

### 別添 3. アンケート調査回答集計

#### 1. 研修員による回答

##### I. PERSONAL DATA

(I) Name in full (year of participation in the Course)

- India (I)-

Mr. Sharma Ravindra (I82)  
Mr. Bhaskar Bhattacharjee (I85)  
Mr. Ashok KUMAR MEGHARAJ (I89)  
Mr. RAHUL GUHA (I91)  
Mr. D. L. R. PRASAD (I92)  
Mr. P. Kondaiah (I93)  
Mr. Jainendra Kumar Roy (I942)  
Mr. Jugal Kumar Borah (I96)

- Pakistan (P)-

Mr. Muhammad Tahzib Hassan Ansari (P87)  
Mr. Ghollam Raza (P90)  
Mr. Muhammad Ajmal Mir (P94)  
Mr. Ghulam Murtaza Zafar (P95)  
Mr. Mulkalapalli Vasanth Kumar (I941)  
Mr. Mian Farooq Iqbal (P96)

##### II. EVALUATION OF COAL MINE SAFETY TRAINING COURSE

(1) Ex-participant's evaluation of the course

1) Do you think the participation in the course has been useful to your carrier? P96

Curriculum: (I82, I91, I92, I93, I96) Very good  
(I89, I941, I942, P87, P94, P95, P96) Good  
(I85, P90) Fair ( ) Poor ( ) Very Poor

Course Management: (I82, I85, I89, I91, I93, I942, I96, P94, P96) Very good  
(I92, I941, P87, P95) Good (P90) Fair  
( ) Poor ( ) Very Poor

Contents: (I82, I85, P95, P96, ) Very good  
(I89, I91, I92, I93, I941, I942, I96, P87, P94) Good (P90) Fair  
( ) Poor ( ) Very Poor

Training Methodology: (I82, I85, I94, I942, I96, P96) Very good  
(I89, I91, I92, I941, P87, P95) Good  
(I93, P94) Fair (P90) Poor ( ) Very Poor

2) If "Fair", "Poor" and "Very poor", please explain briefly.

(I85) Course management like punctuality, itinerary, give course material etc.  
Contents - course content, places of visit, faculty interacted with,  
area / zone of training were very good.  
Training methodology - training methodology was then state of and to which we were  
exposed.

- (I93) Intensive training is required for long duration in the field to acquire good experience.  
Ex.: training at long-wall face for a week or so.  
practical experience in other field, work-shop like opencasts for 3 to 4 days.
- (P90) Practical training in mines was for a few hours. We could not see execution & mining methods used in mines.
- (P94) Curriculum and contents were mostly of theoretical type and were of very elementary level. Presentation could have been more lively if the use of audio video aid were used properly.

3) After the participation in the course, any personal promotion in your position?

(I82, I85, I89, I91, I92, I93, I941, I942, I96, P87, P90) Yes,

(P90, P95, P96) No

- Our system does not link promotion with short courses.(P90)
- The promotion is not on department level, it is promotion in self, I am feeling more confident in the performance of my duties both at office as well as field level.(P96)

If "Yes", how and when?

- (I82) In 1994 through recommendation of Department
- (I89) Selected in Directorate of Mines Safety on Seeing my background experience in world famous Kolor Gold fields and advanced training at JICA Japan.
- (I85) I was promoted from Deputy Director to Director of Mines Safety through improved knowledge and work I was promoted in 1995.
- (I91) Promoted as director on 30.9.97.
- (I92) In Nov. '93 in normal course being senior most in the organization no particular recognition due to attending the course.
- (I93) Dec. 94, superintendent of mines, Dec. 97. Dy. chief Mining Engineer by giving good production & productivity, managing the mine well.
- (I941) Promoted to the higher post during Dec. 94 & 97 with the knowledge gained during the training course, started with other co-engineers in the organization which in turn created awareness regarding safety.
- (I942) I was promoted from the post of Sr. Mining Engineer to that of Superintendent of Mines. (SOM)
- (I96) Promoted to Manager level as accident rate has reduced in 1997.
- (P87) I was promoted as Mine Manager, Training Mine, A.G.T.2 sponsored project of Labour Department in 1988. I served as Mine Manager up to 1991 and Organized Training Courses and workshops at the project.
- (P90) My performance was good and also I was senior and most to other Assistant Mining Engineers of the organization.

4) After the participation in, have you been trying to share the knowledge and techniques with other staff in your organization?

(I82, I89, I90, I92, I941, I942, I96, P87, P90, P94, P95, P96) Yes, (I93, P90) No

If "Yes", please give an example?

(I82) Through discussion with subordinate officers while dealing with cases.

(I89) Ways and standards of safety attained in Japan mines are narrated to achieve higher

standards of safety.

- (1942) To always promote the safety consciousness among workers      then the example how Japanese workers say 'GOANZEN' whenever they meet below ground.
- (191) Through one-to-one & to many discussions, talks, etc., introduced some experiments in line with NRIPR (Tsukuba) methods.
- (192) A detailed report on course attended is circulated in the organization.  
Held discussions number of times various selections of officers.
- (196) The ETA (Fault Tree Analysis) method of critically analyzing the accident records to reduce the total injury rate of the mine.
- (P87) I utilized the training in Japan in establishing ventilation lab. Hydrolic Lab and other training such like programmes at Training Mines / Training Centre, which is new run by Punjab Government.
- (P90) As in Pakistan facilities are not available. But I teach the labours about safety. So accidents in mines under my control are minimized.
- (P94) To limited extend I used to share my experiences in Japan specifically the things I watched in factories and in coal mine at Kushiro.
- (P95) I called various meetings of mine staff and conveyed them the knowledge I had received. I also showed then video cassette recorded from Thai Hio Coal Mining Company.
- (P96) The main object of our department is the promotion of Safety of Mines and creating occupational safety and health hazards awareness among the miners engaged in different Mining activities of the Province. The knowledge acquired from the GTC is effectively been shared with the work force, during the field visits and in the training courses organized by this depth for their benefit.

## (2) Technical improvement

1) Have your knowledge and techniques improved through the participation in the course?

(185, 189, 192, 1941, 1942, P87, P90, P95) Fairly, (182, 191, 193, 196, P94) Somewhat  
( ) No

2) If "Fairly" or "Somewhat", please give an example(s).

- (182) Technique improve through broadening of horizon.
- (189) Some of the safe methods of ventilation monitoring could be utilized in underground mines.
- (185) Development of approach towards safety research, computerization, enrichment of technical knowledge.
- (192) I was able to control noise pollution since awareness was taught accidents enquiries were done scientifically.
- (193) In solving ventilation problems.
- (1941) The knowledge gained will be more useful while planning & implementation of new projects.
- (1942) Central environmental monitoring system, wire communication system etc.
- (196) The effect of      ventilation on methane dilution.
- (P87) Solving ventilation problems establishing testing lab and Monitoring as Senior Research Officer in Khushab Laboratory.
- (P90) Safety consciousness in staff & Labours.
- (P94) Not specifically but the angle of looking toward a problem has widen a bit.
- (P95) We have learned the following new techniques and practical knowledge

- i. Propagation of flame in gas and coal dust explosion.
  - ii. Ventilation problems in artificial ducts.
  - iii. Preparation of CWM and COM fuels and their uses.
- (P96) The Mining is in primitive stage at our province, the advance safety practices learnt in GTC in Coal Mine Safety has greatly improved the over all skills of the applicant which is frequently being used during inspection of Coal Mines.

