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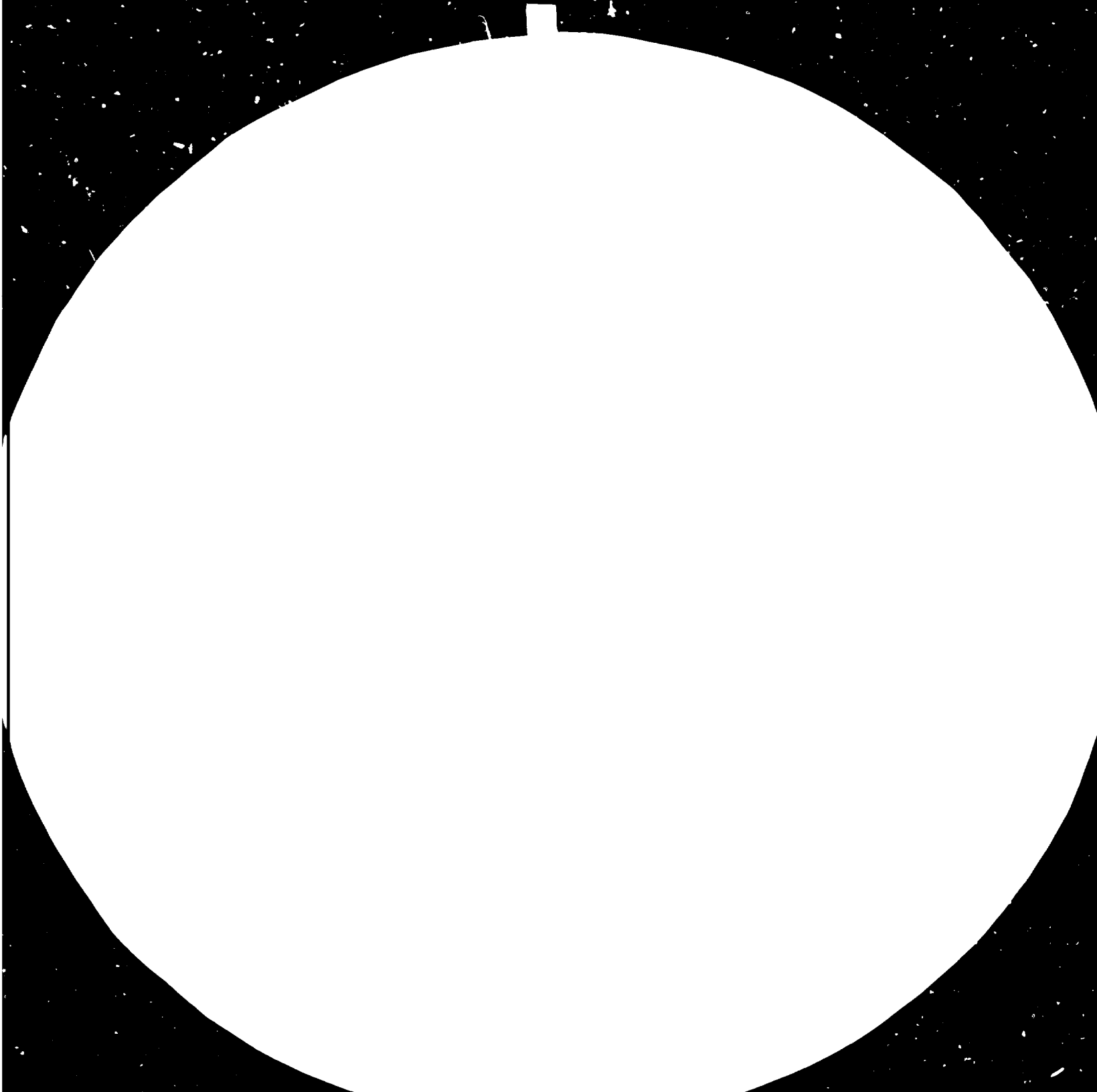

