

Me 4.2.76 10^h rem à l'aéroport par

Dr P.N. SAHA : Ingénieur bengali

joint à l'Université de Calcutta, responsable du service
(2 autres q avec lui) (M^t - - - M^t - - -)

M: D.P. DANGI : ingénieur spécialiste
de production

15^h visite à l'Institut - rem par

le Docteur General & le "brigadier" CHAINANI

) 5.2.76 9^h30 - 10^h30

BOMBAY

- visite des docks de ~~CALCUTTA~~ : effectuée
travail manuel. Les gens travaillent avec sur la des des
sacs de 100kg et travaillent par aller les chercher.

La moyenne d'âge est élevée: 40 ans mais certains meurent
fréquemment sous la charge. Salaire 25 r par jour
sur lequel la nourriture prend beaucoup.

↳ visite au capitaine ~~et~~ un navire.

La visite est accompagnée par un ingénieur indien
compétent et nommé M^r... Dr SAHA a

travaillé à cet endroit (F.S.)

- ph. à 12^h30

visite à Hindustan Lever, branches de la
Société Unilever. La visite est dominée par la présence
d'un médecin du travail très brillant le Dr N.M. PANT
qui fait valoir par les livraisons ~~par~~ et l'absence des
machines de nombreuses modifications qui ont été
faites de "l'imagerie opération" de l'avenir.

Les conditions de travail sont "assez" bonnes malgré
la présence de la technologie LEVER et le coût.

les relations ne vont pas deвис 15R pour les

CR2

debutants.

Philips social intelligent comme chez PHILIPPS - Systeme de formation

deux avec 2 medecins

1 femme sur du chef de Bombay

1 homme " " HINDOUSTAN ZEVER

DR B. BANERJI avec jacobins et mesurés. Disturbes sur l'ins a peut (en plus de la fait de l'ins par un reins remblein)

15-16th Visite de l'Institut sous la conduite du Directeur general

- Vaste musée bien fait (demonstrations sur la laine par exemple, mais peu frequent (quelques milliers de personnes par an.

- Semmes avec experience de matériel mais peu de savoir de recherche. Les enseignements se font de maniere systematique (? ?)

- psychologie DR BANGLY (Directeur administratif)

- toxicologie D^R

16-17th ^{je me souviens} une conference sur

Orientalisme des Recherches et des Enseignements de l'Institut de Regule de Travail et Ergonomie de CNAM (PARIS)

Bonne discussion malgre mon mauvais anglais
Presence du fondateur P. MANKIKKER et de l'expert David H. BROWN
V 6.2.76 18th club des officiers avec HAINANI et BROWN

10-11th ^{je me souviens} de la visite de l'Institut

11-14th TATA MILLS Filature et tissage de coton

du fameux groupe TATA.

le medecin chef de TATA: est le DR TAKA

le medecin de l'usine est le D^a

visite anticipée nationale paternaliste (on en peut dire ^{je me souviens} puisqu'il y a une salle de dessin dans la partie

infirmité de 3 pices réservée aux résidents qui atteignent 25% des σ du groupe TATA.

- Vieille littérature - d'usage (commun)
- tension mentale des enfants à l'école et des adultes
- légende surman.
- mais bon yeux, esthétisme.
- valence aux faibles

14H - 17H - Visite à MUKOND mon Grand Steel Works excellent jeu de d'acier H?

- Technologie ancienne
- un gros problème de chaleur: l'acier plonge (pas de marceuleux mécanique) + de l'air d'air
- alternance travail - repos 8h (x3)
- manifesté demande pour la pla - valence avec 8h de travail continu " ils ne s'en passent pas plus mal.

18H visite chez CHAINANI avec BROWN

S. 7. 2.75

alternance de ~~repos~~ travail sur l'organisation anglaise de lundi 9

Man at work

Sters and stream of man at work

et de visites dans le quartier de l'Hotel et aux "jardins suspendus" et à la plage de CHAUPATI

D. 8. 2.76

- long déjeuner posé avec BROWN
- dîner chez CHAINANI et un bon feu avec H. de GIVRY,

BROWN, MUKIKAR etc. 1 fils CHAINANI arrive de l'Inde après des études de comptabilité. 1 fille fait des études de Fran

- journées alternant la lecture de documents et les promenades de voisinage.

9. 2. 76 Colloque

(C 124)

- organisé par le 1/3 monde de l'PRNITISH Direction de l'Inde
des ~~7~~ Travail de NEW-DELHI, grand anniversaire de
renouveau (en Avril DELANOTT via le bel)

- avec la Présence de SHRI G.P. GOOREY patron des fin
parlami français

PERSONS WHOM PROF. A. WISNER MET IN BOMBAY

(from 4.2.76 to 6.2.76)

1. At Central Labour Institute, Sion, Bombay - 400 022.
 - i) Brig, G. R. Chainani, Director General
 - ii) Dr. S. S. Ramaswamy, Deputy Director General
 - iii) Mr. P. R. Surendranathan, Director (Factory Advice Service)
 - iv) Mr. S. C. Kale, Director Research (Technical)
 - v) Mr. D. D. Dangi, Deputy Director (Productivity) & Head, Productivity Centre
 - vi) Mr. P. N. Saha, Deputy Director (Physiology) & Head, Industrial Physiology Division
 - vii) Dr. S. R. Datta, Assistant Director (Physiology)
 - viii) Dr. S. K. Sensarma, Assistant Director (Physiology)
 - ix) Dr. O. N. Ganguly, Deputy Director (Psychology) & Head Industrial Psychology Division
 - x) Mrs. Aruna Nazareth, Research Officer (Psychology)
 - xi) Dr. V. P. Gupta, Deputy Director (Industrial Hygiene Laboratory) & Head Industrial Hygiene Laboratory
 - xii) Mr. S. K. Dangwal, Assistant Director (Industrial Hygiene Laboratory)
 - xiii) Dr. Harwant Singh, Deputy Director (Medical) & Head, Industrial Medicine Division
2. At Inspectorate Dock Safety, Sir. P. M. Road, Bombay - 400 001.

Mr. H. Ganapathy, Senior Inspector (Dock Safety)
3. At Hindustan Lever Ltd., Haji Bunder, Sewri, Bombay - 400 015 (Factory).

Dr. N. M. Pant, Plant Medical Officer
4. At Hindustan Lever Ltd., Backbay Reclamation, Bombay - 400 020 (Head Office).
 - i) Dr. B. Banerjee, Chief Medical Officer
 - ii) Dr. (Mrs.) S. A. Modi, Medical Officer
5. At Tata Mills Ltd., Dadar, Bombay - 400 014.
 - i) Dr. P. V. Thacker, Chief Industrial Health Officer
Tata Services Ltd., Gandhi Road, Bombay - 400 001.
 - ii) Dr. V. P. Pathak, Industrial Physician
 - iii) Mr. H. S. Captain, Safety Engineer
 - iv) Mr. M. P. Nambiar, Safety Engineer
 - v) Mr. B. P. Battiwalla, Manager
 - vi) Mr. F. J. Shroff, Deputy Manager
6. At Mukund Iron & Steel Ltd., Kurla, Bombay - 400 070.
 - i) Mr. V. K. S. Menon, Deputy General Manager
 - ii) Mr. S. K. Roy, Production Manager.

PTT TELEGRAMMA

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accomodation reserved taj international for prof wisner and you stop
looking forward to welcome you
chainani

col lt ✓

nnnn 29/01/76 1407

REGISTRY-GENEVA
30 JAN 1976
PIACT 1-0 108

A

PTT TELEGRAMMA

JET/bo (CONDI/T)
22.1.76

Brig. G.R. Chainani,
Director-General,
Central Labour Institute,
Kendriya Shram Vigyan Kendra,
Sion, BOMBAY-22/DD

PIACT 1-0-158 ✓
cc. RL 33-5-46
PIACT 2-33

(Inde)



Dear Brig: Chainani,

Further to my letter of 13 January 1976, I would like to provide you with additional information on my trip to Bombay to address your seminar.

First, I am pleased to say that Professor A. Wisner, who you may know is the Director of the Laboratoire de Physiologie du Travail et d'Ergonomie of the Conservatoire National des Arts et Métiers in Paris, has accepted to undertake a study mission in Asia as a consultant for the ILO during the month of February which will allow him to be in Bombay during your seminar. Professor Wisner will arrive in Bombay at 9:40 a.m. on flight LH 690 on Wednesday, 4 February. I would appreciate it if you could reserve accomodation for him and cable confirmation to me so I may inform him. I also believe it would be very useful if you could arrange for Professor Wisner to meet with officials of the Central Labour Institute and, if possible, to visit some work places on 5 and 6 February.

The time of my own arrival is now confirmed at 12:50 a.m. on Sunday morning, 8 February on flight SR 312. I certainly hope you will not feel it necessary to have me met at so late an hour, but I would appreciate your reserving accomodations for me and cabling confirmation. You should point out that I will be arriving very late at night.

I look forward to seeing you and to participating in your seminar.

Yours sincerely,

J. de Givry 22.1.76

J. de Givry,
Chief,
Working Conditions and
Environment Department.

22/76

→ PART 1

- Report No.1. Study Tour at TISCO (An Ergonomic Way of assessment) - By P.K.Nag (1972)
2. Design of Chairs, Lecture desk and other requirements of a lecture theatre, - By P.K.Nag, B.P.Sinha and U.S.Roy (1972)
3. An Ergonomic Study to Compare Different Methods for Manual Carrying of Loads. - By P. K. Nag and B. Majumdar. (1973).
4. Are the Calcutta Public Buses Ergonomically designed ? - By P.K.Nag (1973)
5. A study of Ergonomic Factors at TELCO - By B.P. Sinha (1973).
6. A study of Ergonomic Factors at "Agrico" & Indian Tube Co. - By U. S. Roy (1973)
7. Study of Physiological Responses and Energy Intake of Farmers at Work in the Field. - By B. P. Sinha (1973)
8. Some Physiological Responses during a six-day walk to Digha, - By U. S. Roy (1973)
9. Ergonomic Design of a Suitcase - By G.G.Roy (1974)
10. Ergonomic design of a shoe for use during summer in a tropical climate - By S. N. Banerjee (1974)
11. Ergonomic aspects of design of a shirt for use in summer seasons by local people. - By A. Sadhu (1974).
12. Physical stresses and Physiological strains on workers in a printing shop. - By G.G.Roy & P.K.Nag (1974)
13. Ergonomic Design of Simple Water lifting Device - By A. Das (1975)
14. Ergonomic Design of a Bengali Typewriter Key board - By B.B.Bandopadhyay (1975)
15. Ergonomic Design of An Umbrella for Rainy And Sunny Conditions - By A. K.Ghosh (1975)
16. Thermal Comfort Zone for The People of Bengal - By J. K. Ghosh (1975)
17. Productivity And Physiological Studies On The Conch-Shell Artisans At Bishnupur - By. A.Das, A.Ghosh, B.B.Bandopadhyay, D.Chakroborty, G.G. Roy, J.K. Ghosh and P. Nag (1975)
18. Improvement of Performance In Congenital Achromatopsia By The Use of Dark Adapting Goggles - By. P.K.Nag, G.G.Ray, D.Chakroborty, A.Das, B.B.Bandopadhyay, A.K.Ghosh, J.K.Ghosh and S.Ray (1975)
19. A study on Human Factor at Hindusthan Steel Plant at Durgapur - By. P. K.Nag, G.G.Ray, D.Chakroborty, A.Das, B.B.Bandopadhyay, A.K.Ghosh J.K.Ghosh and S.Ray (1975).
20. Ergonomic Studies At Underground Coal Mines, Mine Rescue Station and a visit To The Central Mining Research and Indian School of Mines. At Dhanbad. - By J.K.Ghosh, A.K.Ghosh, A.Das, B.B.Bandopadhyay, S.Ray, P.K.Nag, D. Chakrobarty, G.G.Ray (1975)

AAW.0065(4)

DEPARTMENT OF INDUSTRIAL HEALTH

FOR PRIVATE CIRCULATION ONLY

BYSSINOSIS

Active participation by the members of the line management and the workers is very vital for industrial health., work. But to enable them to do so, necessary information has to be conveyed to them. It is with this purpose that the following note on our work on Byssinosis is prepared. It is hoped that the members of the line management after going through this will help in implementing the measures for the prevention of this disease.

WHAT IS BYSSINOSIS ?

Byssinosis is a chronic respiratory disease of cotton workers, cotton dust definitely plays an important part in its causation. This dust consists of fragments fibre, leaf, scales, husks of cotton and biological contaminants. It is not known which of these actually causes the disease. Inhalation of cotton dust for several years results in the development of Byssinosis.

This disease is mostly confined to those engaged in the preliminary processes of textile mill which include opening the bales, teasing out the cotton, removing dust and impurities, carding the cotton, removing the fly, trash and dust, stripping and grinding the teeth of the rollers of the carding machines, etc. The first symptoms of this disease are cough, chest tightness and breathlessness. To start with these are usually seen on Monday or the day following a holiday. During the rest of the week the worker is in normal health. But as the condition deteriorates, symptoms continue to appear on the second, third or subsequent days of the week. When the symptoms become continuous, the worker begins to notice increasing fatigue and diminished capacity for work. The breathlessness becomes more marked and asthma-like attacks persist every day till the worker is totally incapacitated.