3) If you do not think so, what do you consider the reasons?

Difference between levels of training:

- too high,  too low
  - (I942) Language barrier
  - No interest in the training contents
  - (I89) Problems in method of instruction
  - (I93, P94) Other reasons
- Please specify.

(I93) Training shall be more practically oriented, more number of days, on the field. Long-wall face one week to 2 weeks. Opencast & workshops - one week to 10 days, etc.

(P94) I personally feel that the course duration was less. No specific topic was focused on rather it become a generalized course, which can not help to acquire practical knowledge in a specialized field like safety.

### (3) Applicability

1) Have the knowledge and techniques you acquired in the course been useful and applicable to your current work? Please choose one.

- (I85, P96) Fully, (P87, I96) Mostly, (I89, I 91, I941, P90) Partly,
- (I82, I92, I93, I942, P94, P95 ) Slightly,
- Not at all

2) If "Fully", "Mostly" and "Partly", please specify what knowledge and/or techniques are useful and applicable?

(I85) Knowledge acquired in mining technology, project work on artificial lens simulator for testing of self rescuers etc., exposure to computerization for saving mine safety problems.

(I89) Monitoring of mine ventilation system by computer network by Dr. Oba.

(I91) Experiment conducting & methodology, safety systems in mines, etc.

(I94) The knowledge gained will be more useful while planning & implementation of the new projects.

- (I96) 1. Applicability of FTA for reduction of rate in mines.
- 2. Determination of the effect of ventilation on methane ion.
- 3. Critical approach to injuries occurring to avoid re-occurrence.

- (P87) 1. Study of Mining Laws in Japan and Pakistan.
- 2. Organization of Training Schedules.
- 3. Co-Ordination with Foreign experts.

(P90) Due to non availability of facilities we buy our personal experience learned from Japan and in our mines ratio of accidents is minimized.

(P96) Being law enforcing Agency, all the GTC contents are useful and applicable in my job, the equipment used for monitoring of various hazards in Japan Coal Industry and the safety

practices of "Ush" has been especially stressed by the applicant during the inspections of Mines. The Mine owners were asked to adopt the same for better safety results.

3) If "Slightly" and "Not at all", what are the main causes?

- (I92) Different type of work at present
- (I93, I942, P94) Techniques level gap(s)
- ( ) Difference in technical background (Methods etc.)
- (I93) Others

Please specify.

- (I82) Different types of work
- (I93) Only thumb ruler methods are being used in bord & pillar hand section mines. Latest techniques are not being used.
- (P94) Personally it widen my view as the course offered me to see things working which were known to me only in books. But the application gap and our local working environment is different to what I had been.
- (P95) Due to financial constraint we do not have the latest instruments to be used for safety purposes.

4) Which subject of the course was most beneficial to your job?

- (I82) Visit to coal mine / non-coal mines.
- (I85) Japanese approach of dering 'person' as the biggest asset.
- (I89) Ventilation network, management.
- (I91) Mine ventilation & rock mechanics
- (I92) Mine fires
- (I93) Ventilation
- (I941) Lectures on safety enlightened the coal mining laws under implementation in various countries
- (I942) Individual study on rock mechanics
- (I96) 1. Mine Ventilation  
2. Mine Fires.  
3. Applicability of FTA (Fault Tree Analysis)
- (P87) 1. Introduction to new equipments of safety & Rescue.  
2. Ventilation & Research Lab.
- (P90) Coal mine safety
- (P94) Cannot specify a single subject.
- (P95) Ventilation, Mine fires and explosions.
- (P96) All subjects beneficial, but the applicant get benefited more from the Ikeshema Mine site, Kyushu Mine Safety centre & NIRE besides learning about Japanese Culture, life and social system.

5) Have you ever reported a research paper and/or presented orally at an academic meeting concerned with the research results through the course?

- (I82, I89, I96, P87, P96) Yes, (I85, I91, I92, I93, I942, P90, P94, P95) No

In case of "Yes", please give its name.

- (182) After return, I delivered a lecture regarding mines safety in Japan - Participants were officers of DGMS.
- (189) Systems of ventilations network in Japan's mines.
- (196) Indian coal sector visa-vis Japanese coal sector.
- (P87) Problems & Solution of water inundation in shaft & Mine at Training Mine in a workshop organized to discuss the problem with express in country.
- (P95) More time should be allotted for practical training in under ground mines, we were provided only 3 days to visit underground mines. Time for actual study in NIRE was also too short.
- (P96) The applicant is a member of Technical Liaison and Planning Committee (TLPC) of Department of Mining Engineering, NWP, University of Engineering and Technology Peshawar. In the meeting of the said academic committee, the participant has suggested for the change in the syllabus of Mines Safety subject of the final year Mining Engineering which has now been in the implementation stage. In the said subject all the items / practices learned has been suggested for in section.

### III. TRAINING COURSE IMPROVEMENT

- (1) Time allocation: Training course as a whole and among each of the programs

- 1) Overall course duration (Present course: 3 months)

( ) Too long, (182, 185, 189, 191, 192, 1941, 1942, 196, P94) Fair, (193, P87, P90, P95, P96) Too short

If it is "Too long:" or "Too short", what is the appropriate length?

- (189) 4 months
- (193) 5 months
- (P87) 6 months
- (P90) 6 months
- (P94) \*
- (P96) 4 months

Why?

- (185) Time allocation is adequate.
- (189) We can visit more number of mines and interact with mining people to get more practical knowledge.
- (193) To spend more time on the field jobs to gain more practical experience.
- (P87) 1. To repeat the exercises & training at NRIPR.  
2. Practical involvement.
- (P90) There should be more practical training in working mines.
- (P94) \* It depends upon the purpose of the course. If the purpose was to just acquaint the participant with the technique being used & a general outlook of Japan than the length of course of two months could served the purpose but if the purpose was to deliver something tangible to the participant than course of at least 6 months is required.
- (P95) More time should be allotted for practical training in under ground mines, we were

provided only 3 days to visit underground mines. Time for actual study in NIRE was also too short.

- (P96) The training Course is basically designed for learning Mines Safety, so it will be appreciated if the practical participation in the Kyuber mine Safety Centre is extended up to 15 days and similarly 15 days more will be kept for NIRE so that all the practicals are being carried out by each individual.

