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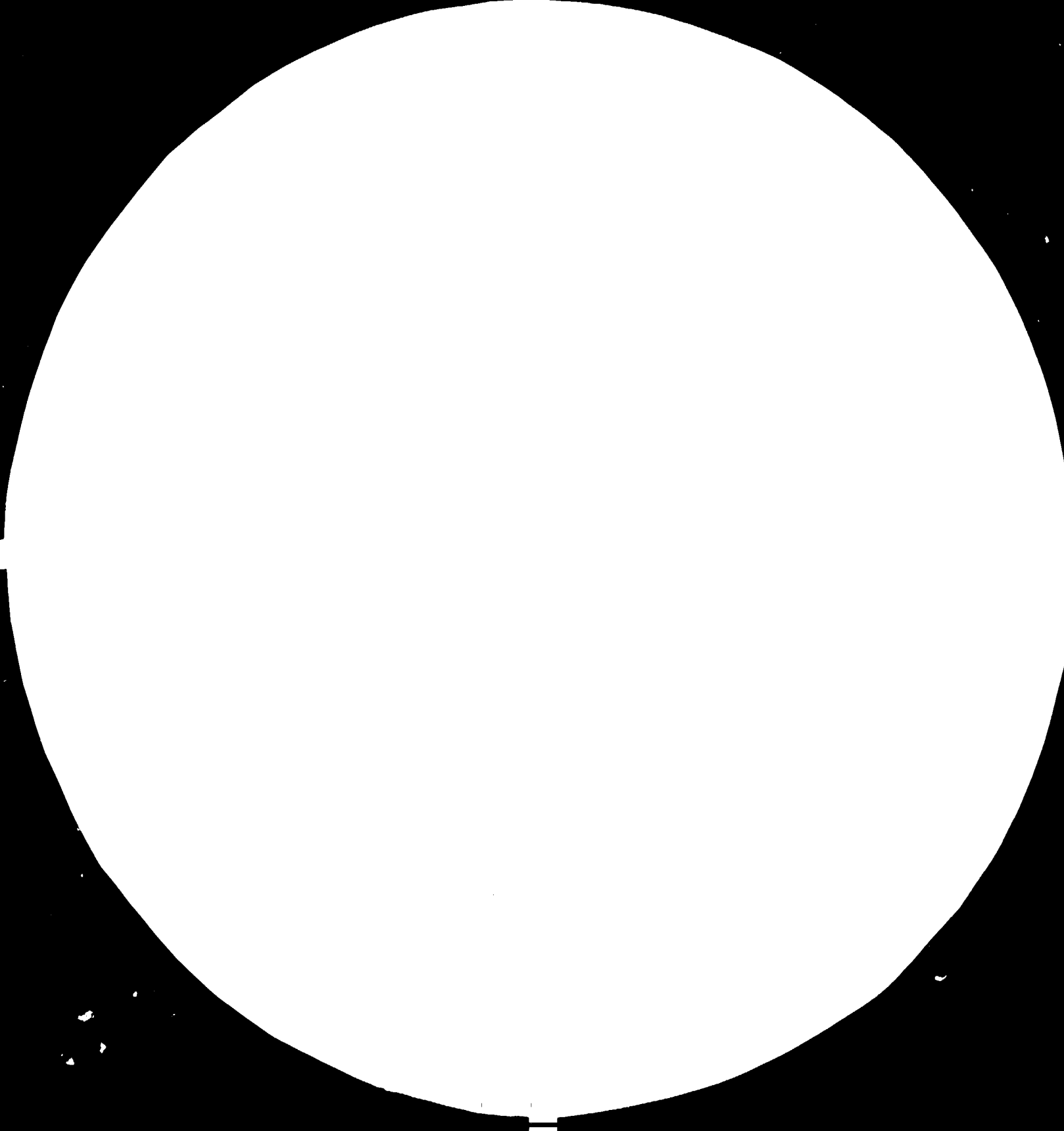