Classification of Grades of Byssinosis

- | | |
|-----------|--|
| Grade 1/2 | - Occasional chest tightness on the first day of working week. |
| Grade 1 | - Chest tightness on the first day of working week (Mondays in Europe and Saturdays in Arab Countries). |
| Grade 2 | - Chest tightness on the first and other days of the working week. |
| Grade 3 | - Grade 2 symptoms accompanied by evidence of permanent incapacity from diminished effort intolerance and/or reduced ventilatory capacity. |

METHODS OF PREVENTION :

Once developed, the disease cannot be cured. So great stress should be laid in preventing the inhalation of cotton dust. This can be achieved by the following methods :

1. Preventing the dust from permeating into the general atmosphere by (a) enclosing the machinery, (b) providing local exhaust at points where dust is evolved, e.g. dusty operation of stripping and grinding the carding engines can be done without raising the dust under the influence of exhaust draughts. Also the general cleaning of the machines and the rooms can be done by vacuum cleaners.

AAW.0065(3)

T. M. Narayanan

REPORTER
THE ECONOMIC TIMES

PHONE : 263945

Prof. H. C. Ganguli

D. Phil., D. Litt., Calcutta
Fellow, Indian National
Science Academy

DEPARTMENT OF PSYCHOLOGY,
UNIVERSITY OF DELHI,
DELHI-7. (INDIA)

GOVERNMENT OF SINGAPORE
MINISTRY OF LABOUR

HAVELOCK ROAD,
SINGAPORE 1.

October 1975

P. O. Box 125
"MINLABOUR"
Telephone:
Minister of State
Parliamentary Secretary
Permanent Secretary
Deputy Secretary

Dr Alain Wisner
Conservatoire des Arts et Metiers
41 Gray Lussac
Paris,
France.

Dear Sir

I would like to ask you for a copy of the table you
circulated in the sixth quarter of the IBA last July.

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Conservatoire des Arts et Metiers
41 Gray Lussac
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7 October 1976

Ref: No.

Dr Alain Wisner
Conservatoire des Arts et Metiers
41 Gray Lussac
Paris5,
France.

Dear Sir

I would like to ask you for a copy of the talk you
presented at the Sixth Congress of the IEA last July.

Thank you very much.

Sincerely yours

LEO GREENBERG, Ph.D, PE, CSP

ILO OCCUPATIONAL SAFETY & HEALTH EXPERT

ON THIS DAY DELIVERED BY
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LEO GREENBERG, Ph.D, PE, CSP

Ministry of Labour

Havelock Road

Singapore 1

Republic of Singapore



5 Novembre 1976

Monsieur L. Greenberg

ILO OCCUPATIONAL SAFETY & HEALTH EXPERT
P.O. Box 178
SINGAPORE 1 (Indes)

Cher Monsieur,

Je regrette de répondre avec quelque délai à votre lettre du 7 Octobre. J'avais en effet besoin de faire retaper le texte en anglais qui correspond à mon exposé oral au congrès de Maryland.

Je vous joins également le texte qui a été imprimé dans les comptes rendus du congrès de l'I.E.A. Il est plus complet mais en français.

J'espère avoir l'occasion de vous rencontrer au cours d'un voyage futur en Asie du Sud-Est et vous prie d'agrèer, cher Monsieur, l'expression de mes sentiments les meilleurs.

A. Wisner

daw. 0065(2)

27 Janvier 1976

Monsieur Chainani
Director General
Central Labour Institute
Kendriya Shram Vigyan Kendra
Sion
BOMBAY-22/DD

(Inde)

Dear Sir,

I am happy to have the opportunity to visit you during the travel in South East Asia that I have to carry out as an I.L.O. consultant.

I hope that my visit will not disturb too much your projects.

You will find in this letter my travel schedule so that you may get in touch with me as for as you think it is necessary.

Truly yours.

A. Wisner
Professor of Work Physiology and Ergonomics
I.L.O. Consultant

BOMBAY

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ABOUT OURSELVES

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: 24th February, 1913.

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Nagpur (Sitabuldi, Santra Market)
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New Delhi
Raipur
Ranchi

RETAIL STOCKISTS	: 75 all over India
SHARE CAPITAL-AUTHORISED	: Rs. 150.00 Lacs.
SUBSCRIBED	: „ 126.18 „
RESERVE AND SURPLUS	: „ 117.65 „
FIXED ASSETS-NET BLOCK	: „ 344.72 „
ANNUAL SALES	: „ 1355.57 „
AREA OF LEASE HOLD LAND (AREA OF MILL PREMISES)	: 158584.29 sq. yds.

DEPARTMENTS

GENERAL	: Production Planning, Costing, Security, Office. Non-Woven Plant.
PERSONNEL	: Labour & Welfare, Time Keeping, Safety, Medical & Creche, Training, Canteen & Grain Shop.
TECH. SERVICES	: Electrical & Mechanical Engineering, Civil Engineering, Industrial Engineering (Standards & Quality Control), Stores.
MANUFACTURING	: Carding, Spinning, Weaving-Preparatory, Weaving.

PROCESSING	: Bleaching, Dyeing, Finishing, Printing, Folding, Laboratory.
NO. OF SHIFTS WORKED	: Three.
EMPLOYMENT	
OPERATIVES	: 5500
CLERKS & SEMI CLERKS	: 283
MANAGERIAL AND SUPERVISORY STAFF	: 184
PRODUCTIONS	
COTTON CONSUMPTION	: 18,000 Kg/day.
TOTAL CLOTH PRODUCTION	: 1,40,000 Metres/day.
CLOTH SOLD IN GREY	: 10,000 " "
CLOTH BLEACHED	: 1,30,000 " "
" DYED	: 60,000 " "
" PRINTED	: 55,000 " "
" MERCERISED	: 80,000 " "
" SANFORISED	: 65,000 " "
CLOTH EXPORT	: 10 per cent of total production.

COUNTRIES TO WHICH EXPORTED

: New Zealand, Fiji, East Africa, U. S. A., Scandinavian Countries, Yugoslavia, U. S. S. R., U. K., Singapore & Japan.

FABRICS MANUFACTURED**GREY**

: Jacquard Quilts, Sheeting, Poplins, Drills.

BLEACHED

: Poplins, Shirts, Checks, Longcloths, Pyjama Cloths, Drills, Lawns, Cambrics, Mulls, Sheetings, Dobby Chaddars, Dedsuties and Towels.

DYED

: Poplins, Shirts, Terene/Cot Shirts and Suitings, Tussors and Drills, Tapestry Terene/Silk Shirts and Suiting, Cambrics.

UNIQUE, JULY 1973.

PRINTED

Poplins, Tussors, Voiles, Sarees, Terycot
Shirtings and Suitings, Satins, Haircords
and Tapestries, Cambrics, Drills.

NON-WOVEN

Filters, Felts, Interlinings, Carpets, Quilts.

MACHINERY

Department

MIXING ROOM
BLOW ROOM

CARD ROOM

Name of Machine

Unit

Bale Breakers	2
Single Process Lines	2
Process Lines	
(i) Opener Lines	5
(ii) Finisher Scutcher	9
Cards—Ordinary	100
„ Semi High Production	137
Super Lap	4
Whitin High Production Combers	
—J5	12
—J7	9
—J7B	7

DRAWING FRAMES

Whitin	M-1	(8 dlys.)	1
	M-6	(4 ")	11
	M-6A	(4 ")	1
	M-7	(2 ")	10
	M-7B	(2 ")	8

SPEED FRAMES

Slubber	(78 Spindles)	12
	(80 ")	4
Inter—Canfed	(92 ")	6
— " Bobbinfed	(112 ")	12
	(112 ")	44
Roving	(144 ")	10

SPINNING

	Ring Frames		
	Spdls/Frame	Total spindls.	
Warp	440	59,320	135
Weft	536	25,192	47
Total		84,512	182

DOUBLING/REELING

Doubling Frames	(9,666 spdls.)	24
Doubler Winders		4
Fancy Doubler	(304 spdls.)	1
Reeling Frames		6
Yarn Bundling Press		2

WINDING AND WARPING

Barber Colman High Speed Spoolers:-			
	306 Spindles		3
	180 "		1
Cimmco Cone Winders	120 "		2
Schlaflhorst	60 "		5
ROTO CONER	100 "		2
Sectional Warping Machine			1
Automatic High Speed Pirn Winders:-			
Schweiter	60 Spindles		2
"	72 "		1
"	12 "		1
Barber Colman High Speed Warpers			3
Slow Speed Warpers (Old)			4
Senment Pirn Winder	16 Spdl		1
Hacoba	" " 40 "		1
Surat	" " 25 "		6
Yarn Steaming & Conditioning Machine			1

SIZING	Ordinary Sizing Machines	7
	High Speed Multi-Cylinder Sizing Machines (ZELL-ATE)	2
	Converted Multi-Cylinder Sizing Machines	2
DRAWING-IN	Drawing-in Frames	36
	Automatic Warp-Tying Machine	3
WEAVING (LOOMSHED)	Ordinary Looms	1570
	Jacquard Looms	15
	Ordinary Looms with cop change attachment	48
	Automatic Looms	312
	Lathe Machine & Drill Machine	2
BLEACHING AND MERCERISING	Shearing and Cropping Machines	2
	Singeing Machine	1
	Continuous Bleaching Range (4 J-Boxes)	1
	Kiers	7
	Mercerising Machines	2
	Washing Machines (Tight Rope)	5
	Caustic Recovery Plant	1
Open Width Bleaching Plant	1	

DYEING

Hot Flue	1
Padding Mangles	2
Jiggers—Ordinary	3
„ —Automatic	19
'Thies' Yarn Dyeing Plant	1
Float Dryer	1
Roll Opening Machine	1
H. T. H. P. Machine (i. e. High temperature High Pressure)	1
Batching Machine	1

PRINTING

Batching Machine	1
Printing Machine	4
Curing Machine	1
Soaping & Washing Machine	1
Drying Range	1
Screen Printing Tables	5
Wooden Acid Ager	1
Ager	1
Shakti High Pressure Ager	2
Copper Deposition Plant	1
Sample Printing Machine	2
Copper Roller Storage Racks	3

FINISHING

Cloth Opener Scutcher	3
Back Filling Machine	2
Drying and Finishing Range	4
Stentering & Drying Range	3
Hot Air Stenters	5
Ordinary Clip Stenters	1
Calenders	3
Felt Calender	1
Schreiner Calender	1
Sanforizing Machine	1
Zero Zero Finishing Range	1

FOLDING

Inspection Tables	19
Plaiting Machines	10
Double Folding Machines	7
Roll Folding Machines	3
Stamping Machines	2
Hydraulic Bale Press	1
Electric Bale Press	1
Selvedge Stamping Attachment	2
Inspection Machine	1



UNIQUE, JULY 1973.

SAFETY
is
my business



How to Develop Safety Sense



- be **ALERT** and don't get **HURT**
- **KNOW** what may lead to an **ACCIDENT**