## 2) Time allocation for each programs

- (I89) O.K.
- (I91) Good blend, more of cultural understanding may help better arrimilation.
- (I92) This particular course needs more study trips, and update of knowledge.
- (I93) Time allocation for study trips shall be increased.
- (I941) Time allocation to the study trips may be increased to have better awareness of mining prices in the country.
- (I942) The length of the study trips should have been more.
- (I96) Time allocation for orientation & lectures are all right. However, during the study trip we had a chance to visit only one mine (ulground). The time period in the ulground may be increased to at least 7day.
- (P87) Fair enough but with be more benifical if given more time.
- (P90) Number of study trips should be increased.
- (P94) Orientation was good, with the acceptance of few lectures others were bored and irrelevant for a course like coal mine safety. One of the factors might be that delivery of lectures was not good may be due to language barrier. Study trips were good and informative.
- (P95) Time periods allocated for Orientation, Lectures and study trips were not sufficient which should be enhanced.
- (P96) The study trips were very effective and more practical. The trips were well planned. The chances of learning were great in the field trips. It was in all respect a balanced one.

## (2) Subject(s) to be added or deleted

### 1) What are the training subject(s) to be more emphasized and/or added?

- (I82) The training should be oriented towards method of instruction and finding / assuming of dangers in mine which are required and which may help in performing our duties.
- (I85) Risk management, Human resource development, like participative management, Standard procedures and systems and standards for mine safety equipment, drawing up guidelines for use of new technology to guard safety and at work.
- (I89) Problems related to opencast mining.
- (I91) a. Room & Pillar mining methods  
b. Mine safety system engineering  
c. Risk arrangements & hazard identification
- (I92) Opencast mine safety, mine fires, ventilation in room and pillar (bord & pillar) mining.
- (I93) Long-wall mechanization, other mechanization methods which gives more production & productivity, spontaneous heating and fire fighting, ventilation, dealing with water problems in underground and opencast mines.
- (I941) The subjects dealt are very useful to a mining engineer working in any atmosphere.
- (I942) Roof support and strata control.

- (I96) 1. New Support Patterns in underground mines.
- 2. Rock Mechanics / Strata Mechanics.
- 3. Mine Ventilation.
- 4. Coal Washeries.
- (P87) 1. Dealing with water in mines.
- 2. Rescue and Training Organization.
- (P94) As the mines are getting deeper and lengthy ventilation has become a major problems. More emphasis is needed to develop & taught some novel and cheap techniques in the field of mine ventilation for small scale mining.
- (P95) New techniques to control water inundation in coal mines.
- (P96) The subjects of Mine support, water pumping and its design, subsidence accident investigation and report writing design of opening needs to be included to make the training course more effective.

2) What are the training subject(s) not needed in the program?

- (I92) Testing of safety appliances
- (I94) However, cost-benefit analysis of safety and other aspects related to mining need to be emphasized.
- (P95) Training program was relevant.
- (P96) All the subjects were relevant one way and the other, so no need for deletion.

3) What type of sites are preferable for visits? What do you like to see there?

- (I82) It was well-arranged.
- (I85) More visits to mines, factories and more visits and interactions with the mining Inspectorate and mine safety laws / standards.
- (I89) All types of mines i.e. underground and opencast both in coal and non-coal mining.
- (I91) Mines of different types, factories, producing mine safety equipment & rescue apparatus.
- (I92) Safety appliances factories, opencast mining equipment factories, mine planning institutes, mining electronics application, machine maintenance management techniques.
- (I93) The site which gives practical knowledge rather than theory classes.
- (I94) Manufacturing of Long-wall equipment units and other allied mining machinery units.
- (I942) The factories manufacturing Longwall equipments & their testing facilities.
- (I96) 1. Coal Mining Areas
- 2. Manufacturing units of ri Machineries.
- 3. Maintenance units.
- (P87) 1. New Technique of training.
- 2. Personal safety equipments.
- 3. Dealing with Mine Environment Pollutions.
- 4. Care for coal mine workers.
- (P90) Visits of working mines. I would like to see practical work in mine.
- (P94) The blend of visits was good. A bit more exposure to the universities is recommended.
- (P95) More frequent visits of underground mines and quarries along with visit of departments having latest safety instruction.
- (P96) Every University, Institute and factories contributed to enhance the technical knowhow and was a great experience. All visits were relevant and productive.

(3) Suggestion for the improvement of future programs



- (I82) The course was well-arranged since it was a correct blend of technical back up and mutual contact.
- (I85) 1) more interaction with mining Inspectorate, 2) testing and approval authorities, 3) factories / manufacturing mine equipments and their making for safety.
- (I89) Above short coming can be improved.
- (I91) More stress on understanding cultural ethics of Japan.
- (I92) Follow-up courses in the home country are needed.
- (I93) It shall be more practical oriented. In depth study in mechanization methods and other field studies is required.
- (I941) More mine visits and mining equipment manufacture units will enlighten the knowledge.
- (I942) The greater emphasis should be paid or observation tours, particularly mine visits. More time should be devoted to these.
- (P87) 1. Time allocation.  
2. More time on practical aspects.
- (P90) Course duration is too short. It should be increased and visits at working mines should also be increased.
- (P95) More lectures should be arranged in the Mining departments of the Tokyo and Hokkaido University.
- (P96) The Suggestion are the inclusion of the subjects mentioned before and the extension of duration of study at NIRE and Khyber Mine Safety Centre. It will be also appreciated if some time is kept for the study of Japanese Culture, tradition, customs and social life, which can be best if sponcers are accompanied with the participant, no problem is economy air ticket is provided instead of Business Class.

## VI. JICA AFTER CARE SERVICES

### (I) Requests as to the follow-up for the ex-participants of the course.

#### 1) After the participation in the course, have you contacted your host institute in Japan?

(I82, I92, I93, I941, P96) Yes, (I85, I89, I9412, I96, P87, P90, P94, P95) No

#### 2) If "Yes" in what situation?

(I82) Only one - Layback

(I92) Regarding foam to be used in sealing the mine fires.

(I93) To have intensive training or any other training in mining field of activities.

(I94) Not on a particular problem. In general, I have contacted the institute.

(P96) The participant not only contacted the last institute but also visited to deliver lectures in the Department of Mining engineering, University of engineering & Technology, Peshawar on the subject of Mine Safety for the benefit of students.

#### 3) Please specify any requests as to JICA's follow-up care for ex-participants .

(I85) Keeping up-to-date mailing list, informing about JICA activity, publishing names and designation to ex-participants after a period say three to five years, inviting them for seminars, workshop, etc. making a years meet.

(I89) It is very much required. You can open up a cell to deal with some problems encountered

- here can be referred to JICA and guidance can be obtained.
- (I92) Periodical Follow-up training courses.  
Visit to JICA/Japan supported organizations.
  - (I93) To help the ex-participants by sending journals giving latest developments in mining field. Also a journal giving JICA's activities and programmes, developing communications between ex-participants.
  - (I94I) Latest development in the world in mining industry to be communicated to the ex-participants. If possible, a short trip to visit Japan for Mining E ian conducted in Japan.  
(May be given a chance to a participant to visit.)
  - (P87) 1. Care for Coal / Metal Mine Workers.  
2. Care for pollution free environment at Mines / Quarries.
  - (P95) JICA, could send us latest literature and publications, if any, regarding safety.
  - (P96) JICA is requested to call the participants to the Work Shop on Asia pacific Coal Mine Work compulsory besides providing feed back of the new developments in the field of Coal Mines safety.