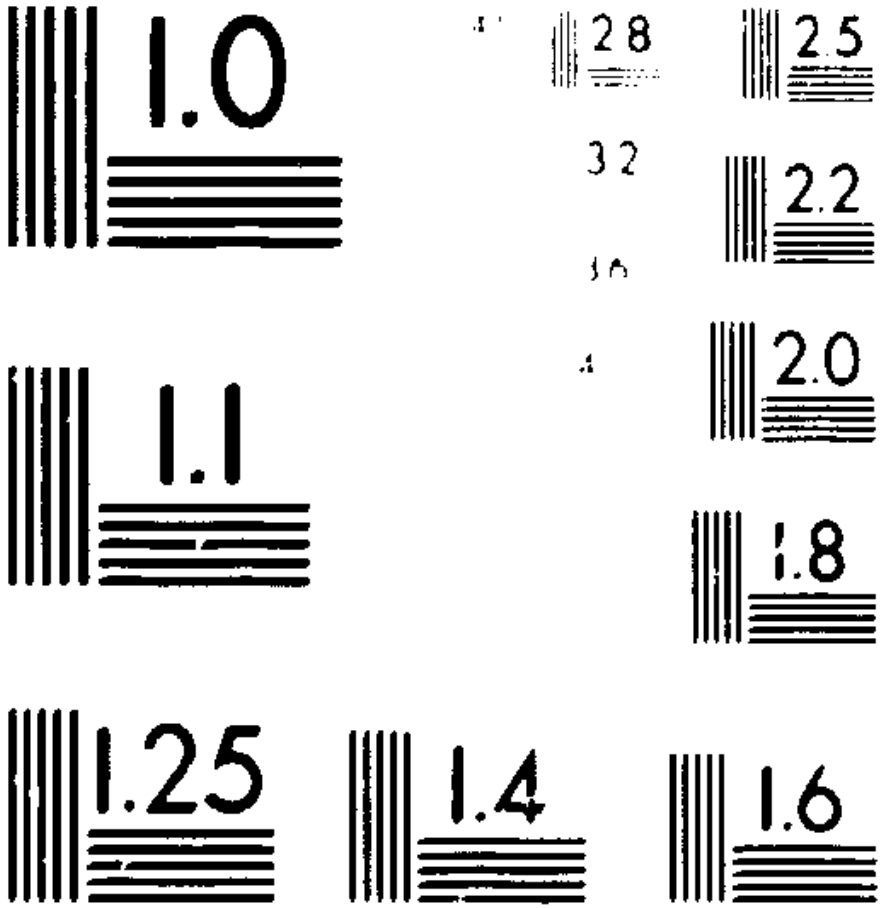

13391 → PEMBLETON

In-plant Technical Workshop on
"ENERGY CONSERVATION AND MANAGEMENT IN CERAMIC INDUSTRIES
FOR THE LEAST DEVELOPED AND DEVELOPING COUNTRIES"

Organized by the UNIDO-Czechoslovakia Joint Programme
for International Co-operation in the Field of Ceramics,
Building Materials and Non-metallic Minerals Based Industries
from 11 through 29 April 1983 in Pilsen, Czechoslovakia

FINAL REPORT. (Meeting on Energy conservation in ceramics industry).

This report has been prepared by:

Mr. G. Komissarov, Chief, Industrial Energy Engineering Unit,
Office of the Director, DIO,
Liaison Officer of the UNIDO-Czechoslovakia
Joint Programme,
UNIDO Headquarters Vienna

Mr. Z. A. Engelthaler, Chief Executive of the UNIDO-Czechoslovakia
Joint Programme and Director of the Research
Institute for Ceramics, Refractories and Raw
Materials, Pilsen

Mr. J. Dřevo, Expert of the UNIDO-Czechoslovakia Joint Programme
Pilsen

Pilsen, Czechoslovakia
April 1983

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1. INTRODUCTION

The In-plant Technical Workshop on Energy Conservation and Management in Ceramic Industries for the Least Developed Countries with participation of some representatives from developing countries, organized by the UNIDO-Czechoslovakia Joint Programme for International Co-operation in the Field of Ceramics, Building Materials and Non-metallic Minerals Based Industries in Pilsen and endorsed by the UNIDO-Czechoslovakia Joint Committee, was held in Pilsen, Czechoslovakia, from 11 through 29 April 1983.

The objectives of the In-plant Technical Workshop were to provide the participants from the least developed and developing countries with practical and theoretical knowledge in the field of energy conservation and energy management in the production of ceramics. The programme emphasized some of the most important aspects of energy conservation regarding a proper choice of heat-consuming equipment and efficient technologies with regard to locally available raw materials in the least developed and developing countries.

2. PARTICIPANTS

Twelve participants from the least developed and six participants from developing countries took part in the In-plant Technical Workshop (See Annex I).

3. LANGUAGE

The programme was conducted in English. Typed lectures were submitted by the lecturers to the UNIDO-Czechoslovakia Joint Programme to be available for all the participants at the opening of the In-plant Technical Workshop.

4. ORGANIZATION OF THE IN-PLANT TECHNICAL WORKSHOP

The programme prepared for the participants was published as Time Schedule. Lectures and lecturers are listed in Annex II, in-plant and in-research institute trainings are reviewed in Annex III.