SHORT SLEEVES

NO RINGS

SAFE SHOE

DRESS for comfort
& SAFETY

Loose clothing
is **DANGEROUS**
near moving
machinery



**WEAR
PROTECTIVE
EQUIPMENT
FOR
YOUR
PROTECTION**

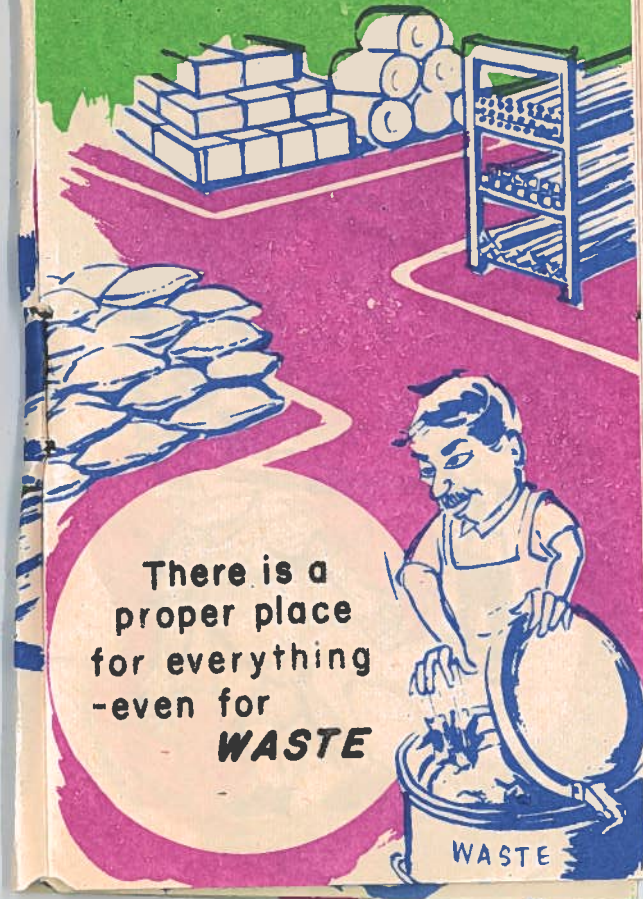


**WATCH
YOUR STEP
TO PREVENT
A FALL**





**GOOD HOUSEKEEPING
PREVENTS ACCIDENTS**



There is a
proper place
for everything
- even for
WASTE

WASTE



**Wrong way of handling
may lead to Accidents**

**LIFT with your LEGS
to AVOID
STRAIN**



Inspect
TOOLS
before
use



Discard Defective
TOOLS



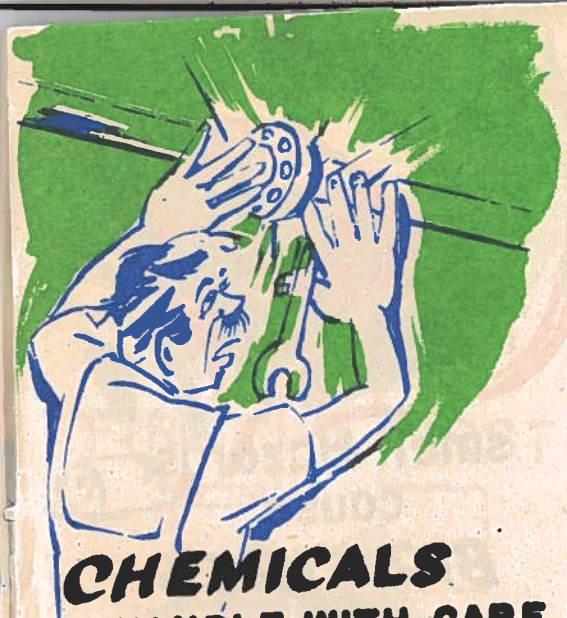


**GUARDS ARE FOR
YOUR PROTECTION**
Keep the guards in place



Never tamper with
**ELECTRICAL
EQUIPMENT**

Keep the guides in place



CHEMICALS
HANDLE WITH CARE





small Hazards
cause

BIG FIRES

Prevent them



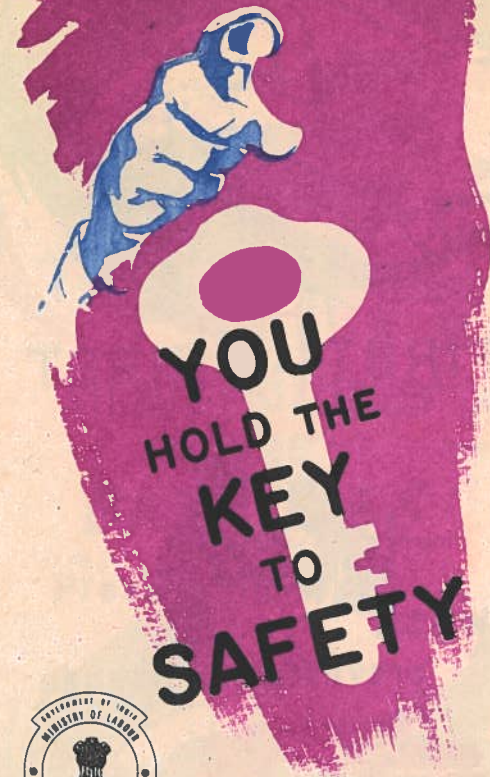


FIRST AID FIRST



WASH
prevent skin disease





भारतीय श्रमिक, कारखाना, श्रमिक सेवा
और श्रमिक शिक्षण
दंड

CENTRAL LABOUR INSTITUTE, BOMBAY.

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davp 2/5/74-PP. V English 20,000 May 1975

CURRICULUM VITAE

(As on 1st November, 1975)

1. Name in full .. PARESH NATH SAHA
2. Father's name in full .. Late Jogesh Chandra Saha
3. Date of birth .. 1st November, 1930
4. Marital status .. Married
5. Nationality .. Indian
6. Academic qualifications ..
 - a) B.Sc. (Pass) with Physics, Chemistry and Mathematics.
 - b) B.Sc. (Hons.) with Physiology - Second Class.
 - c) M.Sc. in Physiology from the Calcutta University - First Class; ranked Second in the University (Recipient of two medals awarded by the Calcutta University).
7. Present appointment .. Deputy Director (Physiology) and Head Industrial Physiology Division Central Labour Institute Sion, Bombay - 400 022.
8. Present address .. Industrial Physiology Division Central Labour Institute Sion, Bombay - 400 022.
9. Details of research work and teaching experience .. Attached (vide Annexure - A)
10. Publications .. List Attached (vide Annexure - B)
11. Scientists with whom associated .. List attached (vide Annexure - C) worked with the foreign scientists as an Indian counterpart.
12. Representation in Technical Committees .. List attached (vide Annexure - D)

DETAILS OF RESEARCH WORK AND TEACHING EXPERIENCE :

A) Research Work :

- 1) At the All-India Institute of Hygiene and Public Health, Calcutta from 16.10.1951 to 5.5.1962

I) ENERGY METABOLISM, WORK PHYSIOLOGY AND ENVIRONMENTAL PHYSIOLOGY:

- 1) Basal metabolic rate of Indians with particular reference to seasonal fluctuations.
- 2) Physical work capacity of Indians with particular reference to seasonal fluctuations.
- 3) Assessment of thermal stress and the resulting physiological strain on workers in foundries.
- 4) Assessment of workload in various operations in cotton textile industry.
- 5) Assessment of workload in certain agricultural operations in paddy harvesting.

II) RESPIRATORY PHYSIOLOGY :

- 1) Pulmonary function tests of Indians - males and females.

- 2) At the Central Labour Institute, Bombay (1962 to date)

I) WORK PHYSIOLOGY/ENVIRONMENTAL PHYSIOLOGY:

- 1) Evaluation of thermal stress and workload in a cotton textile mill in Bombay.
- 2) Evaluation of thermal stress and workload in certain operations in a soap manufacturing factory in Bombay.
- 3) Evaluation of physiological fatigue among weavers under extreme climatic conditions in a cotton textile mill in U.P.
- 4) Optimum pattern of work and rest in rolling mills of a steel plant in Bombay.
- 5) Workload assessment in transport work in foodgrains section of the Bombay Dock.
- 6) Physiologic evaluation of total occupational load on workers in certain operations in a glass factory in Bombay.
- 7) Physiologic evaluation of total occupational load on workers in sole and foxing cutting department of a shoe factory in Bombay.
- 8) Physiologic evaluation of various jobs in a dyeing and cleaning factory in Bombay.
- 9) Physical work capacity of Indian workers with special reference to age - a long-term laboratory study.

ii)

- 10) Physiologic evaluation of jobs of Doorman of the Coke Oven Battery in a large Steel Plant in West Bengal during winter months.
- 11) Determination of grip strength of different types of workers in Bombay.
- 12) Physiologic evaluation of jobs and workers in an integrated Steel Plant - I.
- 13) Physiologic effects of day-long continuous work - a laboratory study.
- 14) Evaluation of physiological strain and fatigue among gold miners in Kolar Gold Fields.
- 15) Evaluation of thermal stress and the resulting physiological strain on two categories of workers exposed to foundry operations in a non-ferrous foundry in Bombay.
- 16) Physiological effects of increased air movement in hot-dry environments.
- 17) Evaluation of occupational workload in a Cold Rolling Mill in Bombay.
- 18) A physiological investigation in the Rosin Breaking Unit of a Soap Factory in Bombay.
- 19) Evaluation of heat stress in an Engineering Workshop in Maharashtra.
- 20) Physiological studies on rest allowances - a long-term project (work in progress).
- 21) Rehabilitation assessment of below-knee amputees using P.T.B./ Conventional prosthesis.
- 22) Physiologic evaluation of occupational stress in workers in an integrated Steel Plant - II.

II) ANTHROPOMETRY :

- 1) Anthropometric study in relation to sitting arrangement in a Radio Manufacturing factory in Bombay.
- 2) Anthropometric study in relation to sitting arrangement in a Pharmaceutical factory in Bombay.

III) RESPIRATORY PHYSIOLOGY:

- 1) Pulmonary function tests on steel foundry workers in Bombay.
- 2) Pulmonary function tests on workers handling dyestuffs in various textile mill operations.
- 3) Pulmonary function tests on textile workers in Nagpur in connection with a byssinosis survey.
- 4) Pulmonary function tests on workers in a gas manufacturing factory in Bombay.
- 5) Lung function study on the workers in a rayon factory in Rajasthan.

..iii)

iii)

- 6) Evaluation of lung functions of the workers in a cement factory in Orissa.
- 7) Evaluation of lung functions of certain categories of workers exposed to cotton dust in a cotton textile mill in Bombay.
- 8) Evaluation of pulmonary functions of the workers exposed to chemical dust and fumes in an insecticides plant in Kerala.

IV) CLIMATOLOGY:

- 1) Evaluation of thermal stress in three textile mills in Vidarbha.
- 2) Evaluation of thermal stress in a paper-cones and tubes manufacturing plant in Bombay.
- 3) Evaluation of thermal stress in a plant manufacturing radiators for automobiles.

B) Teaching and Training Experience:

- 1) From 1954 to 1962 :

All-India Institute of Hygiene and Public Health, Calcutta - 12.

Post-graduate students undergoing D.P.H. and D.I.H. Courses.

Field of Teaching: Respiratory Physiology, Work Physiology, Environmental Physiology and Ergonomics with particular reference to Occupational Health.

- 2) 1962 todate:

A faculty member of the different training courses conducted by the Central Labour Institute, Bombay, and any other Govt./Semi-Govt. organisations in the field of Physiology of 'Man at Work' and its role in industrial safety and health.

- 3) November 16 to December 8, 1967 :

Was ^afaculty member of the Inter-regional training course on Ergonomics conducted by the World Health Organisation at Central Labour Institute, Bombay.

(Course Director : Prof. W. T. Singleton, M.A., Deptt. of Applied Psychology, University of Auston in Birmingham, College House, Costa Green, Birmingham - 4).

Seventeen participants representing 17 different countries from Africa, Middle-east, South East, Far East including India attended the course.

- 4) 1969 todate :

Post-graduate students undergoing D.P.H. and D.I.H. Courses at the Armed Forces Medical College, Poona.

..iv)

Field of Teaching : Respiratory Physiology, Work Physiology and Ergonomics with particular reference to Occupational Health.

5) 1970 to date:

Indian Institute of Technology, Bombay. Post-graduate students of the Diploma Course in Industrial Design.

Field of Teaching : Different aspects of Ergonomics including Respiratory Physiology and Work Physiology.

6) 1973 to date :

All-India Institute of Physical Medicine and Rehabilitation, Govt. of India, Bombay. Post-graduate students of the Diploma Course on 'Physio-therapy and Occupational Therapy' and Rehabilitation Technique for Doctors'.

Field of Teaching : Work Physiology, Respiratory Physiology and Ergonomics.

7) 1972 to 1974 :

National Institute for Training in Industrial Engineering, Bombay. Post-graduate students of the Diploma Course on 'Industrial Engineering'.

Field of Teaching : Different aspects of Ergonomics which include Work Physiology, Functional Anatomy, Environmental Physiology, etc.

8) Training Programme :

Have been conducting training programmes for Industrial Physicians, Senior Management Personnel, Factory Safety Officers and Engineers in 'Ergonomics' and 'Fatigue and Rest Allowances'.

LIST OF PUBLICATIONS :

- 1) Lung Volumes and Maximal Breathing Capacity among Men with Sedentary Occupations by Nils P. V. Lundgren, A Sen Gupta and P. N. Saha, Alumni Association Bulletin, All-India Institute of Hygiene and Public Health, Calcutta - 1, 1953, pp.14.
- 2) Physiological Norms in Indians - Pulmonary Capacities in Health - by M. N. Rao, A. Sen Gupta, P. N. Saha and A. Sita Devi, Indian Council of Medical Research Special Report Series No.38, 1961.
- 3) Thermal Stress and Physiological Strain in Foundry Operations by P. N. Saha, A. Sen Gupta and M. N. Rao, Ind. Jour. Med. Res., 50, 1962, pp. 282 - 294.
- 4) Comparative Maximal Working Capacity of Sedentary Men at Climatic Extremes in Calcutta by A. Sen Gupta, Nils P. V. Lundgren, P. N. Saha and M. N. Rao, Ind. Jour. Physiol & Allied Sci. 16, 1962, pp. 79 - 84.
- 5) Seasonal Variation in Basal Metabolic Rate in Indians by P. N. Saha, A. Sita Devi and M. N. Rao, Ind. Jour. Med. Res. 51, 1963, pp. 153 - 163.
- 6) Assessment of Workload and Thermal Stress in Relation to Physiological Responses of Workers in a Cotton Textile Mill in Bombay by R. N. Sen, S. K. Chatterjee, P. N. Saha and A. Subramanian, Industrial Physiology Division Report No.3. Issued by the Chief Adviser Factories, Ministry of Labour & Employment, Govt. of India, New Delhi, 1964.
- 7) Assessment of Workload and Thermal Stress in relation to Physiological Responses of Workers in a Soap Factory in Bombay by R. N. Sen, P. N. Saha and A. Subramanian, Industrial Physiology Division Report No.4, Issued by the Chief Adviser Factories, Ministry of Labour & Employment, Govt. of India, New Delhi, 1964.
- 8) Determination of the Level of Noise Originating from Room Air-conditioners by S. K. Chatterjee, R. N. Sen, and P. N. Saha. The Heating and Ventilating Engineers and Journal of Air-conditioning 38, No.59, February 1965, pp. 429 - 433.
- 9) The Indian Agriculturist by M. N. Rao and P. N. Saha, Journal of Occupational Medicine (official publication of the Industrial Medical Association, New York), Vol.7, No.9, Sept. 1965, pp. 447 - 451.
- 10) Rationalisation of work period and Rest Pauses in a Steel Rolling Mill in Bombay by R. N. Sen, S. K. Chatterjee, P. N. Saha and J. G. Fletcher, Industrial Physiology Division Report No.6. Issued by Directorate General Factory Advice Service and Labour Institutes, Ministry of Labour, Employment & Rehabilitation, New Delhi, 1966.