## (2) Alumni Association of JICA Ex-participants

1) Are you a member of Alumni Association of JICA Ex-participants?

- (I89, I93, I96, P87, P94 ) Yes, (I82, I85, I92, I94I, I942, P90, P95, P96) No  
(I942) I have already applied; but got no response from JICA's  
India Chapter.

2) If "Yes", what activities do you take part in?

- (I89) No activities so far.  
(I93) Activities not yet started.  
Activities can be exchange of views in cultural and technical fields, organizing meetings and calling experts from other countries to talk on the subjects.  
(I94) Not taken so far interested to join the Alumni Association of JICA Ex-participants.  
(I96) Although I have not taken part in any activities but I am regularly keeping in touch.  
(P87) All called meeting, function.  
(P94) Unfortunately I do not take part in any activity as most of the activities originate from Islamabad.  
(P96) No, the participant has not been contacted by anyone at present. Will feel privileged if of any service for JICA, anywhere in the world.

## V. YOUR IMPRESSION ON JAPAN'S UPDATE COAL MINE SAFETY

- (I82) It was about 17 years back when I attended the course in Japan. I do not have statistics. Hence, no comments
- (I85) Development in the or coal mine safety may be brought to the knowledge or participants by sending papers, holding f in workshop in India and abroad, developing a ing at bondage amongst on the participants.
- (I89) Very good. Alumni of such common causes should be arranged at regular intervals at different parts of India with visiting lectures from Japan for more interaction.
- (I91) Volume of coal mining activities in Japan is not too high. Managing safety appears to be

easier. However, work done in NRIPR in the field must be disseminated more widely throughout the world.

- (I92) Coal mine safety management is excellent in Japan. Through number of mines have some down, scientific management is required.
- (I93) Safety in coal mines of Japan is of high standard. Latest technology or instruments are being used to ensure safety. Safety still will be improved already with the present information technology development.
- (I941) The safety standards that are being taken up / observed are high quality. It resembles how the government of Japan is taking care of Man (Man is more productive than anything.) The same is being emphasized by me during every of opportunity to adnen gathering mining engineer, supervisors & union leaders in coal mines.
- (I942) Despite the grave difficulties of greater depth & distance, the standard of Coal Mine Safety in Japan is very high. Japanese mines were using state-of-the-art safety technologies and comparable to any other advanced country in the world.
- (I96) As the number of mines in Japan have reduced, the safety management has been proper, however, there is still enough scope to reduce the mine injuries further.
- (P87) Most of the mines in Japan are now not working, however, safety experts so far seen are good.
- (P90) It is excellent but its cost is too high.
- (P94) I have been only to Taiheiyo colliery during my visit. I felt that the colliery was in safe hands and the way safety measures were taken impressed me. Despite diminishing coal Industry in Japan, the concern for mine safety at institutional level was encouraging.
- (P95) The safety standards in the coal mine visited by us was very high. They preferred safety than production. Contribution of research among their universities, research institutes and law enforcing authorities is very impressive. However, we have been provided only one opportunity to visit underground mine hence I cannot comment over mine safety in all over Japan.
- (P96) The participant was lucky enough to get the opportunity to visit Japan and increased not only the technical knowhow but also observed the life style, culture of Japanese people. It will be appreciated if the sponsors are also allowed to accompany so that cultural exchange programme of the countries be flourish. No matter if economy air fare is provided instead of Business Class.

## VI. REQUEST TO JICA

- (I85)
  1. More interaction
  2. Annual meet
  3. Making a sub group of JICA for ex-participants of Coal mine safety.
- (I89) JICA should arrange meet of mine safety Alumni at Japan to show us the changes it has undertaken for last 10 years.
- (I91) DGM is a government organization engaged in the field of mine safety in India. We are trying to shift from prescriptive safety management of yesteryear to more participative management style. The task is daunting. We shall be benefited enormously if JICA could provide a specific tailor made training course on Safety Management to DCMs. The possibility may kindly be explored.
- (I92)
  1. Copies of present lectures in the course may be sent to me.
  2. Visit to Japan supported organizations may be arranged in the home or neighboring countries.

3. Strengthening and opening of more alumni associations of JICA.

- (I93) I request JICA to arrange an intensive, more practically oriented training course for ex-  
g participants of coal-mine safety knowledge of Japan's customs and culture, how  
Japan could develop into a prosperous country where there are no poor people.
- (I941) I request JICA to keep a constant touch with its ex-participants.
- (I942) JICA should continue to send information and technical Journals etc. to ex-participants to  
keep them abreast of latest developments in Japan in the field of mine safety methods,  
technologies etc.
- (I96) Do please keep in contact with ex-participants all throughout.
- (P87) 1. Share with Pakistan Gov. in developing coal Mine.  
2. Establishing / strengthening of Rescue & Research in Mining.
- (P90) I would be glad if JICA offer degree course in mining in Japan also.
- (P94) Inspectorate of Mines perform the regulatory functions of mines inspection, Rescue &  
safety. The Training of staff engaged at the mines is one of the foremost tasks assumed  
by the Inspectorate. With the ever growing socio-economic facets the technical  
dimensions are needed to be kept at pace with the time. JICA can help inspectorate by  
providing training materials including videos & manuals on different topics. Handy  
safety equipment for the use of inspecting staff in the mines e.g. multi gas detectors, dust  
detectors, vibographs and such like things can help in improvement of safety conditions  
of our mines. If contacted in this context it can provide details of different projects  
which JICA can sponsor.  
Further JICA can help us by sponsoring safety seminars and courses.
- (P95) If another opportunity is provided to the ex-participants according to the above  
suggestions they will be able to achieve more benefit.
- (P96) Mining is known as the most hazardous occupation world wide. The participant is  
working in Mines Law enforcing Department. To ensure safety of the Miners,  
Optimization and identification of every single hazard must be taken into account to avoid  
any unforeseen mishap.  
As the accident not only brings miseries to the effected family but also previous life is  
lost. The participant deppt; lacks in necessary equipment for such checks and only the five  
senses are used at present to detect the possible hazards. It will be appreciated to approve  
the attached schemes for the betterment and security of the Miners engaged in this  
Province.

2. 研修員所属先による回答

I. ORGANIZATION OUTLINE

(1) Name, type of Organization and size

1) Name of Organization:

- India (I)-

(IA) Directorate General of Mines Safety, Ministry of Labour, Government of India (India)

(IB) Directorate General of Mines Safety

(IC) The Singareni Collieries Company Limited

- Pakistan (P)-

(PA) Inspectorate of Mines, Punjab (Pakistan)

(PB) Inspectorate of Mines Labour Welfare Government of N-W-.F.P

(PC) Punjab Mineral Development Corporation

Address:

(IA) Hirapur, Dhanbad, India, 826001

TEL: 206700 FAX: 206779, 206780

(IB) Hirapur Dhanbad, India, 826001

TEL: 202521, 206702, 206703

(IC) Kothagudem Collieries, Andhra Oradesgm, India 507101

TEL: 08744-42328

(PA) 153-Shah Jamal Colony, Lahore. Pakistan

TEL: 9242-7588733

(PB) 8-Old Bara Road, University Town, Peshawar, Pakistan

(PC) Second Floor, Alfalah Building, Shahrah-e-Quaidee-Azam, Lahore-Pakistan

TEL: 6302590-91-92

2) Type of your organization.

a) Governmental (IA )(IB )(PA)(PB)

b) Semi-Governmental (PC) (IC)

c) Private ( )

d) Other Type ( )

Please specify.

