Centre's training.

4) The existing computers are utilized 12 - 16 hours per day throughout for design and project feasibility studies.

5) Micro Mini-computer with 2 to 3 times the capacity of the present Micro computer, complete with drawing and drafting capability (graphical softwares and plotter) if possible.

2.7

1) There is at present no existing training programs permanently conducting or training aids for Civil Engineer. Only a reorientation classes were however conducted within division often. A regular course for mechanical operators and mechanics is on going at Mechanical Branch Office.

2) The draft plan of training programs at the ITC is as follows : -

(a) Preservice and Reorientation training for Assistant Engineers(Graduate); Sub-Assistant Engineers (Diploma), Engineering surveyors, Laboratory Techincians and drawing staffs.

(b) Accounting & Administration for staffs.

Frequency will be monthly for short courses, quarterly for medium courses and bi-yearly for long courses. At full time, the center will have a capicity for 80 trainees.

2.8.

1) Please see the seperate sheet with revised organization chart for detail explanation. (Appendix A)

2) The "consulting services" budgeted in JD proposal includes, salary overhead, fees, transport, allowances and contingencies normally provided for consulting services. This item is planned to be requst-ed from Grant.

3) Draft floor plan for ITC as a first draft will have the following dimensions.

a) Administration building complex	= 90 m x 42 m.	(792.0 m^2)
b) Training Centre Complex	= 72 m x 32 m	(2160.0 m^2)
c) Hydraulic Model (indoor)	= 102 m x 20 m	(2208 m^2)
d) Soil Mechanics Laboratory	= 66 m x 21.5 m	(1331 m^2)
e) Concrete & Material testing	= 66 m x 21.5 m	(1331 m^2)
f) Workshop for all laboratory	= 36 m x 20 m	(711 m^2)
g) Student Dormitory (2 storey)	= 69 m x 16 m	(1260 m^2)
h) Staff lodging (10 Nos)	= 15 m x 10 m	(530 m^2)

参考

APPENDIX A.

IRRIGATION TECHNOLOGY CENTRE

Type of Training to be conducted annually

Sr. No.	Type of Training	No. of Trainees	Duration (Weeks)	No. of Times per year
A.	Pre-service Training			
1.	Graduate Engineers	20	8	2
2.	Diploma Engineers	40	8	2
3.	Skilled Technicians	40	8	2
4.	Account Staff	20	8	1
B.	In-service Training			
1.	Senior Engineer (Executive)	10	4	1
2.	Senior Engineer (Assistant)	20	8	1
3.	Junior Engineer (Diploma)	20	8	2
4.	Technicians	20	8	2
5.	Account Staffs	20	8	2

課目（○印について日本人専門家の協力を希望）

I Graduate Level （E. E. 及びA. E. レベル）

① Hydrology & Hydraulics
② Water Resources Planning
③ Hydraulic Structures
④ Irrigation Engineering
⑤ Soil Mechanics & Foundation
6. Engineering Economy
7. Departmental Instructions & Codes
8. Account Codes
⑨ Water Resources Project Formuation

注

1）I－4，II－5はEnginering ではない。
2）○印が技協を求める項目
3）研修で教えてもらいたいのは，応用技術
4）日本技協はIn－service と協力してもらいたい。
5）最大で８０人が研修を受ける。
6）研修は，雨期に集中して実施される。

Sr. No.	Type of Training
II	Diploma Level
1	Irrigation Practices
2	Hydraulic Fructures
3.	Dept. Instruction & Codes
4.	Account Codes
5.	Quantity Estimates & Costing
6	Engineering Drawing & Graphics
III	Technicians
1.	Surveying & Geology
2.	Quantity Estimated & Costing
3.	Drawings & Graphics
4	Laboratory Practices & Theory (Soil & Concrete)
IV	Special Subject - (Graduate)
1	Computer Technology & Programming
2	Theory of Hydraulic Modeling

5. Questionnaire及び Answer (II)

QUESTIONNAIRE II

This will help to efficiently conduct our survey. When respond, you may skip time consuming questions, and we would like to discuss them together.