- 11) Body Measurements of Indian Workers in relation to Sitting Arrangements - Part I : Study in a Radio Manufacturing Factory in Bombay by P. N. Saha, Industrial Physiology Division Report No.7. Issued by Directorate General Factory Advice Service and Labour Institutes, Ministry of Labour, Employment and Rehabilitation, Bombay, 1968.
- 12) Body Measurements of Indian Workers in relation to Sitting Arrangements - Part II : Study in a Pharmaceutical Factory in Bombay by P. N. Saha, Industrial Physiology Division Report No.8. Issued by Directorate General Factory Advice Service and Labour Institutes, Ministry of Labour, Employment & Rehabilitation, Bombay, 1969.
- 13) Some Observations on Industrial Noise by P. N. Saha, Industrial Safety and Health Bulletin, Vol. XII, No.4, Oct-Dec. 1969, pp. 51 - 53 issued by the Directorate General Factory Advice Service and Labour Institutes, Ministry of Labour, Employment & Rehabilitation, Govt. of India, Bombay.
- 14) Physiologic Evaluation of the Job of Doormen of the Coke Ovens Battery of a Steel Plant by P. N. Saha, Industrial Physiology Division Report No.9. Issued by Central Labour Institute, Govt. of India, Bombay, 1969.
- 15) Evaluation of Thermal Stress in Paper Cones and Tubes Manufacturing Plant by P. N. Saha, Industrial Safety & Health Bulletin, Vol. XIII, No.2, April - June, 1970, pp.63 - issued by the Directorate General Factory Advice Service and Labour Institutes, Ministry of Labour, Employment & Rehabilitation, Govt. of India, Bombay.
- 16) Thermal Stress in Textile Mills in Vidarbha by P. N. Saha and S. K. Das, Industrial Physiology Division Report No.10. Issued by Central Labour Institute, Govt. of India, July, 1970.
- 17) Physiological Effects of Increased Air Movement in a Hot-Dry Environment Part I - Studies in an Engineering Plant in Vidarbha Region by Dr. S. S. Ramaswamy and P. N. Saha, Industrial Physiology Division Report No.11. Issued by Central Labour Institute, Govt. of India, Bombay, 1972.
- 18) Environmental Heat Load and Physiological Strain in Steel Industry by P. N. Saha, I.C.M.R. Technical Report Series No.15 (Symposium on 'Health in Relation to Work and Heat Stress in Place of Work'). New Delhi, 1972.
- 19) Physiologic Evaluation of Jobs and Workers in an integrated Steel Plant by P. N. Saha, Industrial Physiology Division Report No.12. Issued by Central Labour Institute, Govt. of India, Bombay, 1973.
- 20) Some Anthropometric Measurements of India Workers in Relation to Sitting Arrangements by P. N. Saha. Ind. Jour. Occup. Health, Vol.XVI, No.1 & 2, January and February, 1973, pp.14.

- 21) Evaluation of Occupational Workload in a Cold Rolling Mill in Bombay by P. N. Saha and P. K. Banerjee, Industrial Physiology Division Report No.13. Issued by Central Labour Institute, Govt. of India, Bombay, 1973.
- 22) Physiological Effects of Increased Air Movement in a Hot-Dry Environment - Part II : Further Studies in Vidarbha Region by P. N. Saha and P. K. Banerjee, Industrial Physiology Division Report No.14. Issued by Central Labour Institute, Govt. of India, Bombay, 1973.
- 23) A Physiological Investigation in the Rosin Breaking Unit of a Soap Factory in Bombay by P. N. Saha and P. K. Banerjee, Industrial Physiology Division Report No.15. Issued by Central Labour Institute, Govt. of India, Bombay, 1974.
- 24) Physiological Effects of Increased Air Movement in a Hot-Dry Environment - Part III : Studies in Northern Region by P. N. Saha and P. K. Banerjee. Industrial Physiology Division Report No.16. Issued by Central Labour Institute, Govt. of India, Bombay, 1974.
- 25) Aerobic Capacity of Dock Workers in Bombay by P. N. Saha. American Industrial Hygiene Association Journal, Vol.36, 311, 1975.

PAPERS PRESENTED IN NATIONAL/INTERNATIONAL SEMINARS/SYMPOSIA/CONFERENCES :

- 1) Aerobic Capacity of Indian Workers in Relation to Age and Occupation by P. N. Saha. Presented at the International Satellite Symposium on "Exercise and Sports Physiology" held at Patiala during the period from 28th to 30th October, 1974.
- 2) Prediction of Energy Expenditure from Pulse Counts in Industrial Work Situation by P. N. Saha and P. K. Banerjee (ready for publication) - Presented at the XXV All-India Annual Conference of the Indian Association of Occupational Health and XXIII Annual Convention of Bombay Branch held in Bombay from 28th to 31st March, 1975.
- 3) Aerobic Capacity and its Relation with Pulmonary Capacities in Health by P. N. Saha, P. K. Banerjee and S. R. Datta (ready for publication) - Presented at the XXV All-India Annual Conference of Indian Association of Occupational Health and XXIII Annual Convention of Bombay Branch, held in Bombay from 28th to 31st March, 1975.

PARTICIPATION IN MULTI-DISCIPLINARY STUDIES :

- 1) Health and Fitness Status of Workers in the Bleaching, Dyeing and Finishing Departments of a Textile Mill in Bombay by Dr. Harwant Singh, Dr. Salil Bhar, P. N. Saha and Dr. V. P. Gupta, 1971.
- 2) Assessment of Occupational Health Status of Foundry Workers by Dr. S. Bhar, P. N. Saha, S. K. Dangwal and S. K. Das, 1972.
- 3) Industrial Hygiene and Occupational Health Studies in an Insecticides Plant in Kerala by S. C. Kale, P. N. Saha, S. K. Dangwal and P. K. Banerjee, 1973.
- 4) Occupational Health Investigations in a Cement Factory in Orissa by S. C. Kale, P. N. Saha, Dr. S. Bhar and S. Chakravorty, 1974.

SCIENTISTS WITH WHOM ASSOCIATED :

A) Indian Scientists :

- 1) Prof. M. N. Rao, M.B.B.S., M.P.H., Dr. P. H. (Harvard),
F.A.P.H.A., (U.S.A.), F.A.M.S. (India)
I.L.O. Consultant
C/o U.N.D.P.,
Boudhaloke
Mawathe
Colombo - 7 (Sri Lanka)

Formerly Director and Professor of Physiological and
Industrial Hygiene
All-India Institute of Hygiene and Public Health
110, Chittranjan Avenue
Calcutta - 12.

Period of association : 1951 to 1962.

B) Foreign Scientists :

- 1) Prof. Nils P. V. Lundgren, M.D.,
Professor, National Institute of Occupational Health
Arbeitsmediciniska Institutet
Fack, Stockholm 60
Sweden.

Period of association : 1952 to 1954.

Deputed to India (All-India Institute of Hygiene and Public
Health, Calcutta) by the W.H.O. as Expert in Work Physiology
and Industrial Hygiene.

- 2) Prof. E. H. Christensen, M.D., Ph.D.,
Emeritus Professor
Deptt. of Physiology
Gymnastiska Central Institutet
Stockholm
Sweden.

Deputed to India (Central Labour Institute, Bombay) by the
I.L.O. as Expert in Occupational Physiology.

Period of association : 1961 to 1962.

- 3) Dr. J. G. Fletcher, M.Sc., Ph.D., F.R.I.C.,
71, Foxcroft Lane
Willimeville
New York 14221
U.S.A.

Deputed to India (Central Labour Institute, Bombay) by the

I.L.O. as Expert in Occupational Physiology.

Period of association : July 1964 to December 1964.

- 4) Dr. K. Podlesak, M.D.,
Institute of Industrial Hygiene and Occupational Diseases
Prague 10
Srobarova 48
Czechoslovakia.

Deputed to India (Central Labour Institute Bombay) by the I.L.O.
as Expert in Occupational Physiology.

Period of association : April 1966 to May 1967.

REPRESENTATION IN TECHNICAL COMMITTEES :

- 1) A member of the "Work Study Sectional Committee, EC-9" of the Indian Standards Institution "Sub-committee on Working Conditions and Allowances".
- 2) Was a member of the committee on 'Fatigue Among Mine Workers' which submitted a report in 1974 of the scientific investigation carried out in 18 different types of mines in India by the Directorate General of Mines Safety, Dhanbad, Govt. of India.

A RESUME OF CAREER

1. Name : RANENDRA NATH GHOSH
2. Address : GURU KRIPA, Kaybee Road, Thana - 400601, Maharashtra, INDIA.
3. Date of Birth : January 1, 1940
4. Marital Status : Married; two children.
5. Education :
 - a) Passed School Final Examination conducted by Board of Secondary Education, West Bengal with first division in 1955; secured 72% marks.
 - b) Passed Intermediate Science Examination from Presidency College, Calcutta with first division in 1957. Was awarded a merit scholarship.
 - c) Graduated in mechanical engineering with first class honours from Indian Institute of Technology, Kharagpur in 1961. Got specialised in production engineering in the final years; this subject used to be offered to outstandingly meritorious students.
 - d) Underwent a course on Operations Research which was conducted by Calcutta Branch of O.R. Society of India.
6. Practical Training :
 - a) Had a vocational training for six weeks in the Calcutta factory of Metal Box Co. of India Ltd. in 1959.
 - b) Had a vocational training for six weeks in the Forge Division of Guest Keen Williams Ltd. Calcutta in 1960.
 - c) Secured a fellowship, sponsored by Asian Productivity Organisation, Tokyo and went to Japan for three months in 1970 for undergoing a thorough on-the-job training on production-level cum-industrial engineering. Was posted in Toshiba Machine Tool Co. Ltd., Numazu and had to conduct studies in the Assembly line of Vertical Boring Machines. Study involved a thorough application of activity sampling, Simulation, PERT, Sequencing etc.
7. Professional Membership :
 - a) A member of the institution of Production Engineers, London.
 - b) An Associate Member of the Institution of Engineers, India.

8. Experience

- : a) Indian Iron & Steel Co. Ltd. Bumpur
 Joined in September 1961 as Officer Trainee. After a thorough training in various departments, Sheet Mills and Rolling Mills in particular, was placed in 34" Mills as a First Staff Shift Assistant to look after production. Left in June, 1964.
- b) Ibcon Pvt. Ltd.
 Joined Ibcon Pvt. Ltd., a reputed firm of Management Consultants, in July 1964. After a rigorous initial training on various topics of industrial engineering, was posted in different industries for conducting studies and implementing the same. These are:
- i) Empire Dyeing and Mfg. Co. Ltd. - Studies for efficient utilisation of fuel, caustic soda and water. These studies alone yielded a benefit of about Rs.50,000/- per month. Detailed Studies on methods and work measurements were also made in various process and engineering maintenance departments.
 - ii) Ceat Tyre - Study was made in their Accounts Department for introducing a Plant Register which would also indicate the exact depreciated value of each item of Plant and Machinery.
 - iii) Khira industries - Negotiated incentive discussions (studies were made earlier), conducted implementation of various other studies.
- Left Ibcon in October, 1966.
- c) Macneill & Barry Ltd.
 Joined Macneill & Barry Group of Companies in November, 1966 and went round many a unit in the capacity of Industrial Engineer.
- i) Equitable Coal Co. Ltd. - Had conducted studies in the underground for better utilisation of men, coal cutting machines and hauling units. Also carried out many studies by PERT for installation of mechanical handling devices. Was also acting Works Manager of their engineering repair shop at Neamatpur for about five months. The factory has a strength of about 250 employees. Studies on inventory control and Stores Procedures were made at their stores.

contd..

- ii) Macneill & Barry Services Ltd. - Carried out O & M studies in the Tea Departments at the Head Office of Macneill & Barry. Studies were necessary for expending ledger postings and avoiding duplications.
- iii) Containers & Closures Ltd. - Had studied various problems of capacity utilisation, implementation of incentive schemes, assessment of departmental capacities, efficient use of raw materials, O & M. Also had set-up a planning cell for smooth functioning.
- iv) Ganges Printing Co. Ltd. - Had to carry out many studies and implement them with complete executive responsibilities. Material savings were worth about Rs.20,000/- per month for a turn-over of Rs. 3.25 lakhs p.m. Also had set-up a planning cell for effective routing and scheduling. Later on was promoted to the rank of Works Manager. Materials management and effective planning were two prime areas of study here.
- d) Stewarts & Lloyds of India Ltd.
Joined in January 1972 as Works Manager of their Bombay Factory. Responsibilities include production, maintenance, development activities, systems & methods, personnel, despatch. Also I am look after erection activities of local sites.