(IA) A department of the government of India

(IB) A sub-ordinate office under union ministry of labour, government of India.

(IC) Public Sector Undertaking

(PB) Mines Labour Welfare & Mines safety Department.

(PC) It is a mining concern dealing in exploration, extraction and marketing of minerals.

3) Number of staffs:

1.Total (IA) 1070 (IB) 932 (IC) 110,000 (PA) 380 (PB) 63 (PC) 750

2. Research/Technical	(IA) 190	(IB) 188	(IC) 2,000			
	(PA) 65%	(PB) 12	(PC) 300			
3. Administration	(IA) 880	(IB) 744	(IC) 500	(PA) 35%	(PB) 51	(PC) 350

(2) Activities, responsibilities and organization chart

- (IA) 1. Ensuring & enforcing provisions of all statutes made under the mine act. 1952.  
 2. Holding safety conferences, safety week celebrations for furthering safety related awareness in mines.  
 3. Review and development, if required of new statutes.  
 4. Certifying the competency of persons working in mines.
- (IB) Basically, the mission of DGMS is the reduction in risk of occupational diseases and casualty to persons employed in mines. By drafting appropriate legislation and setting standards, by overseeing compliance thereof as intensively as its resources permit and through a variety of promotional initiatives and awareness programmes, the officers of DGMS exercise preventive as well as educational influence over the mining industry. DGMS is also promoting the concept of 'self-regulation' as well as 'workers' participation in safety management' and, with changing scenario, attempting to superimpose its traditional role of seeking compliance by legal sanctions and work prohibition optimally with advisory and other safety promotional initiatives, thereby creating an environment in which safety is given due priority.
- (IC) Mining Coal, including planning of coal mining project.
- (PA) Activity and organizational chart is attached for further explanation.  
 1- Mine Safety & Inspection.  
 2- Rescue & Recovery.  
 3- Teaching & Training.  
 4- Transfer of Technology.  
 5- Sample Testing & Research.  
 6- Planning & Development.
- (PB) 1- Statutory function under the Mines Act & other Labour Laws.  
 2- Pre employment & In service training.  
 3- Statutory functioned to provide rescue & Recovery Services.  
 4- Imparting training to Miners on Modern Mining Techniques, Mines Safety & Rescue  
 5- Codification of Act Amendment in the Law.  
 6- Conduct of Competency examination.  
 7- Collection of Excise Duty.
- (PC) 1- Exploration, development, production and marketing of minerals like coal, rock salt, gypsum, fire clay, dolomite, silica sand etc.  
 2 - National & international trading in minerals.  
 3 - Improvement of the infrastructure in order to give an impetus for the exploitation of minerals.

(3) Relation with Japan

1) Number of the participants in the Course

1.Total (IA) 5 (IB) 7 (IC) 5 (PA) 4 (PB) 2 (PC) 3

2.The Course

(IA) 5 (IB) 3 (IC) 4 (PA) 3 (PB) one in Coal Mine Safety (PC) 2

3.Other JICA's Courses

(IB) 4 (MINES SAFETY) (IC) 1 (PA) One Mining & Metallurgy (PC) 1

2) Any joint project or program (research/training) with Japanese institute(s) except JICA?

Yes ( ), No (IA) (IB) (IC) (PA) (PB) (PC)

If yes, Please specify.

3) Any relationship with any other countries similar to JICA's training countries?

Yes (IA) (IB) (IC) (PA) (PB) No (PC)

Please specify.

(IB) Training programme under AUS-AID, funded jointly by the Government of India & Govt. of Australia.

(IC) UK, Australia

(PA) ILO Geneva Mine Rescue station Khushab.

GTZ Germany (Transfer of Technology).

1- Training Centre for Mine Supervisor's & Mining Tech's Katas.

2- Training Mine Katas.

(PB) BITS training course in Mining Technology Sweden.

4) A joint program and/or project with Japanese research institute?

Yes (IA) (IB) (IC) (PA) (PB) No ( )

In case of "Yes", what ?

(IA) Environmental issues arising out of mining and the ways & means to meet the global consensus.

(IB) We would be benefitted by projects on,

(i) Occupational Health of mine workers

(ii) Control of fire in coal mines

(iii) Spoil & highwall stability in OC mines, etc.

- (IC) On Identification of Spontaneous heating possibility in underground mines.  
 (PA) JICA can help Inspectorate in conducting safety Seminars & can also help to equip mobile training units for training of mine workers at the site.  
 (PB) NIRE is requested to extend its cooperation in the field of Mine Environment & Mine Safety.

## II. APPLICATION AND NOMINATION OF CANDIDATE TO JICA TRAINING COURSE

### (1) Procedure of selection

- 1) ( ) The organization advertise for candidate and judge from his/her aptitude and qualification  
 (PC) After judging from staff's aptitude and qualification, the origination order the candidate to go to Japan  
 ( ) Others (Please specify the procedure below).  
 (IA) Selection Based on Seniority & the constraints stipulated by JICA. The nomination made is forwarded to ministry for approval and then on to JICA for the final nod.  
 (IB) Nominations based on seniority and the stipulated conditions of JICA, are made and submitted to The Union Ministry of Labour, Govt. of India for onward transmission to JICA.  
 (IC) On allotment of number of candidates by mining of coal, depending upon age restriction, senior most mining engineer is sent who did not attend and foreign training.  
 (PA) Govt. of Pakistan has its own laid down procedure of nomination of candidates. Federal Govt. asked for nominations from provinces. Training courses are circulated to the concerned departments. Departments send their nominations on the basis of seniority cum fitness. In the case of more than are candidates for certain offer than the selection of most suitable candidate is made by a board and send it is the Federal Govt. an authority an final selection out of different nominees of Provinces.  
 (PB) Economic affair Division, Islamabad. Ministry of Petroleum & Natural Resources, Islamabad, PE & D Department (Govt. of NWFP;), Administrative Department, Attached Department, which recommends suitable candidate. The reverse process is then applied i.e., attached department, Admn: Department, PE & D department (NWFP;), Economic affairs Division, JICA, Islamabad.

### 2) How long does it take you to choose the final candidate(s)?

- ( IA )( IB ) (IC) (PC) within one month  
 (PA) more than one month

If it takes more than one month, how many months?

- ( PB) 2 months approximately

### 3) What are the standards and qualification of candidate selection for the Course?



(IA, IC, PA, PB) present post of candidate (IA, PA, PB, PC) educational background  
( ) research record (IA) intention  
(IA, PB, PC) service record ( ) interchange between the training institute

( ) others (Please specify below.)