Please note that "ex," means the example answer which is prepared to assist your easy response.

Answers may be written in other sheets with idendification numbers.

1) We heard the number of heavy construction machinery managed by the ID were as followings. Are these data correct? If "No." please tell us the correct data.

Crowlar type dozer	class 1	:	129
	2	:	90
	3	:	36
Wheel type dozer		.	76
Sclaper	class 1	:	222
	2	:	143
Damper		:	63
Tipper		:	183
Grader		:	32
Excavator	class 1	:	63
	2	:	13
Hydraulic excavator		:	67
Gradall (excavator)		:	6
Loader		:	56
Clane		:	23
Water bowzer		:	62
Fuel bowzer		:	39
Dredger		:	14
Amphibious dredger		:	5
Lowbed dredger		:	20
Fan tractor		:	45

2) We heard these machinery are so busily operated that most of the ID machinery are installed to the project site at any time. Is this correct? If "No." please tell us the collect answers.

3) Please tell us the number of mechanical engineers (m.e.) and other mechanical staffs employed by the ID and their educational background by filling below tabel.

	RIT	GTI	Technical high shool	Others	Total
Graduate m.e.					
Superintendent m.e.					
Executive m.e.					
Assistant m.e.					
Not graduate m.e.					
Sub-assistant m.e.					
Mechanical foremen					
Mechanics					
Operators					
Others					
Total					

4) How these mechanical staffs are recruited?

ex.

Assistant m.e. are recruited from RIT, sub-assistant m.e. are from GTI, Mechanical foremen and mechanics are from the technical high shool, and operators are nominated from others and trained on the job.

5) How does the ID train freshmen to be adult m.e., and how re-train the adult m.e.?

ex.

On the job raining for freshmen and training courses for adult mechanical staffs are prepared. These training courses are prepared for the assistant m.e., sub-assistant m.e. and operators with the teachers nominated from executive m.e.. The three months course for operators is regularly held once per year. But for others, courses are not regularly held.

6) We heard that all heavy machinery's parts are from outside, however, ~~monetary~~ budgetary limitation brings not enough procurement of the parts. And about 25 to 30% of the machinery are out of order at any time. Are these ~~are~~ correct? If "No." please tell us the correct answers.

7) We heard there were no any other organizations and corporations to give the ID machinery repair services. Is this correct?

8) Please give us the approximate picture of existing four workshops as the below example.

ex.

The Rangoon workshop is the largest including about 60 acres compound and 10 houses, and the maximum reapiring capacity is about 100 heavy machinery.

9) Please describe your proposed draft of the ITC workshop application plan.

ex.

We have drafted that the existing Rangoon workshop is consolidated into the ITC workshop having the same scale as the existing one with more proper facilities and more modern equipment. Thus, the ITC workshop will be applied to repair machinery within the same region as the Rangoon's, and applied to hold training courses for all the proposed mechanical staffs with 20 to 40 trainees at once.

REPLIES TO QUESTIONAIRE II

There is a slight variation to the number of machines mentioned in your querry. Accordingly an updated version is given as follows.

Crawler type dozer	Class I	135
-do-	II	89
-do-	III	37
Wheel type dozer		75
Scraper	Class I	227
-do-	II	134
Dumper.		58
Tipper.		173
Grader.		33
Excavator	Class I	57
-do-	II	5
Hydraulic Excavator.		66
Gradall.		6
Loader.		58
Crane.		22
Water Bowser.		64
Fuel Bowser.		39
Dredger.		13
Amphibious Dredger.		5
Lowbed Trailer.		20
Farm Tractor.		48
Cargo barges with propulsion units.		
(a) 160 Ton.		2
(b) 150 Ton. (Uniflote)		1

(c) 120 Ton (Uniflote) 1

(d) 90 Ton (") 1

(e) 60 Ton (") 1

(f) 40 Ton (") 6

(g) 40 Ton without propulsion unit (Uniflote) 4

2. During off season like monsoon when operation has to stop due to inclement weather, the machinery are brought back to base workshop for repairs, eg for Upper Burma to Meiktila; for Central Burma to Prome; and for Lower Burma to Rangoon bases. But when the works are carried out in full swing, the machines are usually kept at site of work and only brought back to bases when operation is completed.