9. Extra Curricular : I used to deliver lectures on production planning
Activities : and PERT techniques at various industrial houses
and Institute of Social Welfare and Business
Administration.

INDUSTRIAL PHYSIOLOGY DIVISION
CENTRAL LABOUR INSTITUTE, SION, BOMBAY - 400 022.

1. Functions:

- 1.1. Industrial Physiology Division has been equipped to function as a research laboratory to study the effects of physical work of varying intensities and the environmental stresses, particularly heat stress from the working environments, and offer suggestions to industries for promoting the health & efficiency of industrial workers with a view to increasing their productivity.
- 1.2. It undertakes research and training in the fields referred to in 1.1. and
- 1.3. It aims at defining tolerance limits for physiological workload, rate of work and arriving at optimum conditions of work and work environments. The principal goals in this respect are the following:
 - i) Safety and health;
 - ii) Comfort and contentments;
 - iii) Efficiency of work and
 - iv) Jobs to suit all sections of the industrial population.
- 1.4. It offers technical advice and service to industry in these areas of research and training.

2. Facilities:

2.1. Research and Training:

Facilities for research and training are available in the following fields:

a) OCCUPATIONAL PHYSIOLOGY:

i) Work Physiology:

Physiological effects of physical work of varying intensities; evaluation of jobs; assessment of physical fitness of industrial workers; selection of workers from the physiological point of view; physiological fatigue; permissible limits for continuous work; optimum duration of work cycles and rest pauses; etc.

ii) Environmental Physiology:

Physiological effects of heat, noise and other environmental stresses met in industry; thermal limits for day to day industrial work.

iii) Respiratory Physiology:

Physiological effects of dust, fumes and toxic gases on the pulmonary functions of the industrial workers.

b) ERGONOMICS

i) Anthropometry:

Measurements of various body dimensions for the purpose of ergonomic design of equipment, seats for industrial workers, design and layouts of work-places etc.

ii) Biomechanics:

Motor abilities of man, principles of load lifting and carrying, work postures and its relation with work and workspace arrangements, etc.

iii) Work Physiology:

Already mentioned at a i & a ii above.

iv) Environmental Physiology:

Faint, illegible text from the reverse side of the page is visible through the paper, including phrases like 'Industrial Physiology Division', 'Research and Training', and 'Occupational Physiology'.

INDUSTRIAL PHYSIOLOGY DIVISION
CENTRAL LABOUR INSTITUTE, BOMBAY - 400 022.

LIST OF PUBLICATIONS

1963

~~XXXXXXXXXXXX~~

- 1) Man At Work - Outline of Work Physiology By E. H. Christensen. (Special Report)

1964

- 2) Body Measurements of Male Workers in Textile Mills in Bombay - Report no.1, By A. K. Sen & R. N. Sen.
- 3) Heart Rate Responses in Wearing a Variety of Industrial Protective Face Masks - Report no.2, By S. K. Chatterjee.
- 4) Assessment of Workload & Thermal Stress in Relation to Physiological Responses to Workers in a Cotton Textile Mill in Bombay - Report no.3, By R. N. Sen, S. K. Chatterjee, P. N. Saha & A. Subramanian.
- 5) Assessment of Workload & Thermal Stress in Relation to Physiological Responses of Workers in a Soap Factory in Bombay - Report no.4, By R. N. Sen, P. N. Saha & A. Subramanian.
- 6) Muscular Fatigue During Transport of Load in the Horizontal Plane - Report no.5, By M. N. Gupta & Ing. W. Rohmert.
- 7) Determination of the Level of Noise Originating from Room Air-conditioners By S. K. Chatterjee, R. N. Sen, and P. N. Saha. The Heating and Ventilating Engineers and Journal of Air-conditioning 38, No.59, February 1965, pp. 429-433.

1966

- 8) Rationalisation of Workload and Rest Pause in a Steel Rolling Mill in Bombay - Report no.6, By R. N. Sen, S. K. Chatterjee, P. N. Saha & J. G. Fletcher.

1968

- 9) Body Measurements of Indian Workers in Relation to Sitting Arrangements. Part I - Study in a Radio manufacturing factory in Bombay - Report no.7, By P. N. Saha.

1969

- 10) Body Measurements of Indian Workers in Relation to Sitting Arrangements. Part II - Study in a Pharmaceutical factory in Bombay - Report no.8, By P. N. Saha.
- 11) Physiologic Evaluation of the Job of Doorman of the Coke Oven Battery of a Steel Plant - Report no.9, By P. N. Saha

1969 - Contd...

- 12) Some Observations on Industrial Noise by P. N. Saha, Industrial Safety and Health Bulletin, Vol.XII, No.4, Oct-Dec.1969, pp.51-53-issued by the Directorate General Factory Advice Service and Labour Institutes, Ministry of Labour, Employment & Rehabilitation, Govt. of India, Bombay.

1970

- 13) Thermal Stress in Textile Mills in Vidharbha - Report no.10, By P. N. Saha, & S. K. Das.
- 14) Evaluation of Thermal Stress in Paper Cones and Tubes Manufacturing Plant by P. N. Saha, Industrial Safety & Health Bulletin, Vol.XIII, No.2, April-June, 1970, pp.63 - issued by the Directorate General Factory Advice Service and Labour Institutes, Ministry of Labour, Employment & Rehabilitation, Govt. of India, Bombay.

1972

- 15) Physiological Effects of Increased Air Movement in a Hot-Dry Environment. Part I - Studies in an Engineering Plant in Vidharbha Region - Report no.11, By S. S. Ramaswamy & P. N. Saha.
- 16) Environmental Heat Load and Physiological Strain in Steel Industry by P. N. Saha, I.C.M.R. Technical Report Series No.15 (Symposium on 'Health in Relation to Work and Heat Stress in Place of Work), New Delhi, 1972.

1973

- 17) Physiologic Evaluation of Jobs and Workers in an Integrated Steel Plant - Report No.12, By P. N. Saha.
- 18) Evaluation of Occupational Workload in a Cold Rolling Mill in Bombay - Report No.13, By P. N. Saha & P. K. Banerjee.
- 19) Physiological Effects of Increased Air Movement in/Hot-Dry Environment - Part II - Further studies in Vidarbha Region - Report No.14, By P. N. Saha & P. K. Banerjee.
- 20) Some Anthropometric Measurements of Indian Workers in Relation to Sitting Arrangements by P. N. Saha. Ind. Jour. Occup. Health, Vol.XVI, No.1 & 2, January and February, 1973, pp.14.

1974

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INDUSTRIAL PHYSIOLOGY DIVISION
CENTRAL LABOUR INSTITUTE
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REUNION DE CONSULTANTS SUR LE
PROGRAMME INTERNATIONAL DE L'AMELIORATION
DES CONDITIONS DE TRAVAIL

Vous trouverez ci-joint une note envoyée par le Professeur Nitish R. De, Dean, National Labour Institute, New Delhi.

M. Nitish R. De était parmi les consultants invités à la réunion. Pour des raisons de santé, il ne peut pas être présent. Il a toutefois tenu à faire connaître ses vues à la présente réunion.

MEETING OF CONSULTANTS CONCERNING
THE PROGRAMME
FOR THE IMPROVEMENT OF CONDITIONS OF WORK

Please find attached a note sent by Professor Nitish R. De, Dean of the National Labour Institute, New Delhi.

Mr. Nitish De was among the consultants invited to the meeting, but for health reasons he will not be present. He has nevertheless provided us his views for this meeting.

15.12.1975

WORKING CONDITIONS AND ENVIRONMENT

These are some random thoughts for the consideration of the Informal Group. I would have explained these at length for the consideration of the fellow members of the Group, but for my illness and inability to attend the meeting.

1. A Basic Framework for Making Work More Human

It is necessary to develop a basic framework in terms of meta-ecological balance about the role of working conditions and environment so that a systemic balance is maintained ^{instead} ~~in respect of~~ adhoc parameters. A tentative framework is given below:

This dynamic balance is a six-order function:

- i) Man-Nature Balance;
- ii) Nation-Nation Balance;
- iii) Man-Technology Balance;
- iv) Man-Organisation Balance;
- v) Man-Group Balance;
- vi) Man-Man Balance.

These six major interfaces are crucial to our understanding of changing role of relationships -- those between inter-dependent systems, sub-systems and elements. Man depends on nature for resources and nature depends on man for its definition. [Human life gives meaning to nature.] One nation depends on another for exchange of ideas, products, men and services. Man depends on technology for 'comfort' and technology can only be enhanced by man. Man depends on organisations for achieving purposes and organisations depend on man for resources and skills. Man depends on human groups for the satisfaction of certain needs; groups depend on man for membership and contributions. Man depends on man for self-definition, self-esteem and self-growth. ["It takes two to see one."] The underlying process of interdependence sustains this dynamic balance from one point of equilibrium to another.

2. Need To Overcome The Paradox of Counter-productivity

Ivan Illich (1975) has ^{mentioned} ~~given~~ the paradox of development, as is being practised in developed as well as in developing countries, by citing many telling experiences. One example he gives about the distance an average Frenchman travels per hour when engaged in producing and operating means of transportation and in earning the money to pay for them. This is found to be in the order of 5.5 kilometres, and, at the same time, the percentage of waking hours spent by an average French worker in the production of transportation is slowly rising from 27 to 29 per cent of total waking hours.

Yet another example is provided by a CGT union leader, recently, when he says that increased education in France, in fact, in all developed countries, is providing for under-utilisation of human resources. According to him, in the course of last 20 years, active working population increased by 12 per cent in France whereas the number of routine-oriented working force increased by 45 per cent.

A third example is given by the second report of the Club of Rome, according to which, a large number of particle removing aircleaning devices were installed in the United States and in Western Europe to combat air pollution. As a result, smoke pollution was cut down considerably. However, the gases up the smokestacks did not carry solid particles and the various nitrogen oxides and sulphur dioxide could freely combine with water in the atmosphere forming sulphuric and nitric acid.

These and many other similar examples indicate that a non-systemic approach in combating the dysfunctions of working conditions has brought about counter-productivity because the basic rationale of ~~meta~~-meta-ecological balance, as outlined under point 1 has been ignored.

In this connection, Illich's concept of production of goods and services for use values as opposed to production of consumerism culture in terms of exchange values deserves attention. If one goes by Mesarovic and Pestel model (1975), one is convinced by the statistics provided by them, keeping the year 2025 AD, that the economic interdependence of the nations in the world is so important, region by region (they have identified 10 regions) that the developed countries would be required ^{on the one hand,} to slow their pace of industrial development with a view to conserving the scarce resources and the developing countries to give priorities to their objectives so that they can, on the other hand, improve the quality of working life by improving the standards of work and living without slavishly imitating the traditional western model.

3. Need for Transdisciplinary Approach in Dealing With The Problems of Working Conditions and Environment

The different aspects of working conditions with a view to establishing a human environment for work call for a trans-disciplinary approach which is distinct from the more traditional approach. I provide a graphic diagram from Jantsch (1974).

(see next page)



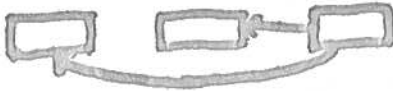
Disciplinary:
specialisation in isolation



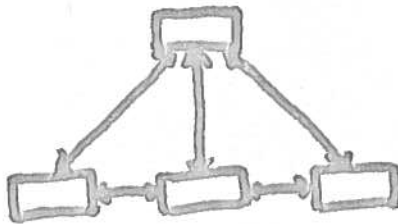
Multidisciplinarity:
no co-operation



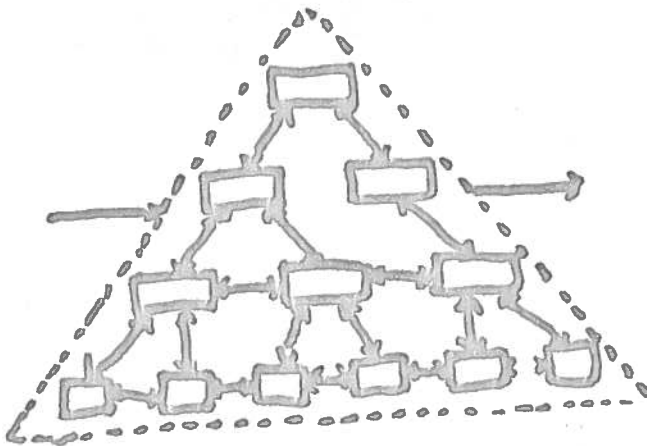
Pluridisciplinarity:
co-operation without
coordination



Crossdisciplinarity:
rigid polarisation toward
specific monodisciplinary
concept



Interdisciplinarity:
co-ordination by higher-
level concept



Transdisciplinarity:
multi-level co-ordination
of entire education/
innovation system

Steps Toward Increasing Co-operation and Co-ordination
in the Science/Education/Innovation System

Transdisciplinarity is necessary to meet with the diagnosis mentioned by Ivan Illich and also to develop a proper science as well as an implementation policy for humanising work situation. In order to bring this about in different continents and countries, which are at ~~a~~ different levels of development, it is necessary that natural scientists, environmentalists, social scientists and appropriate agencies under the Ministry of Labour, Ministry of Technology and the Ministry of Education with an overall coordination ~~&~~ ^{by} ILO and other international agencies develop national as well as regional task forces to work out the strategy. The relevant caution is that only such people should form these task forces who are wedded to the spirit of transdisciplinarity.