Organization of the Workshop was ensured by the Organizing Committee:

Director of the In-plant Technical Workshop	Dr. A. Lošťák, General Director of the Czechoslovak Ceramic Works, Prague
Programme Director	Mr. Z.A. Engelthaler, Chief Executive of the UNIDO-Czechoslovakia Joint Programme and Director of the Research Institute for Ceramics, Refractories and Raw Materials, Pilsen
UNIDO Vienna Representatives	Mr.D.G.A. Butaev, Director, Division of Industrial Operations Head of the UNIDO Delegation
	Mr. H. May,Deputy Director, Division of Industrial Operations
	Mr. G. Komissarov, Chief, Industrial Energy Engineering Unit, DIO, Liaison Officer of the UNIDO-Czechoslovakia Joint Programme

Technical Secretary	Mr. M. Nový, Deputy Senior Expert, UNIDO-Czechoslovakia Joint Programme
	Mr. J. Dřevo, Expert, UNIDO-Czechoslovakia Joint Programme
General Rapporteur of the Workshop	Mr. J. Müller, Expert, UNIDO-Czechoslovakia Joint Programme
Administration, Financial and Passport Arrangements	Mrs. E. Engelthalerová, Chief of Administration, UNIDO-Czechoslovakia Joint Programme
	Mrs. A. Fremlová, Administrative Clerk of the UNIDO-Czechoslovakia Joint Programme

4.1 Theoretical part

The theoretical part consisting of lectures and movies represented 42% of the training time. The lectures were dealing with energy conservation and energy management in connection with existing and new technologies, applied thermal units and their operation in ceramic industries. Diagnostic methods and simulation of thermal processes in ceramic industries were described. Utilization of waste heat was evaluated and proper attention was devoted to calculations in ceramics including thermal calculations. Useful reviews of energy and material flows were elaborated and economic aspects of investment and production costs were presented.

The lectures were delivered by experienced factory senior technicians, industry, science and research directors and university professors and were followed by the discussions enabling the lecturers to clear up coherent problems and complete their interpretation.

4.2 Practical part

The practical part taking 58% of the training time consisted of training in diagnostic methods, practical measuring of thermal units, in technologies of ceramic products and laboratory testing.

The practical part was implemented in ten plants, two divisions of the Research Institute for Ceramics, Refractories and Raw Materials, Pilsen, and one Ceramic Industrial High School at Bechyně. An exhibition of non-metallic raw materials and products was opened for participants.

4.3 Documentation and aids

The following documentation and aids were handed over to each of the In-plant Technical Workshop participants:

- Complete set of 12 lectures including the Guide to the In-plant Technical Workshop
- In-plant Technical Workshop Time Schedule
- Set of questionnaires of plants to be visited
- Technical leaflets
- Publication on the Research Institute for Ceramics, Refractories and Raw Materials, Pilsen
- Bulletins and Booklets of the UNIDO-Czechoslovakia Joint Programme
- Review of Production Assortment of the Czechoslovak Ceramics
- Multilingual Vocabulary for Ceramic Industry and Non-metallic Raw Materials
- Various samples and album with the collection of photos
- Writing materials and handbag
- Protective helmet for in-plant training

4.4 The participants enriched their scope of knowledge by discussions with the following officials:

- UNIDO

Mr. D.G.A. Butaev, Director, Division of Industrial Operations

Mr. H. May, Deputy Director, Division of Industrial Operations

Mr. G. Komissarov, Chief, Industrial Energy Engineering Unit, DIO, Liaison Officer of the UNIDO-Czechoslovakia Joint Programme

- Czechoslovak Authorities:

Mr. V. Eichenberger, Chairman of the Committee for Building Materials, World Trade Union Federation, President of the Central Committee, Trade Union of Workers in Construction and Building Materials Industries, Czechoslovakia, and Member of the International Building Materials Organization

Mr. J. Hanetšlégr, Deputy Minister, Ministry for Construction, Czech Socialist Republic

Mr. J. Březovský, Representative of the Ministry for Industry, Czech Socialist Republic

Mr. K. Kohout, President of the Regional Committee, Trade Union of Workers in Construction and Building Materials Industries, Pilsen

- UNIDO-Czechoslovakia Joint Programme:

Mr. Z.A. Engelthaler, Chief Executive, and Director of the Research Institute for Ceramics, Refractories and Raw Materials, Pilsen

Mr. M. Nový, Deputy Senior Expert

Mr. J. Dřevo, Expert

Mr. J. Müller, Expert

Mrs. E. Engelthalerová, Chief of Administration

- Czechoslovak Ceramic Works:

Mr. A. Lošťák, General Director

Research Institute for Ceramics, Refractories and Raw Materials, Pilsen, Division at Horní Bříza

Mr. S. Hora, Head of the Division

Mrs. V. Zahradníková, Chief of the Dept. of Building Materials

Mr. J. Kačín, Chief of the Dept. of Refractories

Research Institute for Ceramics, Refractories and Raw Materials, Pilsen, Division at Karlovy Vary

Mr. M. Bareš, Director of Laboratories

Westbohemian Ceramic Works, Horní Bříza

Mr. M. Fousek, Deputy Director

Mr. J. Engelthaler, Chief of Raw Material Preparation Dept.