3. Table is furnished as below.

" EDUCATIONAL STATUS OF PERSONNEL. "

	RIT	GTI	THS	Others	Total
(a) Deputy Director.	1				1
(b) Executive Engineer.	10				10
(c) Assistant Engineer	37	10		1	48
(d) Sub Assistant Engineer		90			90
(e) Mechanical Foremen.				94	94
(f) Mechanics.				477	477
(g) Operators.				1151	1151
(h) Other Tradesmen.			3	710	713
(i) Others.			11	700	711
				Total	3,295

4. Normally Assistant Mechanical Engineers are recruited from R.I.T. Engineering graduates, but there are instances when they are promoted from the lower rank of Sub Assistant Mechanical Engineers. Sub-Assistant Mechanical Engineers are usually

recruited from G.T.I. and very rarely promoted from experienced Technical High School personnel or selected from those passing the practical tests.

There is no direct recruitment for foreman. They are usually promoted from those who attained experience from mechanics and other trades. But there is at present a requirement of minimum qualification for the post of foreman to be at least a Technical High School graduate. Mechanics, operators and other trades men must have at least a Technical High School qualification and there is also an induction training from apperentice ship.

5. There is ' on-the-job ' training only for fresh engineers and no proper training program exists for sub assistant engineers and aboves. Current training courses conducted by experienced engineers for operators and mechanics usually last for about 100 days in Rangoon base workshop. There is also a basic training course for apperentices and a refresher course for foreman and mechanics.

6. The reply has to be in the affirmative.

7. There is no other organizations for repair services to I.D. machinery other than I.D. itself. But there are other corporations which use earth moving machinery and they have their own repair facilities.

8.(a) The Rangoon base comprising of base workshop, operation, stores, together with Paddy Land I and II Project workshop occupies 50 acres of land and 22 buildings.

(b) Meiktila base occupies 50 acres and 17 buildings.

(c) Prome base occupies 15 acres and 8 buildings.

(d) Mandalay base occupies 15 acres and 6 buildings.

9. It is proposed to incorporated in I.T.C. a model workshop with proper facilities and more modern equipment for training about 40 mechanical staffs and to up-grade the in-plant training and Rangoon basa workshop facilities, in affiliation with the I.T.C. training. It should also include such subjects for graduate level as mechanical design and fabrication of outlet gates etc that could be used in drainage and embankment works in the delta areas and also for irrigation works in Upper Burma areas. The course are envisaged to cover the following catagories.

(a) For adult and fresh graduates (such as E.E, and A.E.)

(b) For (1) Sub Assistant Mechanical Engineers

(2) Foremen

(c) For (1) Mechanics

(2) Operators

(3) Other trades

(d) For apperentics.

6. Oral Answers

これは、Questionnaire の回答を補うために行った質問の口答を記録したものである。本回答のコピーは、ビルマ灌漑局 Planning Branch の Deputy Director U. Thein tun氏に渡し、内容の確認を済ませてある。

Oral Answers

OCT. 31, 85

1) A small workshop is necessary in the ITC to make hydraulic models.
2) Recruit source of engineers are Assistants from RIT, sub-assistants from GTI and engineering surveyers from Technical high school.
3) In regard with 2-1-1)
ACT: American Concrete Institute
USBR: United State Bureau of Reclamation
4) In regard with 2-3-6)
Agricultural corporation's labo is so busy that the ID have to wait six to nine months to obtain the test results. The draft of the ITC for chemical tests is to conduct only basic chemical tests, and sophisticated tests are planned to ask the Agricultural Corporation labo. The ID has agronomists and soil physicists and thus, the ID can conduct soil chemical tests.
5) In regard with 2-3-5)
Equipment of some chemical tests of water can apply to soil chemical tests.
6) In regard with 2-3-3)
The detail list of equipment has very big volume, in which present condition and other useful information for selection of grant aid equipment to substitute too exhausted equipment.
7) In regard with 2-3-4)
Nine projects out of 10-15 projects on going are foreign financed.
8) In regard with 2-3-5)
In the ID, soil tests include both soil mechanical tests and soil chemical tests.