4. The Differential Needs of Rural Areas and Small Industries

In the developing countries, rural based activities are perhaps more important than industrial areas. The third world is very critical in this respect.

Here a broad distinction in strategy is necessary. While in the developed world stricter controls are necessary to develop industrial environment and working conditions to deal with air and water pollution with a view to controlling the sacrilege of environment, in the developing countries priority attention will need to be paid to the conditions of work in relation to quality of working life of the rural poor. Differential strategies will need to be developed accordingly.

One can cite two hurried examples. The East African community consisting of Tanzania, Kenya and Uganda have developed reasonably sophisticated transnational corporations such as airlines, port and harbour facilities and postal and telecommunication services. These corporations will need establishment of similar norms, if not

exactly the same as the developed world. At the same time, Tanzania is going ahead with a unique form of rural development called Ujamaa ^{village} ~~Followship~~ Movement where new rural communities on egalitarian lines are being developed. These two strategies will require differential attention in terms of making work more human. Another example can be given from the developing areas in the Pacific, Fiji, Papua New Guinea and the Solomon Islands. These are essentially agrarian communities and to a great extent the economy is still non-monetised. On account of uncritical importation of western technology, the traditional economy based on the production of taro, yams and sweet potato is being neglected. Yet, should an appropriate technology be developed to make these traditional products augmented in quantity and quality, perhaps the quality of life could be improved much easier than by importing technologies which are not relevant (Fisk, 1974).

7. The Basic Regulatory Mechanism for Ensuring Effective Working Conditions and Desirable Work Environment

While it is admitted that certain government regulations and statutory mechanisms would be necessary in all countries for which a model has been set by the recent ILO Convention, the basic requirement to ensure the effectiveness of the whole programme will be to involve the participants in the working situations in being critically conscious of the relevant working conditions and to associate them in developing the same. There are two well-tested strategies for the same. One is the strategy of making technology subservient to the requirements of the working group and to match the two in terms of the strategy developed in Scandinavian countries, Kalmar Factory of VOLVO for example, and, on the other, to adopt the dialogical process developed by Paulo Freire (1974) in accordance with which the participative design to match technological system with the social

system of work is not only conceivable but ^{made} practical. Once the participants in a work system are involved in designing the system taking into account the appropriate working conditions and environmental forces, work will not only become more human but human beings will become more enriched in the work situation. To give an example, Delamine Steel Company near Milan in Italy had set up a task force consisting of workers, supervisors and managers, two to three years in advance in designing a new steel plant and a rolling mill, keeping in view the kind of work system that they need to design, to optimise the joint collaboration between the technology and the work force. One could see the effect of such a design system in Central Beheer Insurance Company near Amsterdam where such a design included the design of the office building where architecture became a part of a total productive work system design.

6. The Operational Parameter

The Informal Working Group may wish to consider these and similar other relevant factors and then set up decentralised working groups for Asia, Africa, Eastern Europe, Western Europe, North America and Latin America. These working groups can then work out in greater details working papers for regional workshops within the region for which relevant data and information would need to be collected. These regional workshops can then make concrete comprehensive proposals to various member states of ILO for appropriate action.

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Physiologie du Travail

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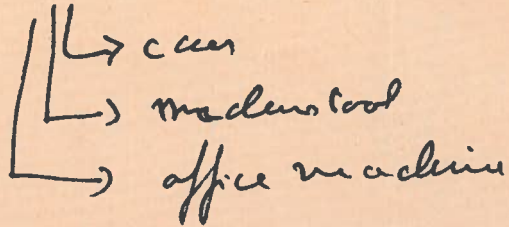
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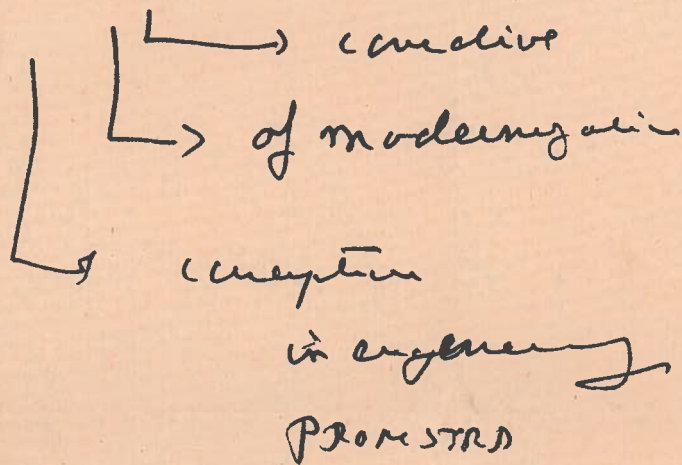
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Engines

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Strengthen J & K accord: Jha

JAMMU, February 9: The Jammu and Kashmir governor, Mr. L. K. Jha, said today the Kashmir accord had "effectively silenced the voice of outside meddlers in our affairs."

In his 30-minute address to the joint session of the state legislature on the opening day, the governor said that within the country and especially in this state the accord had brought for the people a new opportunity to devote themselves to national tasks like promotion of socio-economic welfare.

"We must not allow anything to come in the way of our enduring and purposeful implementation of the accord. The broader objectives of socio-economic development admit of no partisan approach", Mr. Jha said.

Referring to the 20-point programme, Mr. Jha said Mrs. Gandhi's "courageous and determined lead" to the nation had "halted the drift toward chaos."

The governor reiterated the government's commitments regarding land reforms and said that "reconsidered proposals in this behalf, aiming at mitigating the hardships of petty land owners", would be brought forward during the current session.

The governor said that as a result of consultations in recent months with businessmen in Calcutta, Bombay and New Delhi, a new and promising atmosphere had been generated for harnessing private investment for the industrial progress of the state.

Sheikh's recipe for success

JAMMU, February 9: Sheikh Abdullah, chief minister of Jammu and Kashmir, has said that music had helped him a lot in building up his political career.

The sheikh, who was addressing a gathering on the occasion of the youth festival organised by the university of Jammu yesterday, said that he used to recite scriptures in his youth before big audiences. This attracted the masses and that became one of the factors responsible for his powerful leadership, he added.—Sanaachar.

Delhi aid likely for Assam hill areas

GAUHATI, February 9: Assam's annual plan for 1976-77 has been fixed at Rs. 72.66 crores, which will include Rs. 66.36 crores for the general areas and Rs. 6.30 crores for the hill areas.

Inaugurating the budget session of the Assam assembly here today, the governor, Mr. L. P. Singh, said special Central assistance for the hill areas as well as a sub-plan for the plains tribal section were likely to be granted by the planning commission.

Mr. Singh said steps were being taken to mobilise resources and to economise on government expenditure to implement the annual plan successfully.

He said priority had been given to the rural sector, especially agriculture and other allied activities.

Mr. Singh said a record production

Mr. J. de Givry (right) of the ILO, Geneva, addressing the "Quality of working life" seminar at the Central Labour Institute in Bombay on Monday. Below are Mr. P. N. Haksar of the planning commission and Prof. A. Wisner, an ILO expert.



Haksar on organised sector's responsibility

By A Staff Reporter

NO NATIONAL seminar would be meaningful unless it took stock of the Indian reality and aspirations and strove to understand and remove the dichotomies between organised and unorganised labour, the rich and the poor and the urban and rural people, Mr. P. N. Haksar, deputy chairman, planning commission, said in Bombay on Monday.

Mr. Haksar was inaugurating the two-day national seminar on "Quality of Working Life" organised by the Central Labour Institute and the National Labour Institute, New Delhi, at the CLI auditorium in Sion in the absence of Mr. K. V. Raghunatha Reddy, Union Labour Minister, who was away in Chasna.

Mr. Haksar, who described himself as an "empiricist" to whom facts were sacred, said that if people in the organised sector were on the move, they should know the destination. Otherwise, it would be an exercise in futility and "conspicuous consumption of time and energy."

Mr. J. de Givry, deputy director-general, I.L.O., and chief of its working conditions and environment division, stated in his keynote address on "Improving working conditions and environment—a major challenge," that the I.L.O. had over the years since its inception in 1919, sought to improve the lot of the working man all over the world.

VULNERABLE WORKERS

With new products and new chemicals emerging out of a constantly changing technology, the work force the world over was more vulnerable and susceptible to the effects of toxic chemicals, noise, pollution and vibrations which had to be countered by industrial medicine, better work techniques, scientific studies for improving working methods and techniques and if need be, legislation at national and international levels.

I.L.O. action covered a broad spectrum of labour activities and it strove consistently to improve the physical and material conditions of workers.

where agricultural labour is said to be organised, the actual average was just 80 work days in a year. Since they got employment for relatively fewer days in a year, his Institute had recommended a minimum daily wage of Rs. 6.50 for such casual workers.

Prof. A. Wisner, director-cum-professor of work, physiology and ergonomics, Conservatoire National des Arts et Metiers, Paris, and I.L.O. consultant, stressed the scientific methods used for studying man at work in all kinds of work environment in his address on "man at work", and stated that tests were taken as regards work posture, improvements in working conditions, study of noise levels and oxygen consumption and the effects of heat and vibrations on the workman's health, mental and physical. The effects of working in hostile conditions and how these could cause neurotic symptoms, psycho-somatic problems and excessive mental tension were enumerated.

Brigadier G. R. Chainani, director-general, Factory Advice Service and Labour Institutes, said in his welcome address that a recent CLI study on young workers' aspirations had shown that today's work force was better educated and better trained and wages were not the only criterion for job satisfaction. This established the necessity for enrichment of the job and work autonomy for achievement of the five Ps—participation, progress, performance, protectivity and prosperity.

Dr. S. S. Ramaswamy, deputy director-general, Factory Advice Service and Labour Institutes, proposed a vote of thanks. Later, Mr. Haksar inaugurated a "mobile safety exhibition" in the CLI's second mobile van. Attending the national seminar are representatives of management and labour in the public sector and representatives of trade unions as also people from the private sector.

New method to recover copper

"The Times of India" News Service

BANGALORE, February 9: A

Awards for 10 craftsmen

NEW DELHI, February 9: Ten craftsmen from different parts of the country will receive national awards for master-craftsmen from the President, Mr. Fakhruddin Ali Ahmed, here on February 23.

Two craftsmen each from Andhra Pradesh and Tamil Nadu, and one each from Aurnachal Pradesh, Bihar, Gujarat, Maharashtra, Orissa and Nagaland will receive the award which include the traditional "tamrapatra" an "angavastram" and a cash prize of Rs. 2,500.

Aimed at giving an incentive to the traditional craftsmen and inspiring them towards greater zeal and artistic perfection, the national awards for master-craftsmen was instituted in 1965 by the All India Handicrafts Board, a wing of the ministry of commerce.

The craftsmen selected for national awards, are: Mr. Sudam Guin (Orissa—tie and dye), Mr. Vinnakota Venkataswamy (Andhra Pradesh—Kalamkari), Mr. Gurappa Chetty (Andhra Pradesh—Kalamkari), Mrs. Ganga Devi (Bihar—Madhubani painting), Mr. Tekatsungba Ao (Nagaland—Naga shawl), Mrs. Siddiammal (Tamil Nadu—Toda embroidery), Mr. Janakiraman Sthapati (Tamil Nadu—stone sculpture), Mrs. E. Feyok (Arunachal Pradesh—bead work), Mrs. Hazrabai and Mrs. Sakinabai (Gujarat—tie and dye), Mr. Jivya Soma Mase (Maharashtra—Wari painting).

Asian paediatric surgeons' talks

By A Staff Reporter

The Asian association of paediatric surgeons will host the third Asian congress of paediatric surgery at the Taj Intercontinental Hotel, Bombay, from February 14 to 16.

Dr. R. K. Gandhi, honorary professor of paediatric surgery at the KEM Hospital and organising chairman of the congress, said in Bombay on Monday that the programme would consist of discussions on the

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The last date for the receipt of the sealed tender to Specification No. C. 1185 for the above work has been extended from WEDNESDAY THE 28TH JANUARY 1976 TO THURSDAY THE 12TH FEBRUARY 1976 upto 12.00 NOON.

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TENDER NOTICE (REVISED)

Sealed item rate tenders are invited from experienced contractors in the line for the work of Construction of Houses under Stage VIII Houses at Bokaro Steel City, as per the following revised Groups.

Intending tenderers may kindly note the changes in the groupings and in the dates of selling and opening of tenders.