- (IB) Seniority of officer in this organization, subject to the eligibility criteria of JICA.
- (PA) Seniority is one of major factor in selecting a candidates.
- (PB) Prescribed Age Limit & that they fulfill the specific requirements of the facility.
- (PC) Organization selects candidate on the basis of education, service record and aptitude for the purpose.

(2) General Information (G.I.):

1) Information from the "G.I." for selecting final candidate(s).

(IA, IB, IC, PA, PB) Yes, it is enough.  
( ) No, it is not enough.

2) Do you usually receive "G.I." well in advance?

(IA, IB, PA, PB, PC) Yes \*(PB) but some times late.  
(IC) No, it arrives late.

(3) Number of prospective applicants/candidates

1) Applicants/candidates you have every year for the Course.

(IA) 1 (IB) 1 or 2 (IC) One in Two / Three years  
(PA) 1 (PB) 7 from this department only (PC) one to two

2) Staffs in your organization adequate for the Course.

(IA) 2  
(IB) about 10  
(IC) 2 per year  
(PA) 10  
(PB) 7 at present, but the age limit needs to be released to up to 45 - 50 years.  
(PC) - The trainees become more knowledgeable and cautious about safety.  
- Improve knowledge about the use of safety equipment.

### III. EVALUATION OF THE TRAINING PROGRAM

(1) Results/achievements of the training

Have you found any good results/achievements.

a) the method of researching

(PB) Yes, so far only one participant has been trained, whose skills are being utilized in various activities, not only by this deptt: but also he is helpful to outside the deptt:

(IC) Very good

b) the knowledge/technique(s)

(IB) The exposure to Japanese Mining and Safety systems, has richly widened the horizon of knowledge in this field of Mines Safety and has resulted in the development of unique approach to solving mine safety related problems in a much better way. There also has been an overall improvement in this quality of work.

(IC) Very good

(PA) Those who have availed the training definitely develop sound concepts about different aspects of Mining.

(PB) Yes, his knowledge / techniques are being utilized in the short term training coursed being organized by this deptt; for the welfare of the Miners of the Province.

c) Others

(IB) The exposure to application of computers in this field of Mines Safety in Japan has contributed in developing suitable strategies in the DGMS, for effective handling of the huge data bank on mines safety, with the ultimate motive of quick decision making.

(PB) Keeping in vies his skills, the participant has been nominated as a member of Technical Liaison & Planning Committee (TLPC) of Deptt: of Mining Engineering University of Engineering & Tech: Peshawar.

(2) Applicability of the knowledge/technique(s) obtained through the training in Japan

1) (PB, IC) a lot, (IA, IB, PA) to some extend, ( ) no application

2) Examples of good application.

(IB) Exposure to the Longwall Mining techniques, have resulted in development of an evaluating systems for the health of the powered supports, which is in an advanced stage of preparation.

(IC) Their approach to safety problem is very scientific and systematic.

(PA) One of the Participants is actively engaged in training the mine workers in different fields lead to better safety consciousness in them.

(PB) a) Being a member of TLPC, recommends an approve reserved Project for Students.

b) On site inspection of the Coal Mines & others, helps the owners & Workers to adopt safe methods of Mining.

c) Helps colleagues in the matter of Mines Safety.

(PC) The trainees are appointed in the coal mines who are exercising more precisely the techniques to make the mines more & more safe w.r.t obnoxious gases, strata control & underground water in rush, spontaneous combustion etc.

3) Do you try to assign ex-participants to responsibilities/posts where they can make good use of the knowledge/technique(s) obtained through

the Course ?

(IB, PA, PB, PC) Yes, (IC) No

4) In case of "Yes", how?

- (IB) Mr. Bhaskar Bhattacharya, Mr. Rahul Guha & Mr. R. Subramanian, who have had the training in Japan, are currently placed in the headquarters of the organization & are actiuly being involved in the policy making processes in light of such exposures.  
Mr. R. Sharma & Mr. N.S.R. Krishna Prasad, an currently associated with the management of one of the most difficult coal fields in the world in the field of mines safety and are also responsible for improvements in the safety standards.
- (PA) They have been assigned duties specifically at places which demand training, safety and recovery.
- (PB) The participant has been declared as Senior Inspector of Mines for Peshawar Division, in which the Coal Mines are situated. During his routine inspection, the knowledge / techniques of the participant is utilized. Beside he is helpful in organizing training courses for the welfare of the miners in which he delivers lectures on relevant topics.
- (PC) Safety conditions have improved in general and particularly in our coal mines at Padhrar and Dandot in Punjab Province.

(3) Expectations for future JICA programs

1) Would you like to continue sending your staff to participate in the Course?

(IB, IC, PA, PB, PC) Yes, ( ) No

2) In case of "Yes", what/how ?

- (IB) With ever increasing production, safety related problems have also grown, leaving an urgent and immediate need for suitable structured training programmes on the lines of the latest in the safety management techniques.
- (IC) Specialization in spontaneous combustion and mine fires.
- (PA) At last one participant evry year and refresher courses after five years for those who have already availed the facility.
- (PB) The GTC in Coal Mines Safety is a good course in which the opportunity of learning & Visits to different institutes / factories / Universities are provided. The same polishes the skill of the participants & contribute positively for the welfare.
- (PC) The trainees should be adequately equipped with practical knowledge about safety.

(4) Compare with other programs

How do you evaluate the Course compare with other one?

- level of content: (IA, IC, PC) high, ( ) low, (IB) neither  
(PB) satisfactory
- length: ( ) long, (IA, PB, PC) short, (IB, IC) neither
- quantification: ( ) difficult, (IA, IB, IC, PB, PC) easy, ( ) neither

- number of participants ( ) many, (IA, IB, IC, PB, PC) not many, ( ) neither

#### IV. IMPROVEMENT OF THE FUTURE COURSE

##### (1) Knowledge/technique(s) your organization hopes to obtain from THE COURSE.

In future, what knowledge/technique(s) would you expect for the future COURSE?

(IA) Computer applications on mine safety related problems and disaster management.

(IB) 1. Mine Safety Management including formulation of structured Mgmt. plans.

2. Hazard Identification and Risk Assessment as a tool for mitigating dangers.

3. Mine Safety Audit and development of Safety Alert systems for mines.

4. Drainage of methane gas from mines.

5. Human Behavioral Approach to Mine Safety problems.

6. Advanced training on management of mine fires.

7. Computer application of Mine Ventilation systems for effective Mine Ventilation Planning.

(IC) Mine fires and spontaneous combustion.

(PA) Keeping in view our mine environment, it is more plausible to train participants in mine supports, ventilation and hazard detection in small scale conventional mines.

(PB) It will be appreciated that Computer oriented Safety Programmes are included in the training course & necessary soft ware may be developed / provided for onward utilization.

(PC) - Use of safety equipment and devices, their calibration as per requirement, maintenance of equipment, monitoring etc.

- Rescue operations in case of emergencies.

- Underground & surface environment.

##### (2) Improvements of THE COURSE

###### a) Duration of program

(IA) May be raised by another month.

(IB) The current duration of 3 months appears to be sufficient

(IC) Present duration is good.

