automatization.
5. Emphasise construction methods that catalyse transfer of technology and introduce modern plastics processing methods.
6. Introduce a construction method with extensive versatility adapted to building in the industrial, agricultural and habitational field that integrates several forms of architectural inventivity and creativity.
7. Open the market for the plastics processing industry.
8. Built without water (& eventually without external source of energy)

Unfortunately it is difficult to eliminate a practical difficulty: the system is foreseen to erect large quantity of houses. It is a mass production system. A second problem is the finishing activities which diversification and coordination is complicated to realise by the fact that it has to be performed inside a UNIDO project with all the labor and materials imported.

A project for a small quantity of houses for. ex. the UN experts as initially proposed could perhaps fulfill the role for a first initiation project.

To allow the erection of some sample houses without exceeding the budget based on the accepted price per m², the experts are working out in the shortest time possible a new price calculation for ten small houses of very high quality. Taking in mind the Libyan housing standards and to separate obviously the part of costs due to machine investment, project administration etc. and the part contributing to the real cost of the houses .

CONCLUSION

To the meaning of the experts , it seems clear that there was no major objection against the building technology, but on the contrary Libyan Authorities as well the technical as planological staff expressed their intensive interest in the presented building technology. During the short stay of the experts in Libya , it was difficult to give realistic price calculations adapted to the living and housing standards in the country . In the meantime this problems have been solved and a new draft project proposal will arrive soon at UNIDO-Vienna .

ACKNOWLEDGEMENTS

The experts wish to acknowledge and express their thanks to all counterparts , and particularly Mr. Ali Geriani Under Secretary of the Ministry of Heavy Industry and Mr. Anwar A.Sassi chairman of the Brega and Ras Lanuf high committee for their help and assistance which has been gratly appreciated .

Thanks are also expressed to the staff of UNDP specially Mr. A.R. Roejkjaer Resident representative and Mr. A.Bashin Deputy RR both for their active support to the project and to the administrative staff for their kind co-operation . Finally , but not least, acknowledgements are made to the Chemical Section of UNIDO vienna for their active support and encouragement .