Nov. 1, 85

9) In regard with 1-1-3)
The definition of each irrigation type is as followings:
"Canals" mean the methods to draw irrigation water with only diversion weirs and cananl not by using reservoirs.
"Reservoirs" mean the methods to draw irrigation water originally from reservoirs, through river with the attached facilities or not through river with canals directly attached ~~with~~ to the reservoir.
"Wells" mean the methods to draw irrigation water from wells by hand.
"Pumps" mean the methods to draw irrigation water directly from river or lakes to cultivated land by pumping.
"Others" means the methods to draw irrigation water from river without diversion weir only by using canals.

10) In regard with 1-2-5)
Each state and division has the ID's O&M office, and totally 14 offices are established.

11) In regard with 1-2-6)
All irrigation projects have to be constructed by the construction circle except village irrigation projects which ~~is~~ are defined as the very small scale projects covering less than about 1000 acres per project. These village projects are constructed by O&M state or division office.

12) In regard with 1-3-6)
Comparing budget scale (K million)

	ID	Agriculture & Forest	Federal budget		
			Capital	Current	Total
1985-1986	623	~~1,239~~ 4.110	7330	2.9850	3.7180

"Capital" means the budget to implement new projects, and "Current" means the budget to conduct all other works.

13) In regard with 1-3-7)
There are two other construction organizations: Constructin Corporation (CC) and Burma Railway Corporation. The CC is responsible for constructing roads and the related bridges, buildings and the attached canals/drains and other attached structures. The railway corpo. is responsible for constructing railway line and the related bridges and attached structures. Thus, these are not related with the ID's works.

14) In regard with 1-4-1

	University			GTI	Technical High School	Total
	RIT	Geology	BA/BSC			
Graduate						
Engineers	585	-	-	-	-	585
Geologists	-	88	-	-	-	88
Others	-	-	341	-	-	341
Not graduate						
Sub-assistants	-	-	-	990	-	990
En. surveyers	-	-	-	-	1252	1252
						3256

The graduate includes one PHD staff and about 12 master degree staffs.

15) In regard with 2-1-1)

The ID sometimes use the US standards.

The World Bank has supported the tank irrigation projects with two components: implementing dam construction projects and strengthening plan and design capability. For strengtheing, an Australian consulting corporation called "Snowy Mountains Engineering Corporation" is contracted from 1984 to 1986 fiscal year with the total of 76 man-manth. Now, three staffs are working in the P&D circle.

16) In regard with 2-2

The technical information includes topographical data, geological data, meteorological data, hydrological data, availability of cnstruction materials and others. About productivity data, the ID circle can obtain these information from the machinery circle which directly conduct machinery utilization at the project sites. Futher, the P&D circle references the published book in the U.S., informing efficiency of heavy machinery.

17) In regard with 2-2-1)

called Meteorology department under Ministry of transport and Communications

Although Burma has an organization to collect meteorological data and hydrological data, the meteorological mesurement stations are too sparsely distributed to give not enough data for plan and design, and the hydrological data are only for main rivers. Thus, the ID are collecting additional these data by establishing the own stations. For hydrological data, the ID has established more than 200 stations in minor fivers. These data are exchanged with the data collected by the organization.

Now, the ID keeps staffs at the Rangoon University Computer Center (RUCC) to input these data into the memory tapes.

18) In regard with 2-2-1) and 2-6-5)
The ITC micro-computers are applied to input data to the RUCC's memory tapes by transfering memolized data on the ITC's floppy disks to the RUCC's tapes.

