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20650

Distr.
RESTRICTED

ODG/R. 16
14 December 1993

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

ORIGINAL: ENGLISH

**EVALUATION SEMINAR OF FORMER PARTICIPANTS
OF THE IN-PLANT GROUP TRAINING PROGRAMME IN THE FIELD OF
CEMENT INDUSTRY, TURKEY, HELD BETWEEN 1986 AND 1990**

8-10 November 1993

**XP/INT/93/107
UT/INT/93/124**

Evaluation report*

**Prepared by the
Evaluation Staff
Office of the Director-General**

* This document has not been edited.

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LIST OF ABBREVIATIONS AND ACRONYMS

CDRC	Cement Development Research Centre
GTP	Group training programme
HTO	Host training organization
IHRD	Industrial human resource development
IPGTP	In-plant group training programme
ISO	International Standards Organization
ODG	Office of the Director-General
ST	Study tour
TCMA	Turkish Cement Manufacturers
TF	Trust fund

SUMMARY

This follow-up evaluation of the Group Training Programme in the field of Cement Industry organized by UNIDO with the Turkish Cement Manufacturer Association since 1979 confirmed the findings of the previous follow-up evaluation report dated 30 January 1989 (ODG/R.4), which found the programme to be successful in providing cement industry engineers of developing countries with a thorough overview and exposure to all major aspects of cement production technology.

The process of participation selection is well conducted resulting in a well selected mix of participants. The programme is professionally conducted with good course materials and lecture notes. However, the plant visits require a more systematic training content.

The amount and nature of knowledge and skills acquired during the duration of the programme were considered to be useful and relevant by the participants. Numerous applications were reported by the participants.

The initiative taken by the Industrial Human Resource Development (IHRD) Branch to follow the recommendations of the previous evaluation report on improving the design of project objectives and outputs are hereby noted. Some more minor recommendations have been suggested in this report for a more specific determination of programme objectives and outputs. This report also recommends that the aide-mémoire should highlight the training objective of each subject covered under the programme.

The report concludes that there is a continuing need for the programme. Additionally the evaluation found that an advanced course be developed on special subjects for ex-participants.

1. INTRODUCTION - BACKGROUND AND PURPOSE OF EVALUATION

1.1 Background of host training organization

The Turkish Cement Manufacturers Association was established in 1957. To cope with the requirements for the development and research needs of the cement industry - a Cement Development Research Center (CDRC) was established in 1975 under the Cement Manufacturers Association.

The Center's (CDRC) activities are carried out by the following major divisions:

- Raw Material and Cement Division;
- Concrete Division;
- Process Research and Development Division;
- Pilot Plant;
- Engineering Division;
- Feasibility Studies Division;
- Information and Training Division.

The Center's research and development efforts have significantly contributed to the development of Turkey's cement industry. Turkey is today the fourteenth largest cement producer in the world and fifth in comparison with EEC countries. 90% of the components of a cement plant and the spare parts required for repair and maintenance are manufactured in Turkey. As of today, Turkey has 40 cement factories and six grinding plants. The Center has adequately equipped laboratory facilities to carry out industry sponsored research activities. The Center has qualified, experienced staff to undertake investigations related to cement production.

The Center's training facility is adequately furnished with training equipment and has qualified and experienced training staff. The Center also calls upon plant engineers from different cement plants to offer their expertise and knowledge to participants through lectures and demonstrations.

One of the objectives of the Center is to assist developing countries' cement and building and construction materials industry to improve its effectiveness in contributing to economic development.

The Center pursues this objective by providing the following services:

- Individual training of engineers from the developing and least developed countries in the field of cement industry;
- Group training and workshop programmes on a regular basis;
- Raw material investigations for proposed cement plants;
- Research and development activities on the use of additives, mineralizers and energy saving production alterations;
- Advisory activities based on Turkish technological adaptation know-how;
- Problem solving services;
- Calibration and repair of the process control equipment, laboratory devices, compression and tensile strength presses used for quality control during the production;
- On the job training of the process control, measuring instruments and Schenck weigher operators;
- Development of a unified quality control system for cement producers.

1.2 Background of the training programme

The in-plant group training programme in the field of cement industry is a joint venture between CDRC and UNIDO. The first of the programme was organized in 1979 and several programme are repeated annually since then. The following chart provides information on the number of joint courses carried out so far between CDRC and UNIDO.

CDRC/UNIDO training activities carried out from 1979 to 1993

<u>Type</u>	<u>Language</u>	<u>No. of Programme</u>
IPGTP on cement production technology	English	19
IPGTP on cement production technology	French	2
Energy saving in cement production technology	English	2
Study tour in field of cement industry for senior level policy and decision makers	English	4
Study tour in field of cement industry for senior level policy and decision makers	French	1
IPGTP (TF*) on cement production technology	English	5
Energy saving (TF*) in cement production	English	1
Study tour (TF*) in field of cement industry for senior level policy and decision makers	English	4
Follow-up evaluation seminar	English	2
		40

* (TF) refers to programme financed by the Government of Turkey under UNIDO's Trust Fund programme.

Thirty training programmes were financed through voluntary contributions of the Government of Turkey to the United Nations Industrial Development Fund (UNIDF). Another ten training programmes were financed through the Special Trust Fund scheme.

As an on-going activity, the Center also provides training opportunities for Turkish cement plant personnel, and to developing country engineers without UNIDO's involvement.

The forty joint CDRC/UNIDO courses carried out from 1979 to 1993, have been attended by 585 participants from 60 developing countries. The training approach consists of theoretical lectures and practical laboratory training exercises, plant visits and study tours.

The theoretical part of the training programme primarily includes the following subjects:

- Role of cement industry in the industrial and economic development;
- Pre-feasibility studies;
- Raw material and quarrying;
- Cement chemistry;
- Production technology and plant operation;
- Process control;
- Quality control and standards;
- Energy conservation measures;
- Environmental and pollution control;
- Management and marketing aspects of cement industry.

Besides visits to cement plants, participants also visited machinery manufacturers, the Research and Exploration Institute of Native Resources and educational institutions such as universities.

According to the IHRD Branch, the training programme has been designed for senior engineers and managers from developing countries with the aim of upgrading participants' knowledge and problem solving skills through intensive theoretical and practical training related to the cement industry.

According to the authorities of the host training organization (HTO) the training programme was designed to provide an orientation and to create awareness of different aspects of cement production to participants from developing countries. Furthermore, according to the authorities of the HTO, if anything more than this orientation has been achieved then the training programme has more than achieved its training objective.

The evaluation mission found the training programme to be successful in providing cement industry engineers from developing countries with a thorough overview of and exposure to all major aspects of cement production technology.

The issue of project design as to its purpose/objective will be more elaborately discussed in chapter 2 of this report.

1.3 Purpose of the evaluation seminar

To help ensure training effectiveness and maximum impact, this follow-up evaluation seminar was conducted to:

- Provide participants an added incentive to implement concepts, practices and techniques learned at the GTP;
- Determine whether or not the GTPs are achieving their objective(s); and
- Provide insights for improving future programmes.

A follow-up programme evaluation seminar of group training projects (IPGTP) is a special kind of evaluation based on participatory self-evaluation principles. A structured and extensive group discussion with past participants is carried out to assess training programme design, implementation, results and utilization of the new knowledge and skills. If properly conducted, it elicits detailed advice on how to improve the effectiveness, relevance and impact of the programmes. The evaluation seminar is a management and programming decision-making tool for the host training organization, the participating government, the donor and UNIDO to provide a basis for:

- Identifying and initiating corrective or new measures to improve the quality and relevance of the training being provided; and/or
- Preparing a synthesis of the experience of various training projects which would assist in improving the design, implementation and effectiveness of succeeding of similar training programmes.

Towards these ends the evaluation seminar exercise has:

- Re-examined the purpose or objective of the training programmes;

- Assessed the actual change(s) achieved in relation to the training objective and beginning skills of the trainees selected;
- Assessed the utilization of the training results in a country/plant-specific situation;
- Identified and analyzed factors which facilitated or impede the successful accomplishment of the training programme objective; and/or
- Assessed the actual development impact of training.

As already mentioned, another follow-up evaluation seminar of this GTP was undertaken during October 1988 and reported under document ODG/R.4, dated 30 January 1989. This report will make cross reference to the previous evaluation report as and when required in order to revalidate and follow-up on the conclusions/recommendation made.

The evaluation seminar discussions were moderated by Iniran Farooque, UNIDO Evaluation Staff, from 8 to 10 October 1993 on the premises of CDRC. Mr. Y. Bayar, Secretary General of the Turkish Cement Manufacturers Association, and Ms. C. Becan, Head of Foreign Relations Department, Turkish Cement Manufacturers Association, fully participated in the seminar discussions. Mr. O. Hagan, Industrial Development Officer, IO/T/CHEM, UNIDO, actively participated as a resource person during the evaluation seminar proceedings and presented a lecture on clean technology in the cement industry.

2. PROJECT FORMULATION

Before proceeding with a detailed discussion on the implementation of the seminar and the results achieved, it would be prudent to discuss the subject of project design.

For demonstration purposes, the 1990 project document and the corresponding 1990 aide-mémoire will be used. (This is in view that the present evaluation exercise covers the training programme conducted during the period of 1986-1990.)

This evaluation notes that the project design recommendations of the previous evaluation in October 1988, which suggest a better specification of the project objective and outputs were taken up by the IHRD Branch (see annex 1). An attempt has, therefore, been made to more clearly specify the project objective and outputs as recommended in 1988. However, a further refinement is suggested to more clearly articulate the project objective. Under project objective, it is suggested to remove the phrase "master the whole". It is questionable as to whether a participant through a training of four weeks can master whole cement production process starting from raw material analysis to end product. The phrase "to be conversant with ..." is hereby recommended. Additionally, in the second sentence "the application of" should be inserted.