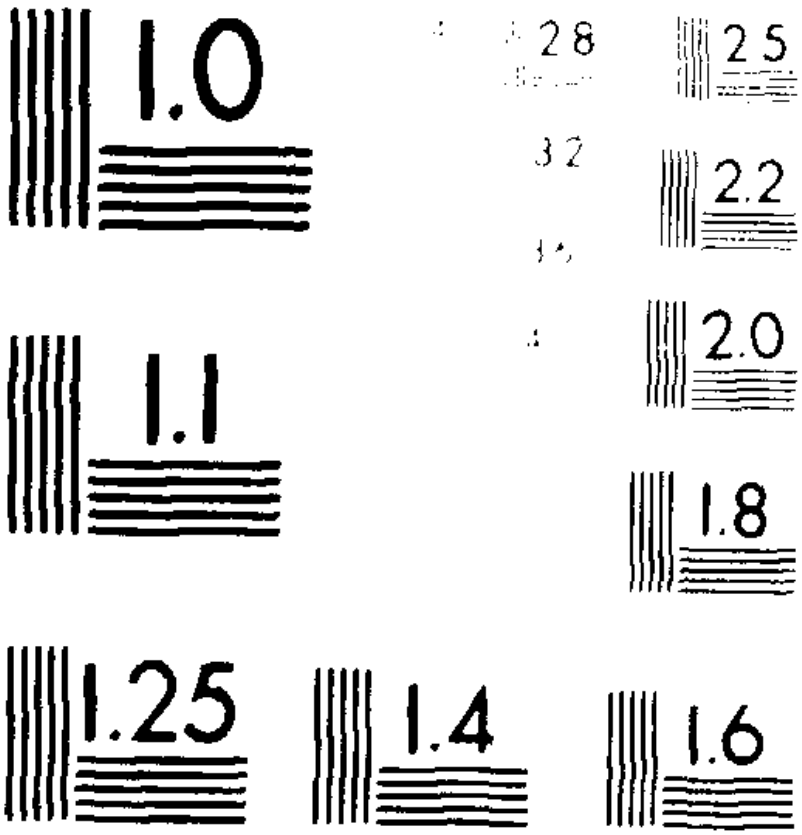

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DP/ID/SER.B/469
17 August 1984
English

China.

APPLICATIONS IN COMPUTER SYSTEMS AND SOFTWARE ENGINEERING

DP/CPR/79/020

CHINA

Terminal report *

Prepared for the Government of the People's Republic of China
by the United Nations Industrial Development Organization,
acting as executing agency for the United Nations Development Programme

Based on the work of Mr. Chinte Liu, National Project Director

United Nations Industrial Development Organization

Vienna

2976

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Terminal Report

on UNDP Assisted Project CPR/79/020

1. Objectives of the Project

The development objectives of this project are:

a) To find a better way for China to use computers in industry.

b) To provide professional knowledge and technical training in order to improve the efficiency and productivity in industry.

The immediate objectives of this project are:

a) One expert to visit China providing the technical training on microcomputers and the consultation on establishing a microcomputer laboratory in China.

b) Three fellowships trained abroad for 6 month in computer software.

c) Equipment for establishing the microcomputer laboratory in China.

2. Activities and Outputs

The major activities carried out are as follows:

a) Mr. Sunming Cheung, an outstanding expert dispatched to CIRE in 1980, gave a series of lectures on microcomputers and provided the useful consultation.

b) Three technical persons, Mr.Fengman Zhang from CIRE and Mr.Xilin Zhou and Mr.Xin Li from the computer Research Institute of Northern China, were sent to the Training Center of Honeywell in the U.S. in 1981 to be trained in computer software.

c) Equipments worth $56,970 have been purchased.

d) One technical person, professor Chinte Liu from CIRE was assigned to study tour in the U.S. for about 3 months in 1983 in order to keep abreast of current products and technology in the field of microcomputer.

The arrival of the expert was on time according to the schedule. The dispatch of three trainees was postponed about one year because they had to pass the restricted language examination. Most of equipment for microcomputer laboratory was ordered and delivered on time, except one of them, the Motorola microcomputer development system EXORciser which was not delivered until 1983. This delay is due the difficults in obtaining an export license from the U.S.government. The study tour of prof. Liu suggested by UNDP officer was carried out after his one year advanced study at U.C., Berkeley.

3. Achievement of Immediate Objective

The major achievements are:

a) A small microcomputer laboratory has been set up in CIRE that is enough for making the ball start rolling.

b) 64 technical persons,including 30 staff members of CIRE, have learned how to use microprocessors and microcomputers and became the early birds in the field of microcomputer application.

c) 3 technical persons have learned the software of Honeywell computer systerms .