19) In regard with 2-2-2)
Before establishing the qulified control engineer, quality control was made by construction circle staff's by themselves without any check of outside staffs. Now, the P&D circle engineer is working as the quality control engineer to examine the control activities from the view of outside.

20) In regard with 2-3-6)
The collected data are kept at the labo and the copies are sent to the designers. Not regularly, but the analysis papers are reported to the annual research congress.

21) In regard with 2-6-1)
In Burma, six big computers are available, all of which are IBM. Ministry of manpower, has one, Min. of Industry has one, Min. of mines has one, Min. of transport and communication has one, and RUCC has two computers. these five organizations have jointed together for maintenance services. General maintenance is annually made by the IBM staffs from outside.

22) In regard with 2-6-2)
The three programing engineers are in the P&D circle. The ID has just completed a three months training course for 25 trainees to ~~teach~~ learn Basic and Fortran language ~~by~~ from teachers sent from the RUCC with the possessed four disk top computers. And the ID has nominated three staffs to attend the RUCC's six months training course, two of which are from P&D circle.

23) In regard with 2-6-4)
The existing computers are utilized 12 to 16 hours per day per computer throughout for design and project feasibility studies.

24) In regard with 2-7-1)
The visual aids possessed by the ID are two blackboards and one overhead projector.

25) In regard with 2-8-2) (indirectly related to 2-8)
The proposed "technical books" include textbooks of applied hydrology and open canal structures, and journals.

26) In regard with Questionaire II
At the project site, engineering section and mechanical section are managed by a project director nominated from the superintendent engineers of the construction circle.

Nov. 14, 85

27) In regard with the Five Year Development Programme 1983/84 to 87/88 (FDP)

FDP was made for donor countries prefering five year plan to show the aid proposal. The FDP is based on the four year plan.

28) In regard with 1-2-7)

Kinda dam multipurpose project is constructed by a Korean firm.

All other projects are managed by the ID by force account, however, some projects are assisted by foreign staffs for implementation of the projects. For example, Rural irrigation projects are assisted by "Sanyu consultant (Japan)" and Tank irrigation projects are by an Australian consulting firm.

Projects are financed by Foreign Exchage (F.E.) and the government budgets (the Local civil work costs). However, in some projects, the local civil work costs are partly financed by Internatinal financing agency such as the World Bank.

29) In regard with 1-4-2)

There are three other organizatins to conduct dam construction. Electric Power Corporation called EPC (1) has works for dam construction for hydraulic power development. National Housing Department (2) under the Ministry of construction and Construction Corporation (3) has made one dam, Bhugyi dam for city water suppy. (NHD is responsible for city and town water supply, and Agricultural Mecahanization department under MAF is responsible for rural water supply by making tube wells.)

There is Water way department responsible for water way maintenance to serve navigation, although construction works such as bank protection work are made by the ID.

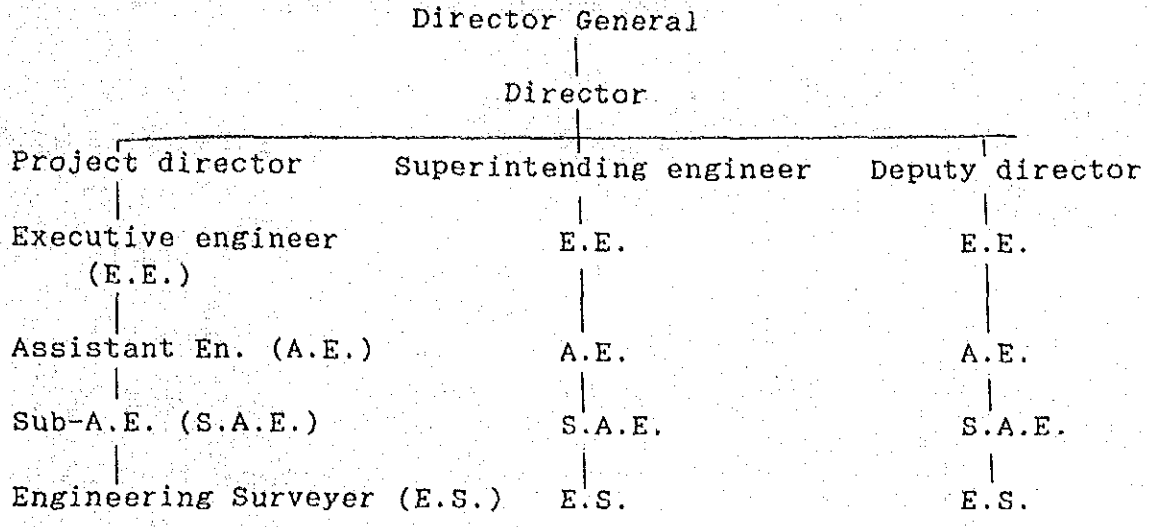
30) In regard with 1-3-1)

The ID is responsible for jobs regarding to 1) irrigation, 2) flood protection, 3) river training, and 4) construction for navigation.

31) In regard with 1-3-3)

O&M circle has 14 offices, of which four are major offices directed by a superintending engineer, Rangoon div., Mandalay div., Sagaing div. and Shan state (Taunggyi)

32) In regard with 1-3-3)
The ID's grade system is as followings:



33) In regard with 1-3-2)

Parmanent establishment:	Engineering (1)	268
	Engineering (2)	850
	Others	13030
	Total	14148
Work change establishment (Temporary employment)		about 5500
Total		about 19648

34) In regard with 2-7-2)
The ITC training will be basic irrigation courses. For instance, hydraulics, soil mechanics and disign, etc for Assistannt En., and Surveying, small structure design procedures, etc for En. suveyers.

35) In regard with 2-3-2)
The soil labo. has one director of a assistant en., six sub-assistants and 20 other staffs. Totally 27 staffs are there.

36) In regard with 1-3-5)
Among circles, the P&D is so powerful that the P&D has seven div. and 13 executive enginers although others has less than four executive en.

37) In regard with ITC manpower.
The ITC has bput 50 staffs directed by who is higher grade of the executive engineer.

ID ORGANIZATION CHART
Director General
Director
Head Office
Administration (1 Deputy director)
Stores (1 Deputy director)
Works (1 Deputy director)
Inspection (S.E)
Operation & Maintenance Circle
4. S.E
8. E.E
2. A.E
Construction Circle
10. Project director (S.E)
Planning & Design Circle
1 Deputy director
Design div.
Agro-soil survey
Engineering
Hydrology div.
Geology div.
Topographic survey 1
"
2
Muvalley div.
Sitteng div.
13 E.E.
Mechanical Circle
S.E
div.
div.
div.
div.
4. E.E

7. Written Information

これは、Questionnaire の回答に加えて提出を依頼し、入手した資料及び、タイ国灌漑技術センターで入手した資料である。

1．タイ国灌漑技術センター機材供与リスト
2．ビルマ灌漑局予算推移

1．タイ国灌漑技術センター機材供与リスト

本リストは、ビルマ灌漑センター機材供与を考える場合の参考に資するため、関係報告書から土質材料試験機器の内容を抜粋したものである。なお、土質試験機器においては、赴任した日本人専門家より、必要優先順位（◎最優先、○優先、△とりあえずはいらない）を示して頂いた。

（無償）

No	項　　目	数　量
◎1	電動三軸試験機（35φ，50φ兼用　Max.300）	1
◎2	X－Yレコーダー（記録巾；180×250，記録ペン；3ペン式）	1
◎3	X－Tレコーダー（記録巾；250，記録ペン；3ペン式）	1
◎4	自記式一軸圧縮試験機（供試体寸法；φ35×180㎜，φ50×120㎜）	1
○5	手動型一軸圧縮試験機（供試体寸法；φ65×150㎜）	1
◎6	荷重検出機（容量；50，100，200，300，500，1,000kgf）各1台	1
◎7	ダイアル型変位検出機（測定動長；10，20，50㎜）	1
◎8	増幅機（測定範囲；±20,000×10ひずみ）	3
◎9	圧密試験機6連（供試体寸法；φ60×20㎜　圧密荷重；0.05～12.8 kgf/㎠）	1
△10	大型一面せん断試験機（せん断荷重；3,000kgf）	1
◎11	改良一面せん断試験機（せん断荷重；200kgf）	1
◎12	X－Yレコーダー（記録巾；180×250，記録ペン；3ペン式）	1
△13	農林省型圧密透水試験機（供試体寸法；φ200×75㎜　載荷容量；5,000kgf）	1
◎14	JIS型変水位透水試験機（供試体寸法；φ100×127㎜）	1
◎15	JIS型定水位透水試験機（供試体寸法；φ100×127㎜）	1
◎16	簡易真空吸引装置（電動式）	1
○17	ASTM型突固め試験装置（供試体寸法；φ4″およびφ6″）	1
〃	（　〃　〃　）	
◎18	普通型自動突固め試験装置（供試体；φ4″，φ6″兼用）	1
◎19	電動式CBR試験装置（載荷速度；1㎜/㎜，載荷容量；5,000kgf）	1
○20	野外CBR試験装置（載荷容量；5,000kgf）	1

No.	項　　目	数　量
◎21	振動型フルイ振とう器（φ200、φ150㎜篩乗用式）	1
◎22	粒度試験用篩網セット（φ200×60㎜，12種受皿付）	2
◎23	恒温型比重計用とう液用水槽（内法寸法；160×900×360㎜）	1
◎24	比重計用円筒（容量；1,000㎖）	10
◎25	比重計（目盛範囲；0.995～1.050ℓ）	5
◎26	粒度分散装置（回転数；10,000 rpm 無負荷時）	1
◎27	液性限界試験装置（JIS型）	1
◎28	塑性限界試験用ロール板（寸法；300×400×6㎜）	1
○29	収縮限界測定装置　JIS型	1
◎30	イオン交換装置（純水採取能力；19ℓ/hr）	1
◎31	大型電気定温器（内容寸法；100×75×60㎝）	1
◎32	三皿ばかり（秤量；311 g，感度；0.01 g）	1
◎33	三皿ばかり（秤量；2610 g，感度；0.1 g）	1
◎34	上皿天びん（秤量；100 g，500 g，1kg，5kg）	1
◎35	卓上台ばかり（秤量；10 kg，20 kg）	1
◎36	台ばかり（秤量；50 kg，100 kg）	1
◎37	直示天びん（秤量；200 g，読取；0.1㎎）	1
◎38	物理試験用小器材 蒸発皿30ケ，ビーカー10ケ，バット20枚，乗サジ10本，すりばち乳棒1ケ，注水器2ケ，スパテラ5ケ，ピクノメーター10ケ	1
○39	ドラフイカビリテイ試験装置（容量；100kgf）	1
◎40	平板載荷試験装置（容量；5,000kgf）	1
◎41	ニーンベネトロ（容量；100 kgf）	1
◎42	ハンドーガー（φ10㎝）	1
△43	地耐力試験装置（容量；25,000kgf）	1
◎44	BS型乾砂置換装置（容量；約3ℓ）	1
◎45	水平試料採取器（試料寸法；φ75×1,000㎜）	1

建設材料試験及び解析（技協）

活動内容 ＼ 機材 ＼ 年度	機材供与の内容										備考
	1985		1986		1987		1988		1989		
	項目	金額（万円）	項目	金額（万円）	項目	金額（万円）	項目	金額（万円）	項目	金額（万円）	
3. 建設材料試験及び解析											
(1) よりよき設計，施工管理のため，土質及び建設材料試験をケース・スタディとして実施する。	・コンクリートミキサー	50	コンクリート空気量測定計	20	ベコメーター土質水分計	45 60	大型一面せん断試