The project objective would therefore read as follows:

"Participants will be conversant with and understand the whole cement production process from the analysis and selection of raw materials, to the technologies used in production processes, including quality control, maintenance and energy saving requirements needed to produce a quality end product. The application of skills and knowledge obtained by the participants will lead to improved operational results at the cement plants from which the participants came".....

Under the output section, it is appreciated that the full text of the 1988 recommendations was adopted in the subsequent project documents. However, it would have been desirable to also list the course subjects covered under the training programme.

The aide-mémoire specifies the project objective as recommended by the previous evaluation report. However, the training programme output as reflected in the project document could also have been included. The aide-mémoire lists the course subjects on page 7, however, it provides no description of the course objective under each subject. It is recommended that future aide-mémoires include these. A description of the training objectives of each subject was provided as annex 1 in the 1988 evaluation report (see annex 2 of this report). Such information in the aide-mémoire gives the interested reader a clear indication what knowledge and skills participants are likely to obtain in each subject covered by the programme. This information would also help staff to develop their course syllabus and materials and facilitate subsequent evaluations.

3. IMPLEMENTATION OF EVALUATION SEMINAR ACTIVITIES

Selection of participants

Participants who had attended the training course from 1986 to 1990 were contacted by UNIDO. The participants were requested to prepare and send to UNIDO a case study/personal report concerning improvements and changes they were able to introduce in their plant as a result of their newly acquired knowledge and skills. Candidates were provided with a guideline on how to prepare these reports.

Mostly on the basis of the case studies/personal reports received, ten past participants were selected to attend the follow-up seminar. Two former participants from Yemen, although not invited, joined the follow-up evaluation seminar at their own expense - a total of twelve attended the seminar. See annex 6 for the list of participants.

The evaluation seminar programme had two sets of activities. During the first week, the participants visited selected factories and attended lectures to further upgrade their knowledge. This report does not cover the first week of the programme since the evaluator arrived during the second week to conduct the ex-post evaluation discussions of the programme. A copy of the follow-up seminar project document and the aide-mémoire inviting nominations are attached to this report as annexes 4 and 5 respectively.

The approach taken during the evaluation seminar was to place the participants at ease by explaining to them that they were selected to attend the seminar to assist the Turkish Cement Manufacturers Association and UNIDO to learn and to take note of the successes and problems they had in introducing changes at their place of work; to re-assess the programme based on experience; to suggest ways to improve the programme so that their colleagues can benefit more from similar programmes in the future; and to help the seminar organizers to identify advanced training needs.

The participants expressed interest and enthusiasm about the prospect of being able to advise the Turkish Cement Manufacturers Association and UNIDO. At the beginning of the seminar, participants orally presented brief summaries of their individual reports. These presentations are discussed under "Findings of case study presentation" (chapter 4.2 of this report). Two and a half days of active discussion and debate followed the presentations. These were concluded with an agreed set of conclusions and recommendations.

Following the seminar, the findings and recommendations which emanated from the deliberations and proceedings of the evaluation seminar were discussed at length and agreed to in a meeting between the evaluation team and the organizers of the training programme (Mr. Y. Bayar and Ms. C. Becan).

It should be noted that the seminar participants included chemical, mechanical and electrical engineers from plants of varying size, age and technologies used. Given this mix, the unanimity of the findings and recommendations is all the more noteworthy.

As mentioned earlier the evaluator was not present during the first half of the seminar, however, it was confirmed by the participants and the HTO that individual questions on technical matters raised by the participants were responded to by cement experts invited by the HTO. At the request of the participants, a lecture was added to the programme covering the subject of preventive/computerized maintenance.

4. EVALUATION OF SEMINAR RESULTS

4.1 Findings of evaluation seminar questionnaire exercise

Extensive group discussions were held with the participants on the various aspects of the courses each had attended and on the experiences they had after returning to their jobs. This was followed by a distribution of a questionnaire to the participants. The questionnaire covered the following issues: (a) present employment; (b) impact of training; (c) retrospective evaluation of the training programme they had attended; (d) follow-up and improvement required, if any (a copy of the questionnaire is attached as annex 3).

Present employment

It was encouraging to find that all the 12 participants are still active in cement production. One changed company for better remuneration and another moved to an advisory position - a consequence of the re-unification of Yemen.

Eight (67%) out of twelve have been promoted and another has been recommended for promotion. A general categorization of the positions held reveals that five relate to production; three to electrical; two to maintenance; one to quality control; and one participant is in an advisory position - as co-director.

Why participants attended

Three main reasons provided by the participants for attending the training course:

- To improve job skills;
- To learn new skills that would help in their professional development;
- To learn about experience of other countries.

Personal impact of training

On the question of personal impact of the training provided, 92% highlighted that they gained more self-confidence, similarly 92% reflected that they have learned skills in new subjects and 83% indicated more experience in their own area of specialism. 42% confirmed increased salaries and 33% to promotion due to training.

75% of the participants felt that they were better equipped to do their work and 67% were in a better position to advise others. 92% were able to introduce new techniques, processes and systems at their place of work.

Changes highlighted by the participants included:

- Improved maintenance procedures;
- Increased production level through more efficient use of raw materials;
- More efficient utilization of energy;
- Adoption of quality control measures;
- Improved supervisory skills.

83% of the participants were able to apply the newly acquired knowledge and skills soon after return and one after six months.

Transfer of experience and knowledge by participants

All participants were able to pass on their experience and knowledge either on-the-job or through lectures, reports or meetings. And 83% have been engaged in some form of training activity to pass on their knowledge and skills. Some of their training were conducted through lectures at Polytechnic institutes, however, most of it was on the job. Five participants conducted formal training course with an average duration of 1.9 mm - with an average of 24 people trained by each participant.

Examples of improvements introduced by participants

All participants were able to report on positive changes at their place of work as a result of their training experience. 50% reported an increase in product quality, 50% in production quantity and 67% in reducing production costs.

Specific examples of improvement include:

- New technology of computing systems;
- Better maintenance planning;

Difficulties encountered in introducing changes

Seven participants (58%) indicated that they faced difficulties in introducing new techniques and processes and five participants (42%) indicated they faced no difficulties in introducing new techniques and process systems.

Two participants indicated that they require additional training before application is possible. Further training required includes: (i) usage of computers, (ii) usage of x-ray quantometer and (iii) the need to know more about preventive maintenance system.

Other application constraints include: lack of trained personnel (indicated by three participants); lack of adequate training materials (three participants); lack of machinery (three participants); resistance to change (two participants); highlighted lack of funds (four participants).

Impact outside own company (agency, institution)

83% were able to pass on some of the newly acquired experience and knowledge within their department, and 67% were engaged in teaching/training other individuals in their field of study and the same 67% were able to advise other companies, agencies and institutions.

Evaluation of past training programmes

All participants were mostly satisfied with the training programme, and 83% were fully satisfied.

Suggestions for improvements included the following, although it is recognized that this would require more time and longer training duration:

- More attention/discussions on energy saving;
- More in-depth courses on maintenance;
- Need more specialized course on pollution control.

58% had the view that courses should be more specialized while 33% did not. Overall, the finding suggests that the programme as it stands is compatible for new engineers with two/three

years experience in cement plants. 33% felt that specialized courses should be offered to ex-participants as a follow-up.

67% indicated the duration of the training period was adequate, while 33% indicated the duration as too short. 92% felt that plant visits were useful, however, three participants wanted more time during plant visits for detailed discussions.

In general, all felt that there should be more plant visits and the theoretical part could be strengthened by presentation of case studies on the plants visited. Also more time should be allocated for discussion on technical problems. One participant felt that the theoretical part could be better done through video presentations. However, 83% of the participants considered the theoretical methodology of the training as satisfactory. Good training handouts, reference materials and notes were mentioned.

The interpreters used during plant visits did not come from the cement field and, therefore, had difficulty in interpreting technical discussions.

67% judged the programme's level about right. Three participants considered the level as too high. No participant rated the programme as low or too low.

83% rated the course material from good to excellent, only one participant suggested the need for additional materials.

Miscellaneous comments on course materials/handouts included the following views:

- During follow-up it would be useful to receive materials on further developments in specific fields of cement production to complement those received earlier;
- Course materials should be distributed before the commencement of the seminar;
- More usage of charts/graphs/drawings will facilitate understanding of the participants;
- More reference material availability is sought at the Center;
- Handouts on ISO 9000 are needed.

83% of the participants expressed their satisfaction with the audiovisual presentations - there was strong support for more video presentations. Participants suggested that tapes be given to take back to their cement plants for demonstration purposes.

100% responded positively on the qualification of the trainers. 92% considered the training staff to be adequately skilled, and 100% confirmed that the trainers had no problems with the language of training.

A summary of responses received on the usefulness of the subjects covered by the programme is provided below:

<u>Subject</u>	<u>Percentage of responses considering the subject to be useful</u>
Industrial Feasibility Study	75%
Raw material	83%
Raw meal grinding	75%
Cement grinding	75%
Dedusting systems	75%
Quality control	75%
Maintenance	75%
Economical aspects of plant operation	75%
Energy conservation measures	92%
Environmental and pollution control	75%

The usefulness of other subjects ranged from 74% to 50%. Two courses which scored very low were:

<u>Subject</u>	<u>Of little use</u>
Concrete technology	67%
Management and Marketing aspects	33%

Technical problems

In responding to the technical problem faced by participants and what happened after they were trained, the following technical problems could be partially or fully solved:

- Minimized clinker coating;
- Improved calibration techniques;
- Introduction of card machine system;
- Ability to apply predictive maintenance system;
- Solved firing problem;
- Attained heat balancing;
- Solved problems related to lighting of cooler chamber and cooler chamber air leaks.