Tender Number	Group	Name of Work	Earnest Money
1. T&C/CIVIL/55	'A'	Construction of 348 Units of EF type houses in Sector - VIII.	Rs. 30,000/-
2. T&C/CIVIL/56	'B'	Construction of 375 Units of EF type houses in Sector - VIII.	Rs. 32,000/-
3. T&C/CIVIL/57	'C'	Construction of 342 Units of EF type houses in Sector - VIII.	Rs. 29,500/-
4. T&C/CIVIL/58	'D'	Construction of 324 Units of EF type houses in Sector - VIII.	Rs. 28,000/-
5. T&C/CIVIL/59	'E'	Construction of 456 Units of EF type houses in Sector - VIII.	Rs. 39,000/-
6. T&C/CIVIL/60	'F'	Construction of 458 Units of EF type houses in Sector - VIII.	Rs. 39,500/-
7. T&C/CIVIL/61	'G'	Construction of 324 Units of EF type houses in Sector - VIII.	Rs. 28,000/-
8. T&C/CIVIL/62	'H'	Construction of 477 Units of EF type houses in Sector - VIII.	Rs. 41,000/-

The time of completion for each group will be 18 months. The work is to be completed and handed over in a phased manner.

Tender Documents in duplicate and other particulars for each Groups may be had from the office of the undersigned from 13.2.1976 to 17.3.1976 on all working days except Sundays and Holidays on payment of Rs. 100/- (non-refundable) for each group towards the cost of tender paper which may be deposited at the Cash Counter of Bokaro Steel Limited, Bokaro Steel City. Requests for mailing the Tender Document will also be entertained provided the cost of the Tender Document plus Rs. 10/- (for each Group/Set) as postal charges is remitted by Bank Draft or Money Order in favour of Bokaro Steel Limited payable at any Bank at Bokaro Steel City. Bokaro Steel Limited takes no responsibility for delay, loss or non-receipt of the Tender Document after despatch. The drawings for inspection purposes will be available in the office of the undersigned.

Tenders not received in the prescribed form as specified therein and without Earnest Money at the time of opening will be summarily rejected.

Tenders will be received upto 10.00 AM on 18.3.1976 and will be opened immediately thereafter in the presence of such tenderers as are present.

Tenderers shall quote rates both in words as well as in figures failing which their tenders are liable to be rejected.

Tenderers should have completed works to the value of at least 50% of tendered amount in any one year during the preceding 3 years. Tenderers should submit full details of their previous experience duly supported by certificate along with their tender, failing which the tender is liable to be rejected. The successful tenderers will be required to produce the necessary licence under Contract Labour (Regulation & Abolition) Act, failing which the acceptance of tender may be withdrawn and Earnest Money forfeited.

Bokaro Steel Limited reserves the right to reject any or all the tenders without assigning any reason whatsoever.

(M. S. S. SWAMY)
DY. CHIEF ENGINEER (T&C).

ment but better employment," he said. Prof. Nitish R. De, dean, National Labour Institute, New Delhi, said in his address on "Quality of Working Life—Indian Experiences," that the organised sector would do well to understand the needs of the 65.1 million agricultural workers and 84.1 million workers in the unorganised sector in India.

There was a flutter in the audience when he said many of the 65.1 million landless labourers in India had a lower calorie intake than the rodent population in rural areas!

Their working average in a year was a bare 120 work days and in Kerala,

Small and medium-scale production plants would become possible with this indigenous know-how.

Dr. Vasu

Dr. Vasu and his colleague employed "home made equipment" in preference to expensive foreign equipment in conducting researches into defect interactions in solids and industrial metallurgy, metal finishing, electro-metallurgy and corrosion.

Dr. Vasu was the recipient of the national metallurgists' award of the Union government in 1971.

Built property curb 'will raise snags'

NEW DELHI, February 9: The Union works and housing minister, Mr. K. Raghuramiah, today said the imposition of a ceiling on built property would create many problems.

It would create, among other things, unhealthy social conditions and a lot of social discontent, he said in a TV interview.

Instead, Mr. Raghuramiah said, the Centre had been asking the state governments to tax built property to discourage the construction of luxury buildings.

Explaining the provisions of the urban land (ceiling and regulation) bill just passed by Parliament, he said the idea behind the measure was socialisation of urban land and its equitable distribution among poor people.

At present, the minister said, the legislation was confined to only vacant lands.—Samachar.

30 p.c. come on "friendly visit" to civic office

By BHISHMA DESAI

A SURVEY undertaken by the civic administration has revealed that 30 per cent. of the visitors to the municipal headquarters come to meet their relatives or friends working in the corporation.

Similarly, it was also found that 10 per cent. of the citizens come to meet councillors for having their grievances redressed or curry favour.

The survey was undertaken two months ago to find out how many people came to the head office, their purpose and whether such visits disturbed the working of various departments, and, if necessary, to regulate the timings of visits.

As a result of the findings, the administration found that the visitors, by and large, disturbed the working of the departments.

7,000 PER WEEK

On an average about 7,000 citizens visited the Bombay municipal corporation headquarters every week.

The purpose of the survey was also to find out the loss of time to the employees, caused by such visitors.

Apart from the citizens, there were employees from ward offices who visited the headquarters for work and they constitute 10 per cent. of the people.

With a view to enabling the employees to put in more work, the municipal commissioner has imposed regulations on visitors by fixing visiting hours as well as restricting visitors' entries through particular gates.

Those intending to pay taxes or deposit money for tenders or receive payments have been requested to use

minister, Mrs. Prathiba Patil. Dr. K. Suruga, president of the association, would preside.

There would be an exhibition displaying surgical instruments. Scientific and medical films would also be screened, Dr. Gandhi added.

FICCI award for BARC

By A Staff Reporter

The federation of Indian Chambers of Commerce and Industry has selected the Bhabha Atomic Research Centre, Trombay, for the 1975 award for "Research in science and technology (institutions)".

A BARC press note on Monday said that the Rs. 10,000 cash award would be presented at the federation's annual session.

The award is in recognition of the distinguished activities of the BARC in research and development of science and technology and specially for "Atoms—peace and development."

Annual flower show this month

The 17th annual vegetable fruit and flower show will be held on February 28 and 29 at the V.J.T.I. Matunga a government press note said on Monday.

Farmers have been requested to participate in the show. They may contact the zilla parishad office of their district or the chairman, flower show committee, army and navy building, 146-Mahatma Gandhi Road, Bombay 400001, for details.

a particular entrance of the corporation and their visits have been restricted up to 2.30 p.m.

During the survey it was also found that the dispensary meant for the staff was used by visitors to get themselves vaccinated. Now that facility has been withdrawn.

To prevent overcrowding in the head office, the administration intends bringing certain departments where the citizens could be helped, to the ground floor.

During the survey it was also noticed that at least five per cent. of the visitors came to meet the municipal commissioner without prior appointment and disturbed his office staff.

Mosquito menace on the rise

By A Staff Reporter

Mosquito menace is on the increase in Bombay's suburbs, according to the municipal commissioner, Mr. B. G. Deshmukh.

Replying to a short-notice question by Mr. P. R. Kadam (SS) at the corporation's meeting on Monday, the commissioner said spraying of insecticides by helicopters on 660 acres of land could not eradicate the mosquitoes.

He listed the steps taken by the corporation like construction of storm-water drainage, eradication of grass cultivation and arrangement for a proper drainage system.

Later, the corporation referred back to the public health committee a proposal to provide free fire wood to the poor for cremation. The proposal said that the crematorium authorities should supply the wood if a poor relative of the dead approached them.

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HIGH BREEZE —The 'thoroughbred' fan by
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Firms summoned to explain donation issue

By A Staff Reporter

Summonses have been issued against Messrs. Hindustan Spinning and Weaving Mills Limited, Mr. K.M.D. Thackersey and Mr. Vijay Merchant, directors, and eight others by Mr. J. H. A. Vakil, additional chief metropolitan magistrate, Esplanade court, for contravention of section 293 (A) of the companies act, 1956.

The prosecution alleged that accused number one was a limited company and the other accused were directors of the company.

company that Rs. 5,000 was donated to the Forum of Free Enterprise during the year ended 31-3-1972.

The prosecution alleged that this donation was a contribution for a political purpose in contravention of section 293 A of the companies act and there was a prima facie case against the accused.

It was stated on behalf of the accused in replies to the show cause notice that the Forum of Free Enterprise was not a political organisation, nor did it carry any political activity, and the donation of Rs. 5,000 was not a contribution for any political purpose.

Mr. Vakil issued summonses on the above persons to answer a charge for the alleged breach of section

293 (A) of the companies act. The complaint in this case has been filed by the assistant registrar of companies of Maharashtra. It is scheduled for hearing on February 23.

Mr. S. B. Kher with Mr. V. N. Jagannath appeared for the complainant.

Similarly, a summons was issued against the Premier Construction Company and its directors for a donation of Rs. 1,000 to the Forum of Free Enterprise for the year ended December 31, 1972.

Similarly, a summons was issued against Messrs. Walchand Industries Limited and its directors for donations of Rs. 1,500 to the Forum of Free Enterprise during the year ended September 30, 1973.

French naval ships berth in Bombay

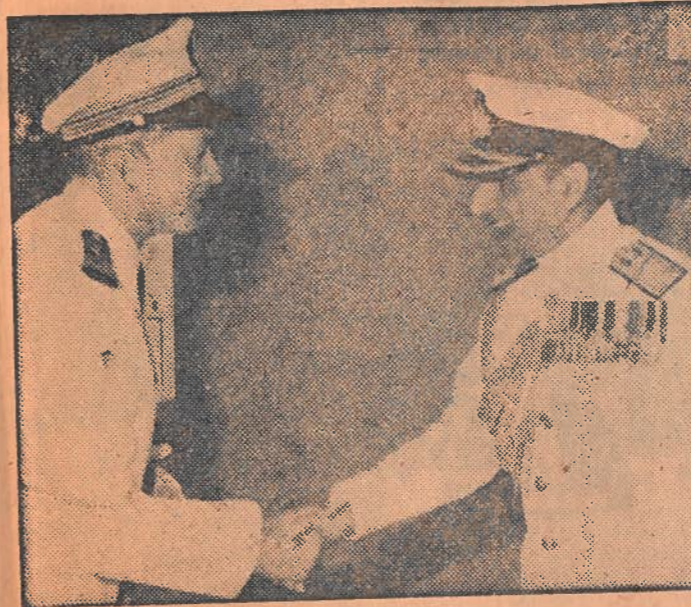
By A Staff Reporter

Two French naval ships, the "Jeanne d'Arc" and the "Forbin", arrived in Bombay on a formal six-day visit on Monday.

Capt. S. Beaussant and Commander A. Raul, commanding officers of the "Jeanne d'Arc" and the "Forbin", respectively, called on the Maharashtra governor, Mr. Ali Yavar Jung, and the flag officer commanding-in-chief, Western naval command, Vice-Admiral J. Cursetji.

They were given a reception in the evening on board I.N.S. "Vikrant".

The Maharashtra government has invited entries for the grant of state awards to outstanding Marathi books by March 10. Books published between April 1, 1974 and March 31, 1975, will be eligible. There is no entry fee.



Vice-Admiral J. Cursetji, F. O. C.-in-C., Western naval command, receiving Capt. S. Beaussant, commanding officer of "Jeanne d'Arc" (left), at I.N.S. "Angre" in Bombay on Monday.

'Action under MISA not beyond court scrutiny'

NEW DELHI, February 9.

THE advocate-general of Gujarat, Mr. J. M. Thakur, told the Supreme Court today that all actions which the state or its officers were called upon to take under the maintenance of internal security act were not outside judicial scrutiny despite the presidential order suspending the right to move courts for the enforcement of fundamental rights.

Opposing the submissions made on behalf of the Union of India and some states, he told a five-judge constitution bench that non-compliance with the provisions of the MISA would render an order of detention ultra vires of the act.

Mr. Thakur submitted that habeas corpus was a remedy not only for the enforcement of the right to personal liberty, whether under natural law, common law or a statute, but also for the enforcement of the principle that the authority must comply with the law for detaining a person.

COURT'S JURISDICTION

High courts had jurisdiction to issue a writ of habeas corpus if an order of detention was ultra vires of the law.

The rule that executive action which operated to the prejudice of any person should have the authority of law to support it "is not altered by the proclamation of emergency (under article 352) or by the orders issued by the President under article 359 of the constitution," he said.

A law like the MISA made by Parliament might confer powers and impose duties upon a state or its officers under clause (2) of article 258, but the latter were bound in law to act only in accordance with the provisions of the act.

POWER NOT WIDENED

Mr. Thakur contended that the proclamation of emergency under article 352 or the orders under article 359 (1) of the constitution did not widen the executive power of a state under article 162 to empower

article 226 was an extraordinary one. It had been vested in the high courts to ensure that the law of the land was implicitly obeyed.

The remedy under article 226 was a remedy in public law, he said.

He submitted that the high court's power to issue a writ of the nature of habeas corpus itself involved the conferment of jurisdiction of authority to insist on the grounds of detention being made known to it to enable it to exercise its powers to issue the writ.

NOT BARRING DISCLOSURE

Mr. Thakur took the stand that section 16-A (9) of the MISA could not be construed as preventing the officer from disclosing the grounds of detention when asked by a high court.

If so construed, it would mean a limitation of the power of the high courts under article 226, which would be unconstitutional.

He asserted that no rule of evidence could be enacted by any legislature that would take away the power of the high courts under article 226.

NATURAL LAW

He said that before the constitution came into being every person had the right to personal liberty by virtue of natural law of common law.