Mr. J. Havel, Production Manager of the Kaolin Plant at Kaznějov

Chlumčany Ceramic Works, Chlumčany

Mr. K. Heřman, Chief of Energy Control

Mr. Z. Hruška, Plant Technologist

Calofrig, Borovany

Mr. K. Burian, Director

Mr. R. Podroužek, Chief of Production, Production Plant at Halámky

- Other Czechoslovak Organizations:

Polytechna, Prague

Mr. A. Trachta, Vice-president

Ceramic Industrial High School, Bechyně

Mr. B. Dobiáš, Director

Ceramic Works, Znojmo - Sanitary Ware Production Plant, Bechyně

Mr. V. Zeman, Plant Director

Mr. J. Písařka, Plant Technologist

Mr. A. Jaszberényi, Personnel Director

Karlovy Vary Porcelain, Karlovy Vary, Production Plant at Nová Role

Mr. J. Hanzlík, Production Manager

MOSER Glass Factory, Karlovy Vary

Mrs. H. Mávová, Technical Secretary to the Director

- Observers:

Pragoinvest, Prague

Mr. O. Pivoda, Representative

Czechoslovak Ceramics, Prague

Mr. T. Vogel, Representative

ŠKODA Concern, Pilsen

Mr. J. Žaloudek, Adviser to the General Director

BICKLEY, G.m.b.H., Unna, FRG

Mr. H. Haberland, Director of Sales

5. ADMINISTRATIVE ORGANIZATION OF THE PROGRAMME

5.1 Administrative work

Administrative staff was engaged in organizing and arranging lectures, in-plant trainings in factories and in the Research Institute, board and lodging arrangements, local transportation, cultural programme and social events, providing of visas and air-ticket booking, securing medical care, etc.

5.2 Secretariat and audience room

Secretariat of the In-plant Technical Workshop and audience room were established in the URAL Hotel in Pilsen.

5.3 Lodging and board

The participants were accommodated in the URAL Hotel, too, so that the time losses were eliminated.

6. EVALUATION MADE BY THE PARTICIPANTS

The evaluation made by the participants is expressed in the attached summary sheet reflecting a very positive picture of organization and training programme (Annex IV). A positive evaluation resulted also from the following round-table discussion.

7. CONCLUSIONS AND RECOMMENDATIONS

The participants from the least developed and developing countries, having exchanged the experience of their countries in energy conservation and management in ceramic industries, recommend:

1. The UNIDO-Czechoslovakia Joint Programme for International Co-operation in the Field of Ceramics, Building Materials and Non-metallic Minerals Based Industries should continue its activities in the energy conservation and management programme as an important component of its work with regard to the significance of this problem for developing countries.

2. The objectives of the UNIDO-Czechoslovakia Joint Programme in the field of energy conservation and management should encounter:
   a) Existing technical assistance to developing countries in energy problems and analyzing technologies with regard to energy savings, diversifying their manufacturing programmes, new technological development and quality readiness.
   b) Mediating operational instructions and know-how for the application and local construction of mobile diagnostic unit in developing countries.
   c) Individual and group training in energy conservation and management of recommended participants.

3. The UNIDO-Czechoslovakia Joint Programme should - with regard to the close connection between energy conservation measures and operation of thermal units on one side and in the choice of proper and new raw materials on the other side - turn again attention to the exploitation of local raw materials in developing countries. This should be

implemented by an In-plant Technical Workshop on Economic Exploitation and Processing of Local Raw Materials in Developing Countries.

4. Further objectives in the field of local raw material exploitation encounter:

   a) Testing of local raw materials based on preceding exploration, followed by technological evaluation and concluded by proposals of technology preferring low energy consuming processes, elaboration of pre-feasibility, market and feasibility studies.

   b) Research based on local raw materials aimed to increased quality of products and renovation of product assortment comprising the stages of raw material selection, body composition, technology and finished product testing - the basic instruments for acceleration of industrial development.

   c) Individual training in raw material testing, product testing and in special technologies.

5. The participants were made familiar with the objectives of the Technical Meeting on Kaolin Application in Paper Industry to take probably place in 1983 or 1984 and Ad Hoc Experts' Group Meeting on Production and Application of Non-metallics in Agriculture. They will explain the significance of these activities for developing countries to their Governments.