To accomplish the above, 25% had no problems solving the problem. 33% had a few problems. 25% had many problems - three participants suggested: (i) inclusion of predictive maintenance, (ii) spare parts manufacturing, and (iii) specialized follow-up courses.

75% considered they have solved a considerable number of the problems they wanted to resolve. 25% considered having accomplished everything.

Follow-up

75% consider that some kind of training follow-up would be useful to further strengthen their capabilities. Specific areas mentioned include:

- Energy saving;
- Quality control;
- Predictive maintenance;
- Project planning;
- Operations of kiln;
- Instrumentation required for raw mix;
- Operation optimization;
- Cost saving.

Most felt that an additional week of training would be adequate to cover any one of the above courses.

42% of the participants would welcome receiving additional manuals/guidelines on the following:

- Application of computer process control monitoring;
- Cost management.

Recommended participant profile for future training programmes

The findings of the 1988 evaluation concerning the ideal participant profile were validated during this evaluation. The profile suggested reads as follows:

"Recommended participant profile for future training programmes:

Under the assumption that the present general course will continue without major change, the participants were unanimous that the course is very appropriate and useful for either chemical, mechanical or electrical engineers with 2-4 years cement plant experience. Additionally, a few felt that very experienced and motivated technicians, chemists and quality controllers could also benefit.

Although on occasion time was lost to explain new concepts to a very mixed group of participants, they all felt that group diversity did not present a major problem. It was even felt to be beneficial since it gave everyone a unique opportunity to learn from each other and become more aware of the different facets of cement production."

Additionally, the course was also recommended as suitable for mining engineers and geologists.

Indication on who else could benefit from the training

Seven participants responded that an average of 13 other engineers working in their plants could benefit from the existing training programme.

4.2. Case study: Findings

A matrix summarizing the personal reports/case studies prepared by the participants is presented on the following page.

Summary of participant response based on their personal report

Participant Country	Function/ Background	Application	Transfer	Produce doc/material	Benefitted professionally	Improvement in company	Evaluate programme	Suggestions
Ghana	maintenance/planning mechanical engineering	yes	yes	no	yes	yes	positive	increase duration
Jordan	chief production dept. chemical engin.	yes	yes	yes	yes	yes	positive	more case studies
Guatemala	mechan. maintenance superintendent mechanical engin.	yes	yes	no	yes	yes	positive	case studies on actual problems
Indonesia	acting prod. manager, chemical engin.	yes	yes	yes	yes	yes	positive	plant visits in conj. w/ case study
Sudan	assist., electrical engineering	yes	yes	yes	yes	yes	positive	increase duration, more tech. visits
Uganda	product. superintend. chemical engineering	yes	yes	no	yes	yes	positive	theory classes to be followed up by actual plant visits
Bangladesh	assist. mechan. engin. maint. dept., power eng.	yes	yes	yes	yes	yes	positive	increase duration, more plant visits
Pakistan	deputy manager electrical mainten. bsc. eng.	yes	yes	yes	yes	yes	positive	more plant visits and case studies

NOTE: 1. The participant from Nigeria did not submit his personal report. However, the UNIDO IHRD Branch selected him in view of his background and because he was regarded as one of the best participants at the IPGIP in 1989.

2. The participant from Yemen submitted his personal report. However, it did not follow the standard guidelines and was, therefore, not assessed. Under 'suggestions', he had indicated that the training duration should be extended to include laboratory training and more group discussions.

A personal report from one of the participants is highlighted below. It provides a good example of the significant impact this programme can have. The report focussed on maintenance. During the course the participant:

- Obtained an overview of the technical condition of the installation;
- Learned how to forecast the residual life of the equipment/components;
- Learned how to plan out time period for replacement of equipment/components; which resulted in the reduction of unscheduled operational stoppages/number of acute repairs and number of break-downs.

Upon return to his plant, he introduced:

- A lubrication card system;
- Master schedules;
- An inspection card system; and
- Inspection master schedules.

The implementation of above resulted in operational as well as non-operational benefits, such as:

Operational benefits:

- Improved reliability of equipment and utility services;
- Improved productivity of all company employees;
- Closer approximation of the life expectancy of the buildings and equipment;
- Pinpointing of repetitive repair work that may lend itself to preventive maintenance techniques;
- Identification of items that have history of high maintenance cost and that disrupts production scheduling effects;

Non-operational benefits:

- Decreased capital investment and replacement costs;
- Improved morale among all employees;
- Improved job satisfaction of many maintenance employees;
- Provision of reporting more reflective costs in reports to creditors, investors, government agencies etc.

Benefits obtained through implementation of preventive maintenance systems:

- Minimized maintenance cost;
- Minimized spare parts inventory;
- Less downtime;
- Availability to negotiate contract maintenance;
- Maintenance performed when convenient;
- Less disruption due to improved energy consumption measures;
- Less stand by equipment needed;
- Increased safety;
- Less pollution.

Specific issues the participant wished to discuss during the follow-up seminar:

- Environmental protection and auditing pollution control;
- Norms for high consumption items such as fuel, electricity, paper bags etc.;
- Proper handling and maintenance of electrostatic precipitators;
- Energy management;
- Improvement of power factor.

The lesson the participant drew from his case study was the importance of comprehensive preventive maintenance systems for productivity, as opposed to costly breakdown maintenance practices.

At the request of the participants, an additional lecture was arranged by the HTO on predictive and computerized maintenance systems.

Another case study was presented during the seminar, where a participant demonstrated that his modification of satellite clinker coolers corrected problems of deformation and warping of cooler shells, solving leakage problems and reducing the need for repair.

Overall, the case studies and personal reports reflected a high degree of success in applying and transferring the skills and knowledge obtained during the programme.

4.3 Additional findings on application of knowledge and skills (obtained during the discussions with the participants)

- ◆ Learned to change from utilization of high cost fuel to low cost fuel through modern control system in kiln and power plant;
- ◆ Adapted new techniques in grinding raw materials and improved the clinker and burning process;
- ◆ Erected new power plant and a reclaiming clay plant which reduced costs and led to improved performance;
- ◆ Modified maintenance methods;
- ◆ Able to participate in commissioning of a raw mill, help solve main electric motor problems;
- ◆ Initiated preventive maintenance for the impeller of raw mill exhaust fan;
- ◆ Ability to measure bearing tolerances of the fan in the clinker cooler;
- ◆ Adopted energy saving measures;
- ◆ Ability to beneficiate sandy clay with iron to build enough coating in the kiln;
- ◆ Management accepted advice to introduce regular testing of raw materials - which led to improved raw material mix also minimized blockages and leakages in the cooler grates.
- ◆ Started working on preventive maintenance system, trained additional staff on the subject. Took ten months to fully install preventive maintenance system;
- ◆ Capability to select and purchase the right equipment. Was able to choose and distinguish the features of a screw compressor and reciprocating compressor.
- ◆ Have become fully aware of pollution hazards and contemplating on adopting computer aided maintenance system;
- ◆ More scientific approach in addressing plant problems;
- ◆ Ability to understand own weakness and strength and able to identify where additional training may be required.

5. DISCUSSION WITH HOST TRAINING ORGANIZATION OFFICIALS AND TEACHING STAFF

5.1 Discussion with HTO officials

The HTO is proud of their training programme. The results of the training programme as indicated in chapter 4 are impressive. The HTO officials are happy and satisfied with the impact of the training programme. They are also satisfied with the high number of applications received (35 nominations) to attend the programme. In this respect, they are thankful to UNIDO and the governments of the participants' countries for their assistance during the nomination and selection process.

According to the officials of the HTO, the objective of the training programme is to provide an overview of cement production technology to participants from developing countries. Yet the training programme has evidently achieved more than this.

The HTO officials have expressed their desire to continue the training programme and look forward to continue their cooperation with UNIDO. The positive results of this evaluation provide sufficient grounds to support the continuation of the training programme.

5.2 Discussion with teaching staff

The evaluator had the opportunity to meet two training staff, and he also attended a special lecture given by one of them. The lecture on maintenance systems, which was organized at the request of participants, was well received by them. The evaluator was impressed by the lecturers' clear presentation on the subject in the English language. The presentation was well augmented by questions from the participants. The lecturer revealed that, even during his previous lectures, he found the participants to be lively, raising many questions, which enabled a continuous dialogue between the presenter and his audience. The participants were found to be responsive and able to follow the lecture and raised questions for clarification to their particular plant problem, so much that the participants even utilized the library facility at the Center to resolve specific questions. The lecturer also expressed satisfaction of the level of the participants. The same opinion was also expressed by the other teaching staff, who lectured on chemical reactions in the kiln/clinkerization process.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

6.1.1 Project Formulation (see chapter 2)

Though an attempt has been made based on the recommendations of the previous 1988 evaluation report, the project document and aide-mémoire could be further improved by including additional information on the training objectives of each subject, covered under the programme. This would provide information on what the participants are expected to learn in each subject covered by the programme. This would help the participant to know what he can expect to gain, and, at the same time, the teaching staff will know what is expected of them. This would also facilitate end-programme and ex-post evaluation undertakings.

6.1.2 Evaluation Seminars (see chapter 3)

The evaluation seminar participatory approach was found to be very useful by the host training organization and by the UNIDO evaluator. The approach allows a diverse group of participants to get together in a relaxed atmosphere to thoroughly discuss past programmes, training results and possible improvements for future programmes.