4. Utilization of Project Results

a) Based on the establishment of the microcomputer laboratary, a microcomputer development and training centre has been set up by the succeeding UNDP assisted project CPR/80/050.

b) A microcomputer-based temperature control system has been developed by the staff members in CIRE in cooperation with the Research Institute of Magnetic Material, Mainyay, Sichuan. This system has worked successfully since 1981 for magnetic material smelting. Its control was so precise and reliable that the project was received an award from the Ministry

of Electronic Industry this year. This system has been in small scale production since last year.

c) A 68000 single board microcomputer has been developed in cooperation with Nanfeng factory in Guizhou, and will be in production.

d) More than 500 engineers and technicians from factories and research fellows from research institutes were taught to understand how to use microcomputers in industry by the staff members in CIRE (see Annex E), who have attended the course given by the UN expert Mr. Sunming Cheung.

5. Conclusion

The UNDP assisted project CPR/79/020 is a farseeing one. It is four years ahead in pointing out that the best way for China to promote computer application in industry is to use microcomputers extensively. This idea is now generally accecpted in China. Furthermore, the pioneers in the field of microcomputer applications are brought up and the required tools are acquired. Therefore, this project just likes a seed in the soil which is not big but it becomes fully blooming flower shrubs when spring comes.

6. Recommendations

For the sake of further promoting the microcomputer application in industry, we have suggested the expansion of the microcomputer laboratory in CIRE to a microcomputer development and training centre. This proposal was accepted and granted by UNDP and our Government that causes the project CPR/80/050 comes up.

ANNEX A

International Project Staff

Name of Expert/ Consultant	Country of Origin	Post or Field of Specialization	Duration of Service From	To
Sunming Cheung	U.S.A.	Microcomputer	July 15,1980	to Sept 5,1980

ANNEX B

National Project Staff

Name	Position Held	Full-time/ Part-time	Data of Service From	To
Lansu Ye	Liaison Officer, Officer of Ministry of Electronic Industry	Part-time	1979	1983
Chinte Liu	National Project Director, Professor of CIRE	Part-time	1979	1984

ANNEX C

Project Study Tours

Name of Participant	Place and Institute visited	Field of study	Period of study tour From	to
Chinte Liu	IMAG Industries, Inc., U.S.A.	Microcomputer CAD 85/88 and IME 11/23	Jan 16, 1983	Feb 21, 1983
	Digital World, Inc., U.S.A.	Microcomputer Dual system 83 and Venus II	Feb 22, 1983	March 31, 1983
	Motorola, Inc., U.S.A.	Microcomputer VME-10 and other produscts	April 11, 1983	April 16, 1983
	Rockwell International, U.S.A.	Microcomputer system 65 and other products	April 16, 1983	April 21, 1983

ANNEX D

Project Fellowships

Name of Fellow	Field of Study	Place of Study	Period of Study from	to
Fengman Zhang	Software	Honeywell,U.S.A.	Dec 1,1981	May 31,1982
Xilin Zhou	Software	Honeywell,U.S.A.	Dec 1,1981	May 31,1982
Xin Li	Software	Honeywell,U.S.A.	Dec 1,1981	May 31,1982

Annex E List of nonexpendable equipment provided by UNDP for CPR/79/020

No.	Description	Qty.
1.	1607A Logic State Analyser	1
2.	546A Logic Pulser	1
3.	547A Current Tracer	1
4.	548A Logic Clip	1
5.	LP3 Logic Probe	1
6.	203A Breadboard	2
7.	UVS-11 EPROM Eraser	1
8.	M43 KSR Teletype	1
9.	1520 CRT Terminal	1
10.	4850-16 Logic Analyser	1
11.	1632 Channel Espansion Probe	1
12.	702 Centronics Printer	1
13.	Soldering Tools DC075	1
14.	Motorola EXORciser, including	1
	M6800 EXOR32u x1	
	N68DSK2-2 x1	
	MEX6832-2 x2	
	M68FTNR012M x1	
	MEX 68PI2 x1	