6. The exploitation of non-metallics in solutions of environmental problems should be included in all types of training and information dissemination extended by the UNIDO-Czechoslovakia Joint Programme.

7. The participants evaluated the In-plant Technical Workshop and it has been stated that:

- The participants - highly qualified and mostly high positioned officials - formed an adequate and integrated group.
- The UNIDO-Czechoslovakia Joint Programme, situated in Pilsen which is the centre of Czechoslovak non-metallic industries, backed by the Czechoslovak Ceramic Works, with its highly qualified and experienced staff, was the very institution to organize and handle the Workshop.
- The scope of the programme was considered adequate with proportional ratio between theoretical and practical parts. The materials and lectures handed over to the participants were very valuable and useful and will be applicable in forthcoming years. Besides, further UNIDO-CSSR Joint Programme publications and flow sheets of the introduced production lines were requested. The participants would appreciate further contacts with the UNIDO-CSSR Joint Programme in the future.
- The participants gained the information and knowledge enabling them to advise their Governments on different steps to be undertaken in the establishment and/or development of non-metallic industries with low energy consumption in their home countries.
- The workshop was very useful, important, extending valuable knowledge and experience. Follow-up programmes and implementation of further Workshops of the same type as a part of different UNIDO projects were requested by the participants. It was suggested that the similar Workshop should be repeated for non-English (French, Spanish) speaking territories.

8. INDIVIDUAL RECOMMENDATIONS OF PARTICULAR COUNTRIES

The participants elaborated country reports reviewing the state of ceramic industries in their countries and expressed the following recommendations regarding their potential co-operation with the UNIDO-Czechoslovakia Joint Programme:

1. Bangladesh

- Market study in Bangladesh and in neighbouring countries aimed at the extension of the existing market of sanitary ware
- Exploratory mission to Bangladesh aimed at the re-evaluation of local raw materials to be applied in the manufacture of sanitary ware and insulators
- Technical assistance for the Bangladesh Insulator and Sanitary Ware Factory in Bangladesh in the factory management
- Study on manufacture and diversification of vitreous china type tableware

2. Brazil

- Fellowship training of two specialists from Brazil in Czechoslovakia is under way and their recommendations for further co-operation will be expected in their final reports.

3. Guyana

- Twinning arrangement for technical assistance to Guyana in the establishment of ceramic industry

4. Guinea-Bissau

- Exploratory mission to Guinea-Bissau for preliminary evaluation of local non-metallic raw materials

5. Ethiopia

- Technical assistance to the Ethiopian Electric Light and Power Authority in the following items:
  - geological evaluation of raw materials suitable for glazes and raw materials for the manufacture of refractory products applicable in the production in electrically heated ceramic household ware
  - testing of samples of ceramic raw materials and advice on the suitability for the use in electric heating and some processes of ceramic ware products production
  - testing samples of refractory materials and advice on the production processes of electrically heated ceramic household ware
  - training of a number of operators and plant managers
  - providing of technical publications on ceramic science and technology

6. Nepal

- Exploratory mission to Nepal for the identification of raw materials for ceramic industry

7. Sudan

- Testing of local ceramic raw materials and their technological evaluation

8. Suriname

- Long term agreements on technical assistance geared to the establishment of ceramic and glass industries in Suriname have been concluded so that further requests need not be included in this recommendation.

9. Tanzania

- Laboratory and technological testing of gypsum samples to ascertain the suitability for the mould manufacture
- Testing of other ceramic raw materials
- Training of ceramists from Tanzania and sending out ceramic experts to Tanzania as advisers in operation problems and trouble shooting

10. People's Democratic Republic of Yemen

- Geological prospection of non-metallic raw materials
- Consultancy for existing building material and non-metallic industries and extraction of raw materials
- Laboratory and technological testing of building and non-metallic raw materials and products
- Evaluation of feasibility studies prepared by various experts on the development of building material and non-metallic mineral industries and compilation of relevant statistical information
- Identification and quantification of local building materials and other non-metallic minerals
- Geological exploration, market study and feasibility study on local building materials and non-metallic minerals
- Training of technicians and engineers in the field of ceramics, building materials and non-metallic minerals exploitation and processing
- Geological exploration, market study and feasibility study based on the previous testing of raw materials and their evaluation for industrial purposes
- Training of manpower and management specialists for ceramic industry to be set up

Additional Services Required by Some Participants during the In-plant Technical Workshop

- The participants required simple descriptions of process technologies of the main ceramic products. This request will be negotiated during the next UNIDO-CSSR Joint Committee.