6.1.3 Evaluation seminar results - general conclusions (see chapter 4)

This evaluation was able to confirm the conclusions of the previous evaluation report, which are repeated here:

- *Basic programme provided is excellent for engineers with two to four years practical cement plant experience. The programme is also suitable for supervisory personnel who have worked for many years in one cement production technology field and who are now being considered for promotion and increased responsibility, which requires a good overview of cement plant operations.*
- *The more engineers trained in each plant the better so as to ensure that there is a cadre of like minded staff with the right attitude, knowledge and skills to undertake actions required to improve plant efficiency.*
- *A mixed composition of participants proved to be beneficial for this introductory programme. Questions and discussion amongst participants with different practical experience and fields of specialization proved to be very educational and broadening for all concerned.*

In fact, the course's main benefit was that it gave each participant a very good overview of the various technological aspects of cement production. This gave the participants the confidence to tackle multi-disciplinary problems in cooperation with their colleagues from other departments and sections.
- *The participants were able to benefit in all areas covered by the training programme. Maximum benefit was achieved in subject areas where the participant had no previous formal training and/or little practical experience.*
- *Contacts made and informal discussions held with the participants were very rewarding. Many technical problems were solved in this way.*
- *The Turkey cement programme is very important since many plants do not have the foreign exchange to send their staff abroad for training and equivalent training*

opportunities are not available locally.

- *Course hand-outs and reference materials were universally considered to be extremely useful for training colleagues in the plant, and to plan and organize work, solve operational problems and to provide guidance when taking on new responsibilities.*
- *Generally, the participants wanted more case studies to practice decision-making on practical problems."*

Evaluation seminar participant profile

All evaluation seminar participants are still active in cement production. All participants wanted to further improve their job skills, to help their professional development and to learn from each other (see chapter 4.1).

Personal impact of training

Eight of the eleven evaluation seminar participants were promoted and most felt better equipped to do their work. Most (92%) were able to introduce new technologies and techniques at their place of work (see chapter 4.1).

Transfer of skills and knowledge

All participants were able to pass on their experience and knowledge (see chapter 4.1).

6.1.4 Evaluation of past training programmes (see chapter 4)

All participants concluded that the training programme they had attended was relevant and useful. On a scale of 1 to 10, the participants rated the effectiveness of the training programme as follows: two participants (17%) rated the training programme at 9; 66% rated the programme at 8 and 7; and another two (17%) rated the programme at 6. Reasons for lower ratings include:

- (a) Some recommendations difficult to apply, some subjects not fully covered, plant visit insufficient
- (b) Topics concentrated more on production/mechanical issues, explanation provided during plant visits are repetitive
- (c) Topics not dealt with in detail, course content not fully compatible to different levels of participants

The first two reflect the need to improve the plant visit programme. The last point reflects the dissatisfaction of some participants with the broad coverage of the programme.

Application of knowledge and skills

The findings concerning the application of skills and knowledge are very impressive. However, it is worthwhile to list difficulties encountered:

- Problems of confidence building;
- Convincing plant management to modernize;
- Response of supervisors not adequate;
- Financial difficulties;
- Resistance to change;
- Lack of skilled personnel.

Transfer of skills and knowledge

The participants highlighted the following changes in capabilities, which have facilitated the transfer of skills and knowledge obtained from the training programme:

- Greater confidence;
- Increased managerial capabilities;
- Better communication with colleagues from other departments
- Capability to plan;
- Widened knowledge in other disciplines, i.e. maintenance, energy saving, ability to assess production problems.

Follow-up

All participants made a strong case for advanced follow-up training. The following provides a list of additional training requirements:

- Kiln alignment/kiln feed system;
- Pollution control;
- Energy conservation;
- Modern maintenance system;
- Advanced management.

6.2 Recommendations

6.2.1 Project Formulation (see chapter 2)

The project design could be further refined to reflect a more specific project objective and outputs as outlined in the above referenced chapter and accordingly the aide-mémoire should also be redesigned. Additionally, the aide-mémoire should reflect and adequately explain the training objective of each subject covered by the programme (see annex 2).

6.2.2 Evaluation seminar

Evaluation seminars should be conducted for all repetitive UNIDO group training programmes every five years as a complement to in-depth evaluations, which are also undertaken every five years.

6.2.3 Evaluation seminar results

There is a need to improve the training content of cement plant visits. Advance briefing notes on the plants should be provided well before the visit. To make every effort the interpreters have knowledge of cement industry terminology. Need to develop case studies which link the lectures with the plant visit.

6.2.4 Further training requirements

To develop advance training programmes to cover subjects listed under 'Follow-up', in cooperation with the Turkish Cement Manufacturers Association.

CHAPTER '2. PROJECT FORMULATION' FROM REPORT OF PREVIOUS EVALUATION (ODG/R.4)

Before discussing how the evaluation seminar was implemented and the results achieved, it is necessary at this point to discuss the problem of the inadequate project design of the "In-plant Group Training Programme in the Field of Cement Industry, Turkey".

The present design makes it very difficult to assess project performance against planned objectives and outputs since they were incorrectly or hardly specified.

As an example, the 1987 project document will be used to discuss existing project design problems.

The immediate objective is presently formulated as follows: "- to better understand and master the whole production of cement from the analysis and selection of raw materials, technologies used in production and processes, quality control, maintenance and energy saving till the end-products; - to promote co-operation and exchange of experience between developing countries in the field of cement industry".

Comment: Although this statement of objective gives the reader an idea of why the course is being given and in what subjects a better understanding and mastery will be provided, a more correct statement should provide information on the change expected through the application by the participants of their newly acquired or strengthened knowledge and skills after their return to their home country or place of work.

An improved statement could read as follows:

Project objective

The application of skills and knowledge obtained by the participants during this course in the field of cement industry technology will lead to improved operational results at the cement plants from which the participants came. The nature and amount of improvements realized will very much depend on local conditions, the number of persons trained in any one plant and the area and level of responsibility each participant has or will achieve upon his return.

Measurable plant level improvements are expected in any one or several of the following areas: machine set-up and operations; preventive maintenance and repair; stock and inventory control; raw material exploitation, storage, handling, utilization and processing; quality systems; energy conservation; anti-pollution practices; and safety practices.

With the above objective statement plant level improvements achieved by the participants can be assessed against a much clearer set of expectations.

At the project output statement level the existing project design provides us with the following statement:

Outputs

"- thirteen trained middle and high level supervisors/technical personnel will have knowledge and skills upgraded for developing the cement industry in the developing countries".

This statement does not, as it should, provide us with a clear idea of what additional capabilities the participants will have in terms of additional knowledge and skills at the end of the programme.

A more specific and verifiable statement could read:

Project output

Thirteen cement plant engineers with two to four years in-plant experience with a thorough overview and exposure to all major aspects of cement production technology.

In each of the subjects covered by the programme the participants will be able to demonstrate a basic understanding of the subject's theoretical background; will be able to explain the advantages and suitability of different technologies and techniques currently in use; will be able to locate and analyze plant production problems and select the most appropriate methods to solve them; will be able to provide basic cost-benefit justification for improvements suggested; and fully participate in implementing the suggestions made for improvement.

The following subjects will be covered:

1. Industrial feasibility studies
2. Raw materials
3. Size reduction
4. Stock piling and blending beds
5. Raw meat grinding
6. Homogenizing silos
7. Suspension preheaters
8. Cement chemistry
9. Coolers
10. Cement grinding
11. Dedusting systems
12. Conveying systems
13. Quality control
14. Process control and automation
15. Maintenance
16. Spare parts and stock control

During the evaluation seminar participant Mr. Jorge Lemcke from Guatemala provided a very useful description of what each of the subjects covered by the course should provide in terms of new knowledge and skill capabilities. Similar course subject descriptions should be attached to all group training programme project documents as an annex and should be fully incorporated into aide-mémoires sent to the beneficiary country. See annex I for draft description of course subjects.

Improved project design and a full description of the courses offered as suggested above would place beneficiary management staff and interested cement engineers in a much better position to determine whether the programme offer will meet their training requirements or not.

The improved design would greatly facilitate end-programme and ex-post evaluations since expected programme results have been defined in a way which provides the host training organization, the participants and evaluators a reference against which an assessment of results achieved can be made.

Draft description of course subjects

1. Industrial feasibility studies

The participant will be able to interpret simple economic analyses of cement production projects and estimate the cost-benefit for various investment alternatives. He will have learned how to calculate the pay-back period of the investment. He will be conversant with the net present value of money methods and other time value of money concepts.

2. Raw materials

The participant will be able to display knowledge of the different kinds of raw materials for cement production and their properties. He will know the chemical and mineralogical influences in different stages of the production process.

The participant will understand the importance of minor elements, their effect on the burning process and their behaviour in cement application.

3. Size reduction

The participant will understand the different theories of reduction of mineral materials and the importance of energy consumption during crushing and grinding of raw meal and cement.

The participant will have a working knowledge of the different types of control for granulometry or fineness, and how to compare different samples of ground or crushed materials.

4. Stock piling and blending beds

The participant will be able to distinguish between the different systems and the advantages of pre-homogenization of raw materials, prior to the grinding process.

5. Raw meal grinding

The participant will have a working knowledge of grinding technology in ball and roller mills. Different aspects regarding the advantages and limitations of each kind of mill will be known.

This will include an ability to select different types of process for raw meal grinding and appreciate their effect on energy consumption. The advantage and disadvantage of different type of classifiers in the market will be known.

6. Homogenizing silos

The participant will know how to measure the efficiency of homogenizing silos and will have a good understanding of the damping effect on the variations of the raw meal produced by the raw mill.

The problems in the kiln operation caused by variations in the kiln feed will be clearly understood as a problem of bad homogenizing.

7. Suspension preheaters

The participant will be able to display knowledge of the advantage of suspension preheater over long kiln or lepol systems as well as the problems and sensitivity to volatile elements in the raw meal (alkalies, chlorides and sulfur compounds).

The participant will be conversant with the problems in the operation of kilns with suspension preheaters. Through discussion of different alternatives to solve them the participant will be able to evaluate his own plant's problems and recommend correct process procedures.

8. Cement chemistry

A good understanding of the different reactions during the formation of clinker as well as the reactions during the hydration of the cement with water and gypsum will be given. The participant will have a thorough knowledge of the parameters of the final product and their problems during application and end-use.

The participant will be knowledgeable of energy consumption control and its relation to the efficiency of the chemical reactions during the clinker formation. Participant will be able to conduct analyses of total thermal energy required for a cement plant.

9. Coolers

The participant will be conversant with the different types of clinker coolers in the market and their advantages among them. The participant will understand the importance of the speed of cooling of clinker to avoid the formation of crystals deleterious for the stability of cement during its setting.

The participant will also have an appreciation of the maintenance and operational problems of each kind of cooler.

10. Cement grinding

The participant will have knowledge about the importance of proper grinding for quality cement. He will be able to identify different points of control and make adjustments based on control data feedback. He will be able to sample a mill, evaluate it and to make recommendations on how to improve it.

The participant will be able to demonstrate an appreciation of the effect of different ball charges, mill ventilation and separator efficiency for grinding. The participant will have a working knowledge of how to plan and carry out efficient grinding operations.

11. Dedusting systems

The participant will appreciate the general principles of different systems for air pollution control. The participant will understand main differences and advantages of the most common system.

12. Conveying systems

The participant will have a working knowledge of the different types of mechanical devices for transportation. He will be able to select the correct equipment required for different minerals based on mineral size, moisture and physical properties and determine the best solution to transport minerals in the different steps of the cement production process.

13. Quality control

After covering this section, the participant will know how to interpret correctly any analysis of samples taken from different parts of the process. From the information of the sample, he will be able to foresee any potential problem for further steps in the process.

The participant will be fully aware of the importance of quality control and all the procedures involved in quality control. He should be able to evaluate and perform changes in the process to correct any deviation from the required quality.

14. Process control and automation

The participant will be familiar with the principles of different kinds of instruments used in a cement plant for process control. He will have knowledge of the most important features of thermocouples or thermopairs for temperature monitoring inside the equipment and different types of pressure transmitters for measurement of degree of draft or vacuum in kilns and or mills; also the types of instruments for gas analysis for control of the combustion in the kiln or boilers.

The participant will know the advantages and disadvantages of process automation.

15. Maintenance

The participant will understand the maintenance principles of kiln, mill, bag filter and other main equipments. He will be aware of the critical points of mechanical and electrical equipment.

The importance of preventive maintenance will be understood. Different techniques for machinery evaluation will be known.

Working knowledge of the effect of the quality of the kiln shell on the refractory life and how to avoid and/or correct this problem will be provided.

16. Spare parts and stock control

Participant will have an overview of different methods to determine the best economic size of a production run and the stock required to quickly and efficiently fill orders. A better understanding of modern spare parts and stock control concepts and practices will have been given.



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

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FOLLOW-UP EVALUATION OF UNIDO IN-PLANT GROUP TRAINING PROGRAMMES

A. Background:

1. Name:
2. Home country:
3. Mailing address:
4. Programme: Follow-up seminar in the cement industry, 1993
(Period covered 1986-1990)
5. Host Training Institution and country: Cement Research and Development Centre, Ankara, Turkey

(Please read carefully the whole questionnaire before you start providing your answers and comments).

B. Present employment:

6. Are you employed with the same company (agency, institution etc.) as during the time you participated in the training programme?

Yes No

If no: Where are you at present employed?

Same field but different company (agency, institution)

Different field (please specify)

Please state reason for changing company (agency, institution or field)

7. Have you been promoted since your return to your home country /holding a more important position?

Yes No

8. What is your present position? Please be as specific as possible.

9. Why did you attend this course? (check main reasons)

- To improve job skills required for my job.
- To learn new skills that would help me in my professional development.
- To learn about the experience of other countries
- Other reasons, please explain:

C. Impact of training programme on yourself and on company (agency, institution):

10. What do you consider as the effect of the training programme on yourself (mark all that apply):

- more experience in own field
- more self-confidence in own work
- learned new skill, new field
- moved to higher position
- received higher salary
- more prestige
- no change
- negative impact (please explain)

11. In which way did you make use of the experience gained through the training programme (mark all that apply):

- better equipped for my own work
- in a better position to advise others
- able to introduce new techniques, processes, systems in my company (agency, institution)
- other (please specify)

12. After you returned from your training programme were you in a position to make use of your newly acquired knowledge and experience immediately?

Yes No

If no, how much time elapsed before you were able to make use of your newly acquired knowledge and experience?.....months.

13. Could you pass on your experience/knowledge through lectures, reports or meetings within your company (agency, institution)?

Yes No

14. Have you been engaged in teaching or training other persons in the company (agency, institution) in the field of your study?

Yes No

If yes, please indicate:

- approximate number of persons trained:

- average length of training period:

15. If you have introduced new techniques, processes, systems, what are the benefits?

increase of quality (of products/services)

increase of quantity (of products/services and/or output)

reduction of cost

other, please specify:

16. Were there any difficulties that prevented you from introducing new techniques, processes, systems involved within your company?

Yes No

- a) If yes, what were the difficulties? (mark all that apply):

Need of certain additional skills and knowledge which you could not get through the UNIDO training in Turkey

lack of trained personnel

lack of adequate training materials

lack of machinery, equipment

resistance to change within company (agency, institution)

lack of funds

Other, please specify:

b) If not, why?

Need to acquire additional skills and knowledge

Lack of trained personnel

Lack of adequate training materials

Lack of machinery, equipment

Lack of funds

Resistance to change within the company(agency, institution)

Other, please specify:

D. Impact outside of your own company(agency, institution):

17. Could you pass on your experience/knowledge through lectures, reports of participation in conferences?

Yes No

18. Have you been engaged in teaching or training other persons in the field of your study?

Yes No

If yes, please indicate:

- approximate number of persons trained:

- average length of training period:

19. Could you advise other companies, agencies, institutions in the field of your study?

Yes No

E. Evaluation of training programme:

20. In retrospect, did the training programme meet your expectations?

Fully Partly Not at all

If partly or no, what are the reasons?

21. Do you consider the length of the training period was;

Too short Adequate Too long

a) If too short or too long, what in your opinion would be the suitable length of training?

Please indicate the number of weeks:.....

b) Please comment why:

22. Was the training too practically oriented?

Yes No Just right

Did the practical training fulfil your expectations?

Please comment:

23. Was the training too theoretically oriented?

Yes No

Why, please comment:

24. Was the methodology of the theoretical training satisfactory?

Yes No

Please comment:

25. Did you find the study visits beneficial and adequate?

Yes No

Please comment why:

26. Do you think that the training should be more specialized and that the second part should be organized to meet the specific training needs of sub-groups?

Yes No

Please comment:

27. What was the technical level of the training as far as your training needs were concerned and in meeting those training needs?

Too high High About right
(very good) (good)

Low Too low

Why, please comment:

28. a) Did the services such as transportation and facilities such as board and lodging provided by the organisers:

presented serious problems

did not present serious problems

presented a few problems

no problems encountered

b) Please comment on problems, if any, concerning services and facilities and provide suggestions for improvements:

29. In order to enable you to review the course/training and to train your colleagues, do you think that additional UNIDO training/reference materials should be given to supplement the course outlines, charts and the text and to reflect the lectures and professional discussion of the actual training instead of the training materials provided at the beginning of the course?

Yes No

Please comment:

30. The training materials used during the programme were:

Excellent good average more training materials required

Please explain why:

31. What is your opinion about the audio-visual aids used during the training such as video, overhead projector, charts, use of blackboard, etc., please comment:

32. Concerning the training staff:

a) Do you consider the trainers professionally qualified in the respective technical fields?

Yes No

Please explain:

b) Were the training staff adequately skilled in training methods and techniques?

Yes No

c) Did the trainers have problems with the language of training?

Yes No

d) Comment on training staff improvements required, if you feel this is important for improvement of future programmes:

33. On the basis of the subjects covered by the programme you participated in, please mark to what extent were they useful for your work:

<u>Subject</u>	<u>To a great extent</u>	<u>To a sufficient extent</u>	<u>Very little</u>
- Industrial feasibility study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Raw material	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Size reduction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Stock-piling and blending beds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Raw meal grinding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Homogenizing silos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Suspension preheaters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-Cement chemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Coolers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Cement grinding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Dedusting systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Conveying systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Quality control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Process control and automation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Spare parts and stock control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Concrete technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Economical aspects of plant operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Energy conservation measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Environmental+pollution control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Management+marketing aspects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F. Applicability of programme

34. What were the technical problems you were facing before the training? Have you been able to find any solutions to any of the problems? What was your best achievement? Please comment:

35. Did the economic conditions or the situation in your country/company allow you to apply or use the skills and knowledge required to solve the above problems?

No problem A few problems Many problems

No application possible

If important, how should the course be changed to match the conditions in your country? Please explain:

36. In terms of what you intended to do after the end of the training programme how would you evaluate your accomplishments within your field of study?

could accomplish nothing or only very little

could accomplish a considerable part

could accomplish nearly everything

If you checked "nothing or very little" or "a considerable part", what do you believe are the most important reasons that you could not accomplish nearly everything you intended to do?

G. Follow-up:

37. Is follow-up desired to strengthen your capabilities?

Yes No

If yes, what kind of follow-up?

- Consultancy advice/expertise and training at your workplace by UNIDO experts
- A follow-up training programme to update your training needs. If yes, please indicate specific area of interest

Please mark duration: ¹ week ² weeks ³ weeks ⁴ weeks

Provision of additional manual/guidelines, training and demonstration equipment

Other:

Please explain:

38. What should be the qualifications (professional and educational) of future participants in order to fully benefit from the training programme?

a) Academic qualifications in:

- | | | |
|-----------------------------------|------------------------------|-----------------------------|
| 1. Chemical engineers | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Mechanical engineers | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Electrical and instrumentation | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Others, please specify: | | |

b) Years of professional experience:

2 to 5 years 6 or more

c) Was the professional and educational background too mixed, what problem did it create, if any?