This was not inconsistent with the provisions of part three of the constitution, including article 21 and did not become void by reason of article 13 (1) of the constitution.

Mr. Thakur contended that the law of personal liberty continued to be in force under clause (1) of article 372 and the fundamental right under article 21 was in addition to the right to personal liberty under natural law.

Therefore, even if article 21 was suspended, the right to personal liberty under natural law and common law continued to be enforceable. —Samachar.

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For and on behalf of Tamil Nadu Electricity Board sealed tenders with the Specification No. THC-167 and due date superscribed on the cover are invited by the undersigned for the following.

Sl No.	Particulars	Qty.	Specification No.	Cost of Specification.	E.M.D.	Due date & Time
1.	Supply of 7500 GPM Main Circulating Water Pump sets for Natural Draft Cooling Tower No. 1 at Basin Bridge Power Station.	3 sets	THC-167	Rs. 26.05 (Inclusive of Taxes)	Rs. 4,000	12 Noon on 25-3-76

Copy of the Specification can be obtained by remitting either by cash or by Money Order, the amount noted above to the Deputy Financial Controller/Madras Electricity System/Distribution 1/155, Anna Salai, Madras-600 002, noting specification No. and sending the cash receipt or money order receipt as the case may be to the undersigned with a requisition, furnishing complete postal address. The Board reserves the right not to accept the lowest or any tender. The Board also reserves the right to split the tenders and place orders for supply covered by this specification on one or more tenderers.

1/155, ANNA SALAI,
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14. Assorted Crank Shafts, Cylinder Heads, Axles, Radiators, Wheel Disc, Gear Boxes etc. of different types of Automobiles.
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19. Line Reactors.
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Opening of Tenders: Tenders will be opened in the office of the Mate-

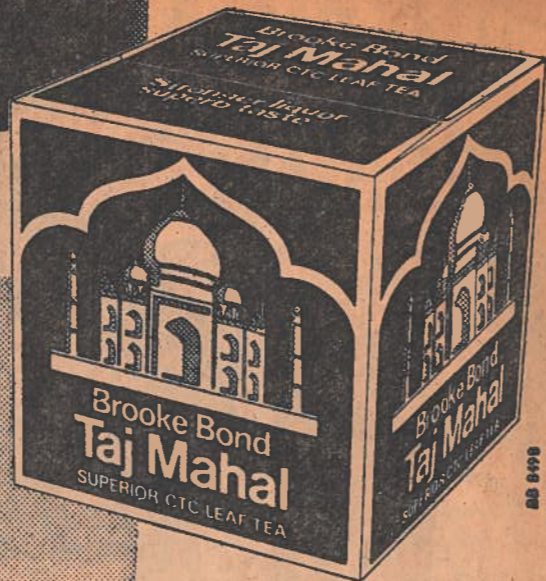
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 ● MEHTA MAHAL, 15, MATHEW ROAD, BOMBAY-400004 TELEPHONE 36-1496
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arrest was conferred on the states by the MISA and on the officers of the state only if the conditions laid down under section three of the act were fulfilled.

Mr. Thakur contended that the power of Parliament under article 245 was subject to the provisions of article 226 and, therefore, Parliament was not competent to enact law which affected the powers of the high courts under article 226. The high courts' jurisdiction under

State to provide defence counsel

NEW DELHI, February 9: The district and sessions judge, Mr. K. S. Siddhu, today adjourned until February 17 the case of attempt on the life of the chief justice, Mr. A. N. Ray, to enable the assigning of counsel at state expense for the accused, Santoshanand Avadoot and Sudevanand Avadoot, two members of the outlawed Ananda Marg.

Four persons, including three members of the Anand Marg, have been charged with criminal conspiracy to murder Mr. Justice Ray.

The other two accused, Ram Janam Dwivedi and Ram Nagina Prasad, are to engage lawyers on their own.

Santoshanand and Sudevanand today indicated to the court their choice of lawyers for their defence.

Mr. Siddhu wanted the lawyers to intimate to the court if they were prepared to accept the brief for the two accused.

The court turned down a request by accused Dwivedi for directions to the jail authorities to open and maintain an account for him. It also informed Santoshanand of its inability to pass an order for the release of money and other articles taken into custody at the time of his arrest in the case relating to the Samastipur bomb explosion. Such an order could be passed by a proper court in Patna, the accused was informed.—Samachar.

Licence case hearing is adjourned

NEW DELHI, February 9: The special judge, Mr. O. P. Singla, today adjourned to March 16 the hearing of the Pondicherry import licence scandal case on submission of a medical certificate on behalf of accused, Tulmohan Ram.

The cross examination of the approver, Mr. S. M. Pillai, will be taken up on that day.

The cross examination of accused K. V. Nair, which was to be resumed today, has been fixed for March 22 and March 24.—Samachar.

Mr. Justice V. S. Deshpande and Mr. Justice P. R. Mridul at the Bombay high court dismissed petitions filed by some employees of the erstwhile civil supplies department alleging discrimination against them by the state government.

The petitioners contended that their service was not taken into account in determining their seniority after they were transferred from the civil supplies department to the regular departments of the state government. Several other employees who had been selected by the public service commission and were posted in the civil supplies department were given the advantage of seniority taking into account their past service. This amounted to discrimination, the petitioners said.

The court ruled that there was no question of equal treatment in the matter of seniority as the persons selected by the public service commission formed a category distinct from those who were temporary and had been directly appointed to the civil supplies department.

Mr. K. K. Singhvi with Mr. K. S. Ramaswamy appeared for the petitioners and Mr. C. J. Sawant, additional government pleader with Mr. V. P. Tipnis, appeared for the state.

Income-tax tribunal's decision challenged

By A Staff Reporter

The Bombay high court has admitted four appeals filed by four industrialists of Goa challenging an income-tax tribunal's dismissal of their appeals against the acquisition of a property purchased by them.

The four industrialists, R. P. Audi and others, purchased a building in Goa for Rs. 2 lakhs, but the inspecting assistant commissioner of income-tax acquired the property as he contended that the fair market value of the property was not less than Rs. 2.80 lakhs.

An appeal against the acquisition order was posted to the income-tax tribunal in Pune on November 11, 1974. But the tribunal dismissed the appeal on the ground that it should have been preferred before November 14, 1974. The tribunal said that it had no power to condone the delay as the appeal reached it on November 16.

The appellants contended that the tribunal had the power to condone the delay if sufficient cause for the delay was shown.

Mr. Justice M. S. Apte and Mr. Justice B. M. Sapre at the Bombay high court admitted the appeals. Mr. Dinesh Vyas, instructed by Gordhandas and Fozdar, appeared for the appellants.

Mini-lottery results

Following are the results of the Maharashtra state mini-lottery draw held in Bombay on Monday:

	K/93	K/94	K/95	K/96	K/96-A
Common Prize (1) (Rs. 8,000)	2148844
First Prize (1) (Rs. 2,500)	2148011	2177006	2194897	2177800	2107628
Second Prize (1) (Rs. 1,000)	2102009	2176232	2199918	2132010	2138484
Third Prize (1) (Rs. 500)	2106244	2188464	2138508	2146813	2154259
Fourth Prize (2) (Rs. 250)	2145136 2107143	2177089 2199875	2159309 2194069	2116266 2142631	2140790 2135861
Fifth Prize (20) (Rs. 50) each all numbers ending with	1944 0234	0448 5303	1770 3803	0020 4481	4840 7777
Sixth Prize (100) (Rs. 25) each all numbers ending with	856	427	633	979	860
Seventh Prize (1000) (Rs. 5) each all numbers ending with	60	60	03	29	68
Eighth Prize (10,000) (Rs. 1)	9	3	2	5	4

non-refundable Rs. 10/- by cash or crossed Indian Postal Order payable at Moubhandar P.O. or crossed draft in favour of Hindustan Copper Ltd., Indian Copper Complex, drawn on the State Bank of India, Moubhandar. Hindustan Copper will not be responsible for non-receipt of tender papers arising out of postal transit delays. The above figures are only approximate figures.

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For further information, please write to:

Administrative Officer (Programmes)

Indian Institute of Management

33 Langford Road, Bangalore 560 027

Grams: MANAGEMENT Phone 51084 Telex. 043-472

SUGGESTED PROGRAMME FOR PROF. WISNER

- 4.2.1976 (afternoon) - Visit to Central Labour Institute
(if convenient)
- 5.2.1976 0900 hrs. - Pick up from hotel
0930 - 1030 hrs. - Visit to Docks
1100 - 1230 hrs. - Visit to Hindustan Lever
(Lunch at Hindustan Lever
Head Office)
- 6.2.1976 0945 hrs. - Pick up from hotel
1000 - 1230 hrs. - Visit to Tata Mills
(Lunch at Tata Mills)
- 1400 - 1530 hrs. - Visit to Mukand Iron & Steel
Works.
-

AAW.0065(6)

NATIONAL SEMINAR

ON

QUALITY OF WORKING LIFE

(9th-10th February 1976)

9.2.1976 9.30 hrs. Registration

10.00 to **INAUGURAL SESSION**

12.30 hrs.

Welcome Address : Brig. G. R. Chainani
Director General
Factory Advice Service
& Labour Institutes,
Bombay.

Inaugural Address : Shri P. N. Haksar
Deputy Chairman
Planning Commission.

Keynote addresses :

**"Improving Working Conditions and
Environment - A Major Challenge"**

Mr J. de Givry

Chief, Working Conditions and Environment
Division, International Labour Office, Geneva.

"Quality of Working Life-Indian Experiences"

Prof. Nitish R. De

Dean, National Labour Institute, New Delhi.

"Man at Work"

Prof. A. Wisner

Director-cum-Professor of Work Physiology &
Ergonomics, Conservatoire National des Arts et
Metiers, Paris &

ILO Consultant.

Vote of Thanks : Dr. S. S. Ramaswamy
Deputy Director General
Factory Advice Service
& Labour Institutes,
Bombay

"Inauguration of Mobile Safety Exhibition"

by Shri P. N. Haksar

Deputy Charman, Planning Commission

12.30 to Lunch.

14.00 hrs.

14.00 to
17.30 hrs.

TECHNICAL SESSION - I

"Working Conditions and Environment"

Chairman : Shri S. P. Godrej,
Chairman & Managing Director
Godrej & Boyce Mfg. Co. Ltd.

- i) Ergonomics for Safer Environment : Mr. David H. Brown
Regional Adviser
International Labour Office
Bangkok.
- ii) Industrial Pollution : Prof. N. Majumdar
Director
National Environmental
Engineering Research
Institute, Nagpur.
- iii) Occupational Health : Dr. S. K. Chatterjee
Director
National Institute of
Occupational Health
Ahmedabad.
- iv) Ergonomics : Dr. N. M. Pant
Medical Officer
Hindustan Lever Ltd.
Bombay.
- v) Occupational Safety : Shri K. C. Gupta
Deputy Director (Safety
Centre)
Central Labour Institute
Bombay.

10.2.1976

10.00 to
12.30 hrs.

TECHNICAL SESSION - II

"Socio-Psychological Environment"

Chairman : Prof. Nitish R. De
Dean, National Labour
Institute, New Delhi.

- i) Work Challenge and Work Satisfaction : Prof. Dr. H. C. Ganguly
Psychology Department
Delhi University.
- ii) Worker Participation : Shri Duleep Singh
General Manager
Fertilizer Corpn. of India
Bombay.
- iii) Wages and Productivity : Shri N. Rajan
Adviser (Finance)
Bureau of Public Enterprises
Min. of Finance, New Delhi.
- iv) Conditions and Organisation of Work : Dr. Bhupindra K. Srivastava
National Labour Institute
New Delhi.

12.30 to Lunch
14.00 hrs.

14.00 to ACTION STRATEGY
15.30 hrs.

GROUP I "Transition of people from rural to urban industrial life"

Chairman : Prof. M. S. Gore
Director
Tata Institute of Social Sciences
Bombay.

Reporter : Shri S. B. Hegde Patil
Director (Training)
Central Labour Institute
Bombay.

GROUP II "Transition of young people from school or college to industrial work."

Chairman : Shri K. K. Unni
Managing Director
Air-India, Bombay.

Reporter : Dr. O. N. Ganguly
Deputy Director (Psychology)
Central Labour Institute
Bombay.

16.00 to
17.00 hrs.

Session on Action Strategy



NATIONAL SEMINAR


ON


QUALITY OF WORKING LIFE

(9th-10th February 1976)


9.2.1976 9.30 hrs. Registration


10.00 to 12.30 hrs. **INAUGURAL SESSION**

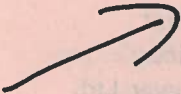
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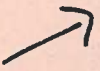

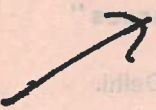
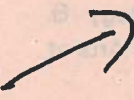
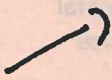
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Deputy Director (Safety
Centre)
Central Labour Institute
Bombay.

Ganguly : you don't vote for suppression
of Monsoon

Duleep Singh : maintain good working
conditions

Rajan : working condition analytical
~~report~~ accounting

10.2.1976

10.00 to
12.30 hrs.

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16.00 to
17.00 hrs.

Session on Action Strategy