- Mr. Abdul Wahed Abdulla Mohamed, Project Manager - Building Materials, Ministry of Industry, Aden, People's Democratic Republic of Yemen, requested the visit of a brick factory. This visit was arranged additionally to the planned programme.

- A project document on the Establishment of Heavy Clay and Ceramic Industries was prepared by the UNIDO-Czechoslovakia Joint Programme and agreed with Mr. Abdul Wahed Abdulla Mohamed to be sent with a covering letter to the Ministry of Industry in Aden in order to be submitted to UNIDO Vienna through the relevant UNDP Resident Representative.

- One copy of the publication on "Production and Application of Non-metallics in Agriculture" issued by the Joint Programme was distributed to each participating country.

Annex I

Participants in the In-plant Technical Workshop on Energy Conservation and Management for the Least Developed and Developing Countries

Pilsen, Czechoslovakia 11 - 29 April 1983

Country:	Number of Participants:
Bangladesh	3
Ethiopia	1
Guinea-Bissau	1
Nepal	2
Sudan	1
Tanzania	3
People's Dem. Rep. of Yemen	1
Brazil	1
Guyana	2
Suriname	3
	18

Participants in the In-plant Technical Workshop
on Energy Conservation and Management for the
Least Developed and Developing Countries

Pilsen, Czechoslovakia 11 - 29 April 1983

Mr. Mustaque Ahemed
General Manager,
National Ceramic Industries,
Tongi, Dacca,
Bangladesh Chemical Industries Corporation,
Dacca
Bangladesh

Mr. Khandkar Muhammad Gulzar
Deputy General Manager,
Bangladesh Insulator and Sanitary Ware Factory Ltd.
Mirpur, Dacca
Bangladesh

Mr. A. H. Faizur Rahman
Addl. Chief Operation Manager,
Bangladesh Insulator and Sanitary Ware Factory Ltd.
Mirpur, Dacca
Bangladesh

Mr. Woldehanna Gu:Bu Haile
Manager,
Technical Equipment Services and Maintenance Dept.,
Ethiopian Electric Light and Power Authority
Addis Ababa
Ethiopia

Mr. Anastácio Justino Furtado
Director General for Energy
Ministry for Energy and Industry
Bissau
Guinea-Bissau

Ms. Geeta Rana
Analyst,
H.M. Government of Nepal,
Dept. of Mines and Geology,
Kathmandu
Nepal

Mrs. Rita Rajbhandari
Chemist,
H.M. Government of Nepal,
Dept. of Mines and Geology,
Kathmandu
Nepal

Mr. Moawia Fathi Gafar
Chemist,
Maspio Cement Corporation,
Atbara,
Sudan

Mr. Robert Michael Nindie
Engineer
Tanzania Industrial Research Development Organization,
Dar-es-Salaam
Tanzania

Mr. Jones Ndewonaona Saronga
Project Manager,
Tanzania Saruji Corporation
Dar-es-Salaam,
Morogoro Ceramic Wares Ltd.
Morogoro
Tanzania

Mr. Titus Simion Malugu
Civil Engineer and Kiln Expert
Tanzania Saruji Corporation,
Dar-es-Salaam,
Tanzania

Mr. Abdul Wahed Abdulla Mohamed
Project Manager - Building Materials
Ministry of Industry,
Aden
People's Democratic Republic of Yemen

Mr. Aguinaldo Batista de Queiroz
Project Manager,
Fundacao Instituto Tecnologico do Estado de Pernambuco,
Recife,
Brazil

Mr. Victor D. N. W. Samarakone
Head of Technical Service,
Institute of Applied Science and Technology
Georgetown
Guyana

Mr. Romeo Anthony Rodrigues
Plant Manager
Guyana National Engineering Co-operation,
Georgetown
Guyana

Mr. Ewald André Pengel
Metallurgical Engineer
Geological and Mining Service of Suriname
Paramaribo
Suriname

Mr. Kees Norbertus Kollau
Staffmember,
Industrial Development and Export Promotion
Paramaribo
Suriname

Mr. Frans Van Der Jagt
Managing Director

N. V. Naham
92 Saramaccastr.
Paramaribo
Suriname

Annex II

List of Lectures and Lecturers

1. Czechoslovak Ceramics - Development and Energy Conservation

Mr. A. Lošťák
General Director
Czechoslovak Ceramic Works

Trojská 13
182 00 P r a g u e
Czechoslovakia

2. Energy Management in a Ceramic Plant

Mr. L. Kuna
Scientific Secretary
Research Institute for Ceramics, Refractories and Raw Materials