(PA) 2 - 3 months

(PB) I think the stay in Khyber Mine Safety Centre be extended up to 7 - 15 days & similarly the duration at NIRE be increased.

(PC) Three months duration for training seems to be sufficient.

###### b) Curriculums

(IA) Computer applications in safety planning, may be given some thrust.

(IB) With fast changing mining technology both in size and quality, the curriculum drawn shall cater to the latest in the current challenges in mine safety management, in the lines of the suggested topics for the training, vide item IV(1).

(IC) More stress on individual training.

(PA) It should emphasis on practice side of the safety procedures for example safety

management, accident analysis etc.  
(PB) OK.

c) Contents of training

- (IA) Training may include project work for the entire duration.
- (IB) (As already mentioned against item (1). )
- (IC) More on mine fires.
- (PB) The subjects of Mine support, accident investigation, water pumping subsidence may be included in the contents of the course.
- (PC) Overall contents of training are good but it will be more beneficial if a lecture or two on underground and surface environment is included in the Group Training Course.

d) Technique levels

- (IB) Higher level of application, with faculty drawn from all the leading institutions in Japan.
- (IC) Present level is good.
- (PA) Graduate level-Emphasize should not be given to the theoretic knowledge based on syllabus books rather it should be of research / practical nature.
- (PB) OK.

e) Others

- (IB) The training may be suitably interspersed with actual on-site studies on select problems in the field of training/mine safety related problems.
- (PB) OK.

## V. JICA AFTER SERVICES

- (IB) Regular contact programmes with the ex-participants of JICA courses would help in keeping pace with the latest developments.
- (IC) So far no interaction.
- (PA) Along with ex-participants JICA can involve at organizational level be directly, approaching an organization.
- (PB) The participant may be called the participate in the Asia Pacific Coal Mine Workshop & if possible for the refresher course of one to two weeks after each two years, & the developments in the technology with latest techniques / knowledge be transferred.

## VI. MAJOR PROBLEMS OF TECHNOLOGY

- (IA) Future deep mining propositions.  
Strata control problems.  
Multiple seam workings in an unplanned manner.  
Extensive underground fires.
- (IB)
  1. Occurrence of multiple seams of varying quality, in close proximities, and in thickly populated areas.
  2. Active and vast underground mine fires, extending to area below important surface features like railways, etc.
  3. Extensive and sudden surface subsidences due to u/g fires, causing ground de-

stabilization problems.

4. Occurrence of gassy and fiery seams with steep inclinations.
  5. Massive roof conditions.
  6. Labour intensive mine workings.
  7. Problems due to extensive application of Bord and Pillar mining methods.
- (IC) There are problems of spontaneous combustion old developed mines. Lot of old underground mines, consented to opencast also has mine fires.
- (PA) The coal is normally worked from the outcrop down dip into the mountain side. Most mines are now very deep (to local standards) leading to strained ventilation circuits, longer transport routes and increased overburden pressure causing higher stresses and more difficult roof control. In Punjab generally there is less mechanization due to seem conditions. In some mines work methods are almost entirely manual including transportation. In these conditions the role of Inspectorate of Mines becomes more difficult as it has to bear the burden of educating the mostly uneducated mine workers in the field of mining. Our Inspectors are not well equipped. They also need an exposure to some developed country for broadening of their outlook toward safety standards and implementation techniques. In the environment where safety is not a big deal for mine owners, Inspectorate of Mines is striving hard within its resources to guide and teach mine workers in the field of safety.
- (PB) The Coal Mining Industry in the Primitive stage in this Country in general & in the N-W.F.P in particular. The Stone Age techniques are still in progress. Water eruption, roof fall, side fall, transportation of coal from face to surface coal dust explosion, fire damp explosion, toxicity / suffocation due to noxious gases mine ventilation and Mine support are the common problems. Similarly exploration and exploitation on scientific grounds are also not being carried out due to lack of funds. The washing concept and beneficiation / upgradation of Coal are not known to the owners nor its technique / facilities are present at the Mining site, due to lack of skilled workers in this area. This Department also lacks in the necessary equipment / instruments used for the measurement of various gases and others. Also skilled people to provide rescue services are lacking.
- (PC) Expensive modern technology could not be introduced because seam is thin and quality is low. Most of the mines are worked by primitive methods throughout the country. The coal cutting is done manually and carried to loading points by men, mules locally manufactured haulages / hoists. Cheap and effective mechanized supports, material transport system, safe man riding arrangement could be very helpful in the prevailing circumstances. Cheap gas measuring instruments and rescue apparatuses could be helpful too. Presently, the facilities of gas measuring and rescue arrangement is only with Inspectorate of Mines which is a Govt. Deptt: There facilities should be available with all the coal mining companies. This is possible only if the cost will be low.

## VII. REQUEST TO JICA

- (IA) May kindly furnish information about future JICA programmes, on coal mining & coal mines safety, in advance, so as to help my other unfortunate colleagues in visiting Japan.
- (IB) With all round technological advancements taking place in the mining companies, the position of DGMS becomes unique in the sense that with meagre strength of officers, the entire gamut of coal mine safety challenges posed by the industry, have to be met with. The problems are also unique in the sense that meet of the advancements being

adapted by the industry require legal clearance from DGMS & therefore have statutory connotation. It is thereof highly essential that the officers of DGMS also accrue technological advancement in their knowledge to a level above that of the industry, in being able to meet the challenges effectively.

It is therefore requested that a suitable structured training programme may be evolved in the lines already requested on a regularly sustainable basis so as to trains all the officers of DGMS in a phased manner.

- (PA) Yes, JICA can help our organization by supplying handy safety equipment for Inspectors. Help in updating mobile training facilities and laboratory facilities to check dust and water samples. Electromagnetic testing equipment for steel wire ropes. If contacted we can provide specific project outlines for which JICA can help us.
- (PB) The Inspectorate of Mines Labour Welfare, N-W.F.P is a Mines Laws and Safety enforcing Department. The main purposes to ensure safety of both miners and mines by the use of safe mining practices. In the same departments of sister Provinces full fledged mine rescue and training and training stations, Mine survey institutes are established by the cooperation of ILO since long. Similarly in the Province of Punjab Training Center for Mine Supervisors and Mining technicians has been established with the cooperation of GTZ, which provide practical training to students and prospective supervisors in actual Mine working conditions to facilitate the transfer of technology, The same provide the availability of skilled and trained Mining supervisor and Mining technicians, in the same Province, Mine objective is to test and analyze the samples drawn from mine and to ensure:- a) Uniformity in the working environment in mines, b) improve working conditions, c) ensure minimum standards of Safety, d) deduction of occupational diseases and its remedy etc. None of the same type of services / facilities exist in this Province due to lack of financial constrains.
- JICA is requested to extended its cooperation for the sponsoring the genuine request of this Department, the details of which are attached schem-wise.
- (PC) The training facilities should be offered regularly each year enabling to send 1-2 engineers for Group Training from this organization.