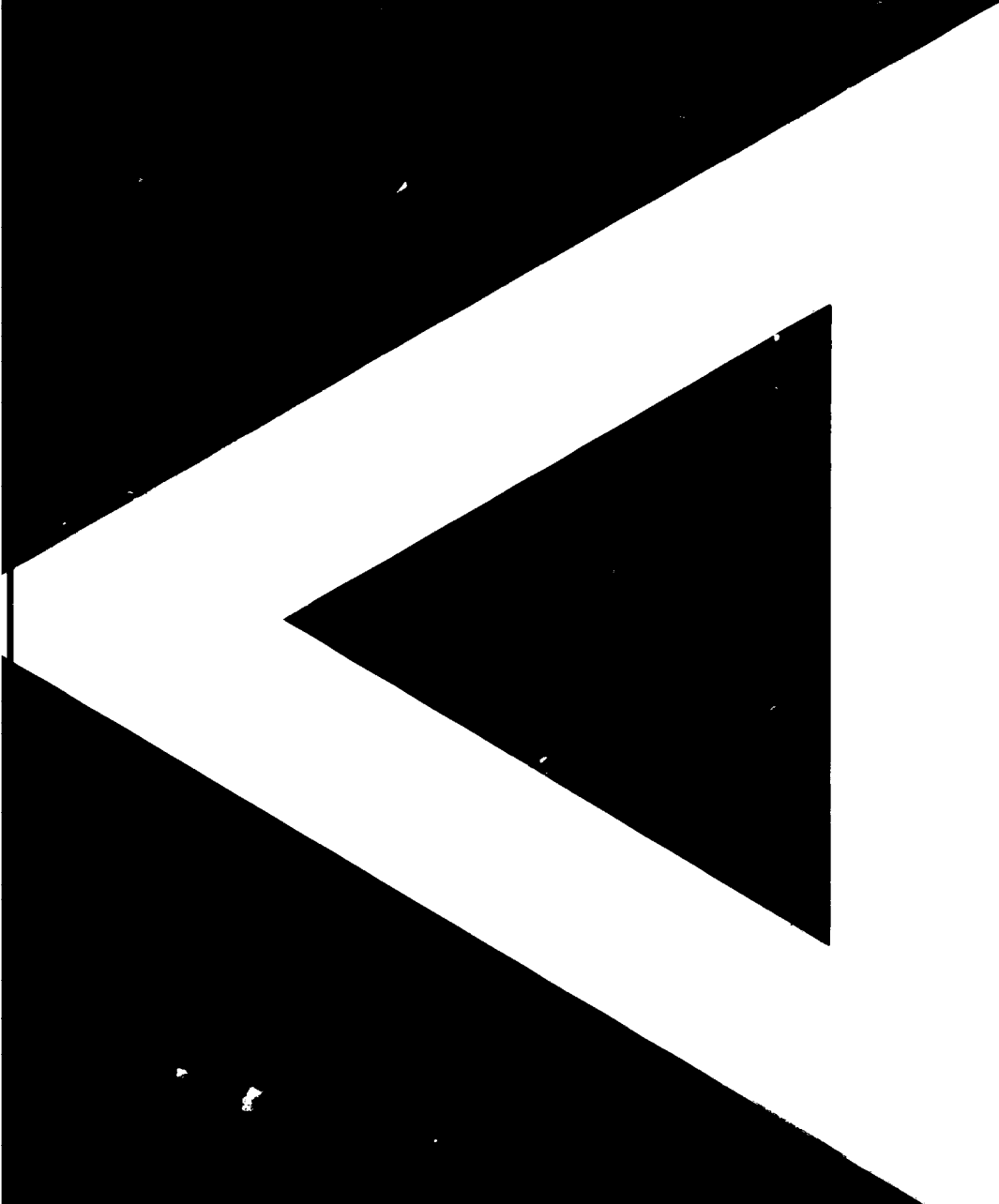
Annex F

Training Programme

Given by CIRE

Date	Place	Name of Course	Lecture Hours	Attendance
Jan. 1981	Zhongquing	M6800 Microprocessor Family and Its Application	160	70
July 1981	Mianyuan	ditto	100	50
Mar.-April 1982	Chengdu	ditto	200	80
May 1982	Chengdu	AIM 65 Microcomputer and Its Application	160	70
July 1982	Chengdu	Z80 Microprocessor and Its Application	30	40
Oct.1982	Chengdu	ditto	100	40
Dec.1982- Jan.1983	Chengdu	AIM65 Microcomputer and Its Application	150	60
Mar.1983	Chengdu	AIM65 Microcomputer and Its Monitor	20	50
May 1983	Chengdu	6502 Microprocessor and Its Application in CRT Terminal	70	50

Annex G

Government Inputs (in RMB Yun) Implemented for CPR/79/020

Budget	1980-1982
I. Project Personnel	
Project director	10,800
Chinese experts	108,000
Support staff	30,000
Subtotal	148,800
II. Training	
Subtotal	12,000
III. Equipment	
Nonexpendable	131,500
Expendable	20,000
Building reconstruction	50,000
Subtotal	201,500
IV. Miscellaneous	
Subtotal	15,000
Grand Total	377,300