P.O.Box 211
305 11 P i l s e n
Czechoslovakia

3. Energy Savings in Composing Ceramic Bodies

Mr. Z.A. Engelthaler
Chief Executive of the UNIDO/CSSR Joint Programme
Director of the Research Institute for Ceramics, Refractories and Raw Materials

P.O.Box 211
305 11 P i l s e n
Czechoslovakia

4. Diagnostic Mobile Unit

Mr. M. Nový
Deputy Senior Expert
UNIDO-Czechoslovakia Joint Programme

P. O. Box 211
305 11 P i l s e n
Czechoslovakia

5. Guide to the Technical Workshop

Mr. J. Franče
Geoindustria, National
Enterprise

U Průhonu 32
170 04 P r a g u e
Czechoslovakia

6. Measuring Instruments Installed in Ceramic Plants

Mr. J. Kačín
Senior Research Worker
Research Institute for Ceramics,
Refractories and Raw Materials

Division at Horní Bříza

330 12 Horní Bříza
Czechoslovakia

7. Non-metallics - Their Contribution to Energy Conservation

Mr. J. Babůrek
Director
Design and Construction
Institute of the Czechoslovak
Ceramic Works

Malátova 17
150 00 P r a g u e
Czechoslovakia

8. Calculations in Ceramics

Mr. J. Staněk
Professor
Chemical-technological University

Suchbátarova 1905
166 28 P r a g u e
Czechoslovakia

9. Waste Heat

Mr. J. Němeček
Joint Laboratory of the
Czechoslovak Academy of Sciences
and Chemical-technological
University for Chemistry and
Technology of Silicates

Suchbátarova 1905
166 28 P r a g u e
Czechoslovakia

10. **Progressive Kilns and Driers - Source of Energy Conservation**

Mr. P. Navrátil
Chief,
Thermal Techniques Branch
Přerov Machinery

Veveří 7
600 00 B r n o
Czechoslovakia

11. **Energy and Material Flows in the Manufacture of Selected Ceramic Products**

Mr. J. Müller
Expert
UNIDO-Czechoslovakia
Joint Programme

P. O. Box 211
305 11 Pilsen
Czechoslovakia

12. **Investment and Production Costs of Industrial Units (incl. Thermal Units)**

Mr. J. Dřevo
Expert
UNIDO-Czechoslovakia
Joint Programme

P. O. Box 211
305 11 Pilsen
Czechoslovakia

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Annex III

IN-RESEARCH INSTITUTE AND IN-PLANT TRAININGS

A - In-research institute training

- Energy saving product technologies and laboratory testing of products, measuring equipment of the Mobile Diagnostic Unit	- Research Institute for Ceramics, Refractories and Raw Materials, Pilsen Division at Horní Bříza
- Up-grading technologies and laboratory testing of raw aterials	- Research Institute for Ceramics, Refractories and Raw Materials, Pilsen Division at Karlovy Vary

B - In-plant training

- Energy saving technologies and energy measurements by Mobile Diagnostic Unit	- West-bohemian Ceramic Works, Wall Tile Plant at Horní Bříza
- Energy conservation measures in the extraction, washing and beneficiation of kaolin	- West-bohemian Ceramic Works, Kaolin Washing Plant at Kaznějov
- Energy saving technologies and management	- Chlumčany Ceramic Works, Floor Tile Plants at Chlumčany (3 plants)
- chnology and energy analyses of energy consumption	- MOSER Glass Factory, Plant for the manufacture of metal glass at Karlovy Vary
- Energy saving technologies and management in the production of porcelain	- Carlsbad Porcelain, Production Plant at Nová Role
- Energy saving technologies and management in the production of sanitary ware	- Ceramic Works, Znojmo Sanitary Ware Production Plant at Bechyně
- Energy saving technologies and management in the production of sewer pipes	- Calofrig, Borovany Sewer Pipes Plant at Borovany
- Energy saving measures in the extraction and up-grading of feldspars	- Calofrig, Borovany Feldspar Extraction and Up-grading Plant at Halámky

C - <u>In-school training</u>

- Practical training in technologies in the production of artistic and art products	- Ceramic Industrial High School at Bechyně

UNIDO
UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
VIENNA INTERNATIONAL CENTRE
P.O. BOX 300, A-1400 VIENNA, AUSTRIA
TELEPHONE: 26 310 TELEGRAPHIC ADDRESS: UNIDO VIENNA TELEX: 135612

REFERENCE:

EVALUATION OF IN-PLANT GROUP TRAINING PROGRAMMES

Number of participant: 18

Home country: 10 countries

Programme: In-plant Technical Workshop on Energy Conservation and Management in Ceramic Industries

Host country: Czechoslovakia

Year: 1983

I Pre-programme information

1. What is your opinion about the advance information on the programme received in your home country? (Please indicate with an X in the appropriate box).