## खानों की सुरक्षा से

रूप का लेख

अधिकारियों के साथ विचारों का आदान-प्रदान करा रहे हैं ताकि ट्रेनिंग कोर्स के प्रभाव की वास्तविक जानकारी मिल सके।

उन्होंने बताया कि विकसित देशों के नागरिकों का जीवन स्तर बेहतर बनाने के लिए जापान सरकार ने वर्ष ७४ में ओडीए कोष कायम की। इस कोष के तहत तकनीकी सहयोग का क्रियान्वयन किया जाता है, जिसका उद्देश्य परंपरा को ही है। विकसित देशों के सामूहिक-आर्थिक विकास के लिए आवश्यक मानव संसाधनों की बढ़ोतरी के लिए अथवा मुख्य रूप से ज्ञान एवं प्रौद्योगिकी के स्वतन्त्रता पर ध्यान केंद्रित करता है।

इस दिशा में अपने विश्व की अपनी भाषा पहचानने के लिए जापान में अभियंताओं एवं प्रशासकों को आमंत्रित कर तकनीकी प्रशिक्षण दी जाती है। कुल ३१४३ प्रतिभागियों को अबतक भारत से आमंत्रित किया गया है।

आवश्यक एवं उपयुक्त प्रौद्योगिकी के स्वतन्त्रता के लिए जापान द्वारा ४३० जापानी विशेषज्ञों को भारत भेजा गया है।

गुरु प्रशिक्षण कोर्स के तहत विकासशील देशों में प्रौद्योगिकी स्वतन्त्रता के लिए भेजे गए विशेषज्ञों के साथ 'जापान' परीक्षा एवं उपकरण की भी आपूर्ति करता है।

सर्वश्रेष्ठ एवं अध्ययन के परमाणु मूल मानवीय संसाधनों से वंचित क्षेत्रों के उत्थान के लिए जापान द्वारा विकासशील देशों को पुनर्बापती की बगैर उम्मीद किए आर्थिक सहायता दी जाती है। यह जापान के शूट एंड प्रोग्राम के तहत आता है। भारत को अब तक ७३३२३ लाख डॉलर की सहायता दी जा चुकी है। टीम के सदस्यों ने आम जनता वि-

द्वारा ही नहीं जापान द्वारा विदेशों में बटनेवाली आपदाओं के समय प्रभावितों के सहायता के लिए रिस्क टैक टीम भी भेजी जाती है।

कोयला खानों में सुरक्षात्मक उपायों के स्वतन्त्रता की बाबत उन्होंने बताया कि छात कर कोयला खानों में भूमिगत बेसिन एवं गैस पर नियंत्रण करने, खानों के भीतर अचानक बहनेवाली आग पर कब्ज करने, के साथ खान पुनर्बाप एवं संबंधित उपकरणों में मुड़े प्रौद्योगिकी का आनन्दन कोयला खानों की सुरक्षा के साथ करण उनका मुख्य लक्ष्य है। साथ ही छात दुर्घटना, छविण संघर्ष की रखा करना आदि भी इसी में निहित है।

उन्होंने बताया कि जापान में भी कोयले की खानें हैं और वह भी भूमिगत छात, जहां प्रतिवर्ष १३० मिनियन टन कोयले की खपत है। वर्ष ६१ में १० मिनियन टन कोयले का उत्पादन था जो फिलहाल घटकर ६.१ मिनियन टन हो गया है। वर्ष ८० में कोयले की खानों की संख्या ३२ थी जो घटकर अभी १६ हो गयी है। वर्ष ८० में दुर्घटनाओं की संख्या १,३१६ थी जो वर्ष ६६ में ३३ हो गई। कारणों की संख्या वर्ष ८० में ३३,३३० थी, जिनकी संख्या फिलहाल ४ हजार के आसपास है। मृत्युदर में भी काफी कमी आई है। जबकि उत्पादन दर में अनुपातिक वृद्धि हुई है।

टीम में मिनिसावा के अतिरिक्त डॉ. शायोतुकी सागीसाका, शसोकानु इकेनागा, एवं नाओया कुरासागा शामिल थे। पत्रकारों से बातचीत करते समय टीम के सदस्यों के साथ खान सुरक्षा परामर्शदाता के विज्ञान एवं प्रौद्योगिकी विभाग के निदेशक राहुत गुडा एवं सिटी प्रविजारी सीता, राम शर्मा भी मौजूद थे।

Newspaper report on the visit of the JICA E/U Team to Dhanbad.

Name of Newspaper:- CHAMAKTA AINA

Date:- 18th February, 1999

Headline:- JAPANESE TEAM IN DHANBAD FOR ACQUIRING  
AND IMPARTING TECHNICAL KNOWLEDGE ON  
MINES SAFETY

Report:- A Japanese team comprising of four members visited the Directorate General of Mines Safety in Dhanbad where they would be organizing a Seminar on Coal Mine Safety and presenting their papers.

Talking to newsmen, prior to the commencement of the seminar, the team members said that the main objective of their visit to India is to obtain first hand knowledge regarding Coal Mine Safety in India and to impart technical knowledge on the subject. They further told newsmen that JICA organizes a Group Training Course in Coal Mine Safety in Japan in which there have been participants from developing countries. About 15 participants from India have so far participated in the course. This is a follow-up programme for the past participants. The team is lead by Mr. Seiichi Mizusawa, Deputy Director, Coal Mine Safety Office, who told newsmen that the team is conducting a study as to how much of the knowledge gained by the ex-participants during the course of training in Japan is actually being put into practice. He further added that the plan for coal mines safety in India complies with the International standards. He also told newsmen that for the betterment of the living standards of citizens of developing countries, Government of Japan had launched the ODA programme in 1974. Under this programme, technical cooperation is extended to the developing countries for which the nodal agency is JICA. For social and economic development of developing countries, JICA concentrates its

attention on technical cooperation. For this purpose, candidates from developing countries are invited to Japan for technical education. So far there have been about 3143 participants from India and about 437 Japanese experts have been dispatched to India. There is also an equipment supply programme for developing countries. In addition to these, there is a Grant Aid Programme in which financial assistance is extended to developing countries without any repayment. So far 73,323 lakh yens have been disbursed to India under this programme. The team members further added that there is also a disaster relief programme in which medical relief teams are dispatched to areas affected by natural calamities.

Regarding mine safety, the team members added that the main objective of this follow-up programme is to provide technical information on environmental issues in addition to control of gas emission, prevention of fires within the mines, rescue operation etc. They further told that Japan also has underground coal mines from which 130 million tonnes of coal are produced every year. In 1961, only 50 million tonnes of coal were produced. In 1980, the number of coal mines were 32 which have now been reduced to only 19. The number of accidents in 1980 were 1319 which were reduced to 33 in 1996. Further, the number of workers in 1980 were 33,230 which has also been reduced to about 4000 at present. The number of deaths has also reduced to a great extent.

Other than Mr. Mizusawa, the team comprised of Dr. Masayuki Sagisaka, Mr. Masakazu Ikenaga and Mr. Naoya Kuwahara. Mr. Rahul Guha, Director (Science and Technology), Directorate General of Mines Safety was also present during the course of interview.