39. Would you recommend this training programme to staff responsible:

1. For supervisory personnel:

Yes No

2. For engineering personnel actively engaged in specific production activities

Yes No

Please comment:

40. Do you recommend a more specialized programme?

Please specify:

a) specialization:

b) suggested duration:

41. A rough estimate of the number of people in your country who could benefit from this training programme totals:

A. Please list number of personnel in your company/plant:

Number

- a) Engineers
- b) Senior technicians
- c) Technicians/operators
- d) Workers

B. How many of the engineers require training to update their skills and knowledge and in which fields:

42. Do you suggest introducing new subjects into the programme?

Yes No

Please specify:

43. After how many years do you recommend a follow-up to assess the impact of skills and knowledge acquired during the training?

a) Within one year

b) 1 to 2 years

c) 2 to 4 years

d) 5 years

Why:

44. Do you think that a technical report of a case study as well as an overall assessment report on the application of the acquired technical knowledge should be submitted to UNIDO within six months after the completion of the programme?

Yes No

45. Do you have any suggestions for making the programme more effective?

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Project Document Transmittal sheet

Number: XP/UT /INT /93 / ...

Country: Interregional

Title: Follow-up and evaluation seminar for former participants
of cement programmes in Turkey
Ankara, Turkey, 25 October - 10 November 1993

Total UNIDO budget: 36,928
(excl. support costs): _____
(currency and amount)

Official Government request: Request of Turkish authorities on basis of
(type and origin of document) fax and letter Date: Fax 15/01/93
Letter 4/3/93

Endorsement by the UNDP Resident Representative: _____ Date:
(type of document)

Backstopping section/branch: IO/OS/IHRD (PE code: J 14203)

Submitted through: _____ Date:
Head/AREA/

Submitted by: _____ Date:
APC/AREA/

dr
Ph. de Moustier Date: 10.5.93
Backstopping Officer

Cleared by: *GR* Date: 10.5.1993
G. Rydeng
(Co-operating Officer, if applicable)

K.H. Ahmed *dr* Date: 10.5.93
Head, Backstopping, Branch/Section

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Project Document

Number: XP/UT/INT/93/...

Country: Interregional

Title: Follow-up and Evaluation Seminar for Former Participants
of cement programmes in Turkey
Ankara, Turkey, 25 October to 10 November 1993

Total UNIDO budget: US\$ 36.928
(excl. support costs): (currency and amount)

Estimated starting date: July 1993

Planned duration: 5 months

Project site: Cement Research and Development Centre
Ankara, Turkey

Government Implementing Agency: Turkish Cement Manufacturers Association

Host Government/Counterpart Agency: Ministry of Industry and Trade,
Ankara, Turkey

Brief description

Seminar will be held for 10 former participants in cement programmes from the years between 1986 and 1990: they will update and enhance their knowledge and skills in the subject field; they will assist in revising and adapting existing curricula for future training programmes discussing with participants inclusion in the programmes of environmental aspects (clean cement technology)

I. BACKGROUND AND JUSTIFICATION

Since 1979, UNIDO has organized in co-operation with the Turkish Cement Manufacturers Association in Turkey at the Cement Research and Development Center regularly in-plant group training programmes in the field of cement industry. The financing of these training programmes was always obtained through the voluntary contribution of the Government of Turkey to the IDF.

The programme was designed for senior engineers and managers from developing countries with the aim of upgrading participants' knowledge and problem-solving skills through intensive theoretical and practical training related to cement industry, which is necessary to enhance technical level of production and market acceptance.

In addition to the group training programmes, a study tour in the field of cement industry for decision and policy making officials from English-speaking developing countries was annually carried out.

The study tour aimed at promoting technical cooperation among developing countries in the field of cement and related industries by bringing together 10 high level decision and policy making officials from developing countries which already have a cement industry or have definite plans to establish a cement industry to exchange views and jointly develop a concrete programme of co-operation in this field in co-operation with Turkey. Emphasis was given to the developments and strengthening of this sector particularly in the least developed countries.

Already a follow-up and evaluation seminar for former participants in the field of cement industry was held in 1988; this seminar confirmed that there was a continuous need for organizing group training programmes in the cement industry. This evaluation seminar has provided the organizers a clear picture of the impact of previous programmes both on the former trainees and on their factories. Such courses have increased the confidence of trainees in doing their job and many have even been promoted and given more responsibility.

At the same time, an evaluation mission to selected former participating countries in Africa has also proved that the group training programmes organized by UNIDO in collaboration with the Turkish authorities have been very beneficial for the trainees and their factories.

A follow-up and evaluation seminar will be organized for the second time for former participants of programmes conducted from 1986 to 1990 with a view to assess the impact of the previous programmes and to re-design future programmes based on the findings of the seminar and on participants' present and future needs in the field of cement industry. Special emphasis will also be given to environmental issue and pollution control (clean cement technology and digestion of waste in the cement industry process) in order to reorient new cement programmes in this direction. Time will also be devoted to the presentation of case studies by participants.

Host Institution

The Cement Research and Development Centre (CRDC), which is organizing the programme on behalf of the Cement Manufacturers' Association and the Government of Turkey, was established under UNIDO technical assistance. Therefore, this is a good example of using such an institution under the Centres of Excellence Programme to retransfer UNIDO's technical assistance

to other developing countries with multiplier effect. The training facilities of CRDC were assessed by UNIDO staff and three UNIDO industrial training experts on different occasions.

In addition, the center was visited in 1992 by an assessment mission aiming at strengthening training capability of the institution (advanced training methods and techniques, training material development) and a separate project was developed with training of trainers and purchase of supplementary equipment.

A project is already submitted in view of strengthening training capacities and capabilities of the training institutions in Turkey for the benefit of developing countries; the project is also including the CRDC which will receive technical assistance including equipment. The results of this project will be taken into consideration when revising future programme in the field of cement industry.

Special considerations: technical and economic cooperation among developing countries will be further strengthened with these project activities. Its follow-up will increase the cooperation between Turkey and home countries of participants.

Profile of Candidates

10 former participants from 1986 to 1990 (list attached) will be selected by UNIDO in cooperation with the host institute. Preference will be given to those who have assumed new responsibilities at supervisory level.

II. THE PROJECT

Objective

- i) Enable UNIDO and the Cement Research and Development Centre to redesign their group training programmes in the field of cement industry based on feed-back and lessons learned from case studies prepared by the participants.
- ii) Enable UNIDO to up-date the knowledge of the participants by providing them with information on recent developments in the above field (refresher aspects especially in the field of cleaner production and environment protection; new problems encountered by participants will also be the subject of discussions with the Institute).

Outputs

- 1) 10 engineers in cement industry with up-dated knowledge of the latest developments in the cement industry will improve their activities in this particular sector (environmental protection and cleaner production).

11) A project report which contains the following sections:

a) Introduction

- Background of case study evaluation exercise
- Purpose of case study/evaluation exercise

b) Implementation of case study exercise

- Description and discussion of the case study outline sent to each participant
- Response from participants and adequacy of case studies prepared
- Short narrative of case study presentation and formulation of recommendations proceedings

c) Findings - discussion and analysis of case study findings

d) Recommendations for future programmes redesigning and adapting the curriculum in accordance with the knowledge and insight gained in the course of the seminar for use in future programmes with environmental aspects.

Activities in preparation for the seminar

UNIDO will contact former participants by letter requesting them to prepare and send to UNIDO case studies concerning improvements made on basis of their previous attendance as well as on the changes introduced in their company/factory as a result and, generally, on how they are utilized the knowledge and experience gained from the training received. For this purpose, invited former participants will receive a detailed outline of the case study to be prepared by the CRCDD and UNIDO. This will be done as soon as project is approved.

On the basis of the case studies received, UNIDO, in co-operation with the organizers will select participants for this seminar. The selected participants will be requested to make case presentations placing emphasis on their personal professional experience following their attendance of the programme. This selection will take place mid of September.

An outline of the tentative programme of activities may be found herewith. UNIDO's substantive inputs will be determined in details when finalizing the programme. It provides for realisation of scientific programme by the Association of Turkish Cement Manufacturers which will be followed by an evaluation and closing ceremony by UNIDO.

The seminar

Duration: 17 days

Dates: 20 October - 10 November 1993

Place: Cement Research and Development Center - Ankara

Countries invited: see list of former participants by programme

Workshop programme: see annex

UNIDO's substantive officer will present a paper and lecture on cleaner production technology as well as other substantive inputs to reach objective (cc). Details will be determined later.

Post seminar activities

- Finalization of report and of new curriculum for futur programmes and its follow-up
- Formulation of the outputs of this project as required to assist activities for project on strengthening the CRDC.

Project workplan

May 1993	Invitation letter including outline for the preparation of case studies to be mailed to former participants by UNIDO
August 1993	Review of case presentations received
September 1993	Selection of participants with the host institute
28 October 1993	Start of seminar

Project inputs

a) Host authorities will provide in kind

Logistical support, training staff and provision of training facilities.

b) UNIDO inputs

UNIDO, partly through a special purpose contribution of the government of Turkey to IDF and partly through other sources will provide the financing of the project (budget estimates attached).

- . UNIDO staff members mission for end-term evaluation and lecture
- . International travel for 10 participants
- . Ad-hoc subsistence allowance for the duration of the programme including travel days
- . Lecturers, instructors
- . Organizational costs - medical insurance
- . Visit to Vienna of host authority representatives for selection of participants and final arrangements

UNIDO will also provide the necessary logistical support for the co-ordination of the project activities, i.e. recruitment and selection of participants, organization, monitoring and evaluation of the programme and follow-up activities.

III. REPORTING AND EVALUATION REQUIREMENTS, EXPECTED FOLLOW-UP

The evaluation consists of initial separate discussions with participants and host authorities. A joint evaluation session is to take place with the participation of participants, the UNIDO staff member and the host authorities including the training management. The staff member's observations, as a result of the participation in study visits or round table discussions and presentation of reports by the participants, will also be incorporated in the evaluation.

Follow-up and evaluation seminar for former participants of cement programmes
25 October to 10 November 1993
Ankara, Turkey

	Turkish Lira	US\$
16-00 UNDO s/m mission for end of programme evaluation and lectures (2 UNDO s/m)		
a) travel Vie-Ank-Vie	10,920,000	1,200
b) DSA 4 days	1,016,000	882 5/
c) Terminals		216
34-00 International travel of participants	145,491,700	4,144
Ad-hoc subsistence allowance (10px17daysx400,000TL)	68,000,000 1/	
Emergency winter clothing		
Organizational costs including Internal travel	40,000,000	
Training, reference material	10,000,000	
Lecturers, group leaders, instructors	25,000,000	
Medical insurance		300
51-00 Visit to Vienna of 2 programme officials (1 programme official and 1 official from coordinator ministry)		
a) travel Ank-Vie-Ank (one official)	12,000,000	
b) DSA 2 officials (2x4daysx198\$)		1,584 4/
Miscellaneous		200
	312,427,700 2/	8,526
Non-convertible currency: TL 312,427,700	28,402 US\$ 3/	
Convertible currency:	<u>8,526 US\$</u>	
	36,928 US\$	
+ 132	<u>3,692 US\$</u>	
	40,620 US\$	

1/ Of the above amount of DSA 20% will be paid to participants for out of pocket expenses and 10% for dinner

2/ Confirmed amount by Turkish authorities for 1993

3/ At the UN exchange rate of TL 11,000 to 1 US\$ for July 1993

4/ At the daily rate of US\$ 198 for Vienna

5/ On an exceptional basis part of the DSA will be paid in convertible currency due to limited available non-convertible (TL) funds



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

VIENNA INTERNATIONAL CENTRE

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May 1993

AIDE MEMOIRE

Follow-up and Evaluation Seminar in the Cement Industry

Organized by the United Nations Industrial Development Organization in co-operation with the Government of Turkey

to be held in Ankara, Turkey
from 25 October to 10 November 1993

Background and Objectives

Since 1979, UNIDO has organized in co-operation with the Turkish Cement Manufacturers Association in Turkey at the Cement Research and Development Center regularly in-plant group training programmes in the field of cement industry. The financing of these training programmes was always obtained through the voluntary contribution of the Government of Turkey to the IDF.

The programme was designed for engineers from developing countries with the aim of upgrading participants' knowledge and problem-solving skills through intensive theoretical and practical training related to cement industry, which is necessary to enhance technical level of production and market acceptance.

In addition to the group training programmes, a study tour in the field of cement industry for decision and policy making officials from English-speaking developing countries was annually carried out.

The study tour aimed at promoting technical cooperation among developing countries in the field of cement and related industries by bringing together 10 high level decision and policy making officials from developing countries which already have a cement industry or have definite plans to establish a cement industry to exchange views and jointly develop a concrete programme of co-operation in this field in co-operation with Turkey. Emphasis was given to the developments and strengthening of this sector particularly in the least developed countries.

Already a follow-up and evaluation seminar for former participants in the field of cement industry was held in 1988; this seminar confirmed that there was a continuous need for organizing group training programmes in the cement industry. This evaluation seminar has provided the organizers a clear picture of the impact of previous programmes both on the former trainees and on their factories. Such courses have increased the confidence of trainees in doing their job and many have even been promoted and given more responsibility.

At the same time, an evaluation mission to selected former participating countries in Africa has also proved that the group training programmes organized by UNIDO in collaboration with the Turkish authorities have been very beneficial for the trainees and their factories.

A follow-up and evaluation seminar will be organized for the second time for former participants of programmes conducted from 1986 to 1990 with a view to assess the impact of the previous programmes and to re-design future programmes based on the findings of the seminar and on participants' present and future needs in the field of cement industry. Special emphasis will also be given to environmental issue and pollution control (clean cement technology and digestion of waste in the cement industry process) in order to reorient new cement programmes in this direction. Time will also be devoted to the presentation of case studies by participants.

Host Institution

The Cement Research and Development Centre (CRDC), which is organizing the programme on behalf of the Cement Manufacturers' Association and the Government of Turkey, was established under UNIDO technical assistance. Therefore, this is a good example of using such an institution under the Centres of Excellence Programme to retransfer UNIDO's technical assistance to other developing countries which multiplier effect. The training facilities of CRDC were assessed by UNIDO staff and three UNIDO industrial training experts on different occasions.

In addition, the center was visited in 1992 by Mr. Myring's assessment mission and a separate project might be developed with training of trainers and purchase of supplementary equipment for the institute.

Tentative Training Programme

The tentative programme of the seminar is attached as annex I. The 1993 follow-up seminar will be conducted in English.

Date and Place

The programme will begin on 25 October and last until 10 November 1993. Lectures and discussions will be conducted at the Cement Research and Development Centre (CRDC) located near Ankara, while study visits and group training will be conducted at selected cement plants in various parts of Turkey.

Profile of Candidates

10 former participants from 1986 to 1990 will be selected by UNIDO in cooperation with the host institute. Participant(s) who qualify for this follow-up seminar are listed on the annex to the invitation letter.

Language requirements

Since the programme will be conducted in English, candidates should have a good working knowledge of English. Applicants from non-English speaking countries or whose academic studies were not in English, will have to submit - together with the fellowship nomination form - a satisfactory language certificate before being considered eligible for a fellowship.

Deadline

The deadline for the submission of nomination forms of candidates will be the 27 August 1993.

Case Presentation (Individual Report)/Questionnaire

Former participants interested in attending the follow-up and evaluation seminar are requested to prepare and send to UNIDO a case study reflecting the improvements made on basis of their previous attendance of the group training programme, the changes introduced in their company/factory as a result of their attendance and, in general the use made of the knowledge and experience gained from the preparation of the case presentation/individual report. Detailed guidelines on its preparation are attached.

The case presentations by participants will constitute an integral part of the seminar programme and shall center around the professional experience of participants following their previous attendance of the programmes in Ankara. Case studies will be presented by participants throughout the seminar and will be summed-up and evaluated in group discussions between lecturers, course management and participants.

It is also requested that former participants interested in attending the seminar submit to UNIDO nomination forms and complete the questionnaire attached to the aide-memoire.

It should be noted in this connection that selected participants will attend the seminar in their individual capacity and not as representatives of their respective countries or governments.

Candidates selected for participation are expected to arrive in Turkey on the date to be designed. They should attend the whole of the seminar according to the schedule prepared by the organizers and comply with the rules and regulations set forth.

Plant visits

There will be plant visits during the programme to selected cement and allied industries plants, where participants will be acquainted with the Turkish capacity.

Evaluation and Report Writing

At the end of the seminar, participants will discuss, together with the trainers, the insights gained during the seminar, make proposals on the re-design and adaptation of the curriculum in accordance with the knowledge gained in the course of the seminar for use in future programmes, and prepare a final report.

Financial and Administrative Arrangements

Financial and administrative arrangements for the fellowship holders will be made in accordance with the rules and regulations of UNIDO fellowships.

UNIDO, partly through a special purpose contribution of the Government of Turkey to the United Nations Industrial Development Fund, will provide:

- a) Round-trip air transportation for the most direct and economical route between the airport of departure in the home country and Istanbul. Travel will be arranged through Turkish Airlines where applicable in accordance with the agreement reached between UNIDO and the Government of Turkey.
- b) Accommodation, breakfast and lunch
- c) An ad-hoc daily allowance in Turkish Lira as per approved UNIDO budget for dinner and out-of-pocket expenses will be paid in cash
- d) Cost for training staff and interpreters for in-plant training
- c) Cost for technical staff and class preparation
- d) Expenses related to local transportation and organization of the programme and
- e) Training material (books, hand-outs, etc.)

The Government of Turkey will provide

All training facilities and staff requirements for the implementation of the programme.

The participant's Government or his employer will be required to bear the following costs:

- a) All expenses in the home country incidental to travel abroad, including expenditure for passport, airport tax, visa, medical examinations, vaccinations and other such miscellaneous items as well as internal travel to and from the airport of departure in the participant's home country; and
- b) salary and other benefits for the participant during the period of the training programme.

Neither UNIDO nor the Government of Turkey will assume responsibility for the following expenditures in connection with the participants attendance of the programme:

- a) Costs incurred by the participants with respect to any insurance, medical bills and hospitalization fees ***;
- b) Compensation in the event of death, disability or illness of the participant;
- c) Loss of or damage to personal property of the participant
- d) Purchase of personal belongings and compensation for damage caused to them by climatic or other conditions.

*** It is strongly recommended to sign up for a health insurance scheme during the period of training either privately or collectively by participant's employer, as UNIDO has no such facilities.

The participants' attention is especially drawn to the following:

- a) Participants are strongly advised not to have members of their family accompany them since no accommodation for family members will be available. The sponsors of the training will not be liable for any expenses incurred by family members of dependents;
- b) Before departure for Turkey, participants should ensure that their passports are valid for travel to Turkey for the whole period of the training programme and should advise UNIDO and the UNDP office in Ankara for issuance of visa provided no Turkish consulate or Turkish Embassy is available in the home country and visa cannot be obtained from another designated country;
- c) Before submitting the application, each candidate should be fully aware of the content of the Aide-Memoire

d) In accordance with the provisions of the nomination forms, page 5, each participant should:

- conduct himself/herself at all times in a manner compatible with his/her status as holder of a UNIDO fellowship
- spend full time during the training programme in compliance with the instruction of UNIDO and his/her training supervisors
- refrain from engaging in political, commercial, or any activities other than those covered by his/her training programme as well as from making political statements in the mass media or otherwise
- submit reports in accordance with the arrangements made by UNIDO
- return to his/her home country upon completion of the training programme.

Follow-up and Evaluation Seminar
for Former Participants
25 October 1993-10 November 1993
Ankara-TURKEY
TENTATIVE PROGRAMME

25 October 1993

- 10.00-10.30 - Opening of the seminar
- 10.30-2.30 - General Information about Turkey
and Turkish Cement Industry
Objectives of the Seminar
- 12.30-13.30 - Lunch
- 13.30-16.30 - In service Training Activities
of TCMA

26 October 1993

- 9.30-12.30 - Briefing on the Activities
of CRDC with emphasis
on Relations with Cement Industry
- 12.30-13.30 - Lunch
- 13.30-16.30 - Case studies on the
Research Work Carried out
at CRDC
- 20.00 - Dinner to be hosted by President TCMA

27 October 1993

- 9.30-12.30 - Presentation of Case Studies by participants
- 12.30-13.30 - Lunch
- 13.30-16.30 - Presentation of Case Studies by participants

28 October 1993

- 9.30-12.30 - Environmental Protection and Auditing,
Pollution Control
- 12.30-13.30 - Lunch
- 13.30-16.30 - Technical visit

29 October 1993

- National Holiday

30 October 1993

- Full day city tour

31 October 1993

- Free

1 November 1993

- 9.30-12.30 - Evaluation Session
- 12.30-13.30 - Lunch
- 13.30-14.30 - Evaluation Session

2 November 1993

- 9.30-12.30 - Evaluation Session
- 12.30-13.30 - Lunch
- 13.30-14.30 - Evaluation Session

3 November 1993-8 November 1993

- Technical visits to cement plants
and related industries

9 November 1993

- 9.30-12.30 - Evaluation of the programme
- 12.30-13.30 - Lunch
- 13.30-16.30 - Discussion on matters relating
to the establishment of future
co-operation

10 November 1993

- 10.00 - Closing ceremony

GENERAL INFORMATION ON TURKEY

The Turkish History

The oldest homeland of the Turks is Central Asia. The Huns in 228 B.C. by bringing various tribes under one rule, founded the first Turkish State.

The history of the Oghuz tribes dates back to the reign of the empire of the Huns. The first Oghuz tribes expanded towards Khorasan in Persia and started infiltrating eastern Anatolia through the Van and Kars regions in 1018.

The Seljuks, originally a Turkish tribe, defeated the Byzantine army on the plains of Malazgirt (Manzikert), thus facilitated the Turkish expansion in Anatolia in 1071.

One of the chieftains Osman Bey and his sons founded a new state (Othoman) in 1299. With the integration of other Anatolian states to the Ottomans, the Turkish presence in Anatolia and in the Balkans was fortified during the reign of Sultan Beyazit.

With the fall of Istanbul into the hands of Turks in 1453 during the rule of Fatih Sultan Mehmet this new state became an empire. Under the reign of Kanuni Sultan Suleyman (The Magnificent), the Ottoman empire became a big political power, stretching from the Indian Ocean to the Atlantic, the Baltic Sea.

However, failing to keep pace with the European developments in the 17th century, the Ottoman empire began to recede. This recession continued until the division of the Ottoman territories in 1918 by Entente Powers at the end of World War I with the Treaty of Sevres.

In 1919 the Turkish nation started its War of Independence under the leadership of Mustafa Kemal Ataturk, the founder of the new Turkish Republic, which resulted in liberation of Anatolia and a certain portion of Thrace where it was densely inhabited by Turks.

The Turkish Grand National Assembly first met in Ankara on 23 April 1920, abolished the Ottoman Sultanate on 1 November 1922 within the principle of the indivisibility of the country and in line with the National Pact of 1920. The Turkish National Assembly under the leadership of Ataturk (Father of Turks) promulgated the republican regime for the administration of the country on 29 October 1923 and Ankara was declared the capital.

The establishment of a secular state instead of theocratic one, acceptance of the civil code instead of canonical laws, the recognition of women's rights to vote and to be elected, the dress reform, adoption of Latin alphabet instead of Arabic and application of modern principles in education are among Ataturk's reforms.

Geography

Turkey has a land mass of 780.576 sq. km 97% is in Asia (Anatolia) and 3% in Europe (Eastern Thrace). The European part of Turkey is separated from Anatolia by the Bosphorus, the Sea of Marmara and the Dardanelles. Anatolia is a high plateau covering the greater part of the Anatolian peninsula with mountains encircling this plateau and is broken by various rivers including Tigris and Euphrates. In the north, the eastern Black Sea mountains and in the south Taurus mountains sweep down to the narrow coastal plains.

Turkey enjoys a diversity of climates, changing from the temperate climate of the Black Sea region to the continental climate of the interior and to the Mediterranean climate of the Aegean and the Mediterranean coastal regions. The coastline of the four seas is more than 8.000 km in length.

Population

Turkey has a population of about 59.000.000. Out of this 50% live in the countryside. The population growth rate is 2.7% which is considered high. The GNP per capita is about US\$ 1.950. With their suburbs the major cities are Istanbul (6.600.000), Ankara (2.600.000), Izmir (1.800.000), Adana (900.000) and Bursa (900.000). These figures are based on the 1990 census.

Language

The Turkish language belongs to the Ural-Altai group and has an affinity to the Finno-Hungarian languages. In Turkey, Turkish is written with Latin characters. Turkish is spoken by some 150 million people in the world from the Balkans to Central Asia. There is a large number of people who speak either English or German.

Religion

With the exception of a very small minority of about 1% the Turkish population is Moslem.

Economy

Agriculture: this plays a very important role in Turkish economy. The main crops are wheat, cotton, tobacco and fruits and vegetables exported mainly to Europe and the Middle East. Sheep are Turkey's most important livestock, and Turkey is a major European wool producer. Turkey exports agricultural products, both raw and processed to Europe, Middle East and North Africa.

Natural resources: the principal minerals extracted are coal, chrome (an important export), iron, copper, bauxite, sulphur, oil.

Industry: in Turkey, industry is relatively developed and is self-sufficient in agro-industrial products, metallurgy, textiles, cement and building materials. There are four integrated iron and steel plants and a large number of mini steel plants which facilitates the production of heavy machinery, cars, agricultural machinery, vehicles and electrical goods, hydroelectric power stations, transport and communication network.

Tourism: tourism is one of the major sources of income of Turkey. In recent years, foreign investment companies started to build and operate touristic establishments.

	Share in GDP (%)	Share in Employment (%)
Agriculture	17	44
Industry	29	15
Services	54	41

Unemployment Rate 8%

Schooling Rates (%)

Junior Secondary	59
Higher Secondary	41
General	23
Vocational	18
Higher Education	16

Turkey has a very young population.

Monetary

The national monetary unit is the Turkish Lira (TL). The coinage is 100, 500, 1000, 2500 and 5000 lira units. Bank notes are in denominations of 5000, 10000, 20000, 50000, 100000 and 250000 lira. The exchange rates for foreign currencies are published daily.

There is no limit on the amount of foreign currency individuals are allowed to bring into Turkey.

The use of major international credit cards are common.

Political Structure

The political structure of the Turkish Republic is parliamentary democracy. The people exercise sovereignty through the Grand National Assembly, elected by universal suffrage. The executive power is exercised by the Prime Minister and the Council of Ministers. The President is the head of the state. Turkey is a member of the Black Sea Economic Community, NATO, OECD, the Conference of the Islamic Countries and the Council of Europe and is an associate member of the EC.

Visa Requirements

With some exceptions there is a visa requirement for entry to Turkey. UNIDO trainees are advised to consult the respective UNDP office.

FOLLOW-UP AND EVALUATION SEMINAR OF FORMER
GROUP TRAINING PROGRAMMES ORGANIZED IN THE FIELD
OF CEMENT INDUSTRY

QUESTIONNAIRE

1. Family name - first name - other names

2. Country of birth - date - nationality

3. Education - Profession

4. Date of IPGTP attended by the participant

<u>5. Experience</u>	<u>from/to</u>	<u>Employer</u>	<u>Job Description</u>
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Post held before IPGTP

Post after IPGTP

Guidelines for personal report

5. Has the actual technical functions of your company showed any improvement as a result of your attendance to IPGTP?

If so, in what ways?

If not, please state reasons.

6. Taking the time element and the practical benefits obtained from the training into consideration, how would you evaluate the same programme today? Please fill in the evaluation form attached.

7. Please state your suggestions for future IPGTP (theory-practice-technical visits-duration-etc.)

LIST OF PARTICIPANTS

Follow-up seminar in the cement industry
Ankara, Turkey, 25 October - 10 November 1993

- | | | |
|-----|------------|------------------------------------|
| 1. | BANGLADESH | Mr. Jahangir Kabir |
| 2. | GHANA | Mr. Borlu Godred |
| 3. | GUATEMALA | Mr. Garoz José Joaquin |
| 4. | INDONESIA | Mr. Razali Muchtar |
| 5. | JORDAN | Mr. Gammaz Ibrahim Awad |
| 6. | NIGERIA | Mr. Nyam-Adid Kankwe |
| 7. | PAKISTAN | Mr. Mashud Ul Hassan Syed |
| 8. | SUDAN | Mr. Magzoub Abdelwahab Abdelkhalig |
| 9. | UGANDA | Mr. Wogidoso Boniface |
| 10. | YEMEN | Mr. Karim Al-Saidi Ahmed |
| 11. | YEMEN | Mr. Salah Abdu Thabet |
| 12. | YEMEN | Mr. Hail Kadri |