	Sufficient	Too little	None
Aim of programme	14	2	2
Contents of programme	13	1	4
Level of programme	14	1	3

Do you think that additional information should have been provided? If so, please state your suggestions:

II Concept and organization of programme

2. What is your opinion about the contents of the programme?

appropriate	18
not appropriate	

If not appropriate, please state why:

3. What is your opinion about the level of the programme?

too high	1
sufficient	17
too low	

4. Is, in your opinion, the programme:

too specialized	2
too broad (covering too many subjects)	3
correct in its concept	13

5. What is your opinion about the total duration of the programme?

much too short	
too short	1
correct	11
too long	6
much too long	

If too short or too long what should have been the duration?

..... weeks.

6. Do you consider the size of the total group of participants:

too large	
adequate	16
too small	2

7. Give your opinion about the composition of the group of participants (homogeneity as to cultural background, profession, age, etc.). Where there too many under-qualified or over-qualified participants? Did you personally feel integrated in the group or, if not, why?
Integrated group of highly qualified people, with different experiences, in spite of different age making excellent combination. Mostly high positioned governmental officials (general directors, project managers, etc.)

8. What is your opinion about the general character of the programme? Should it, in your opinion, be:

More practical	5
more theoretical	2
as it is	11

9. **How was, in your opinion**

a) **the amount of practical training?**

too much	2
adequate	9
too little	7

b) **the amount of theoretical studies (lectures):**

too many	5
adequate	11
too few	2

c) **the number of study visits:**

too many	1
adequate	14
too few	3

Please state your suggestions for changes, if any:

Some participants preferred practical, the other theoretical training. The absolute majority agreed that 40% of theoretical and 60% of practical training were adequate.For the purpose of of detailed studies, fellowships will be conducted. Request for flow sheets of introduced production lines was raised.

10. **What is your opinion about the time allotted to language studies?**

absolutely indispensabel	
useful	
unnecessary	

Please indicate to what extent you could communicate with the personnel of the factories where you had your in-plant training:

All the participants were perfect in the workshop language.

11. **What is your opinion about the training material used?**

The training material was very useful not only during the Workshop but it will also be used by the participants in their home countries for their studies and practical exploitation in the future.

12. **Did you have sufficient time for a professional exchange of views**

with instructors:	yes	15
	no	3
with fellow participants:	yes	18
	no	
with staff of the factories:	yes	14
	no	4

13. Did you benefit from that exchange

with instructors:	yes	17
	no	1
with fellow participants:	yes	16
	no	2
with staff of the factories	yes	14
	no	4

14. Did you feel that you could influence the programme content?

much	2
somewhat	10
little	6

III Relevance and applicability of the programme

15. Did you find the programme as conducted relevant to the conditions in your home country:

to some extent only	7
to a sufficient extent	8
to a great extent	3

16. Do you think this programme should be repeated?

yes	18
no	

17. If yes, do you think it should be held

in the same country and place	8
in the same country but another place	4
in another developed country	6

Please state the reasons for your answer:

T he Workshop should be repeated at Pilsen, Czechoslovakia, under the same superb and commendable quidance and supervision of the UNIDO-CSSR Joint Programme with its highly qualified and experienced staff. The Czechoslovak Ceramic Works form the natural background for further similar actions and Pilsen is a logic place for such workshops being the centre of non-metallic industries with excellent communication network to the major and important industrial units situated in West-bohemian region.

18. **Do you feel that your participation in this programme has benefitted you professionally?**

to a very small extent	
to some extent	5
to a sufficient extent	8
to a high extent	4
to a very great extent	1

19. **Do you think that the qualifications you have acquired will be recognized in your home country?**

yes	18
no	

20. **Will you have the opportunity to pass on the acquired knowledge in your home country?**

to a very great extent	1
to a great extent	7
to a certain extent	10
to a limited extent	
to a very limited extent	

21. **How ill the transfer of knowledge be made?**

a) **during daily work with colleagues and personnel** 13

b) **during meetings organized for this purpose in your company** 5

c) **during meetings organized on a bigger scope:** 1

Are you of the opinion that you might encounter difficulties in passing on the knowledge obtained. If so, what are the problems you are anticipating?

None

22. **Other suggestions:**

- The Workshop considered very useful, valuable, the repetition for non-English (French, Spanish) territories suggested.
- Follow-up programmes should be arranged.
- The workshops of the same type should continue as a part of different UNIDO projects.
- After passing the Workshop, the participants will be able to advise their Governments on different steps to be undertaken in the establishment and/or development of non-metallic industries with low energy consumption in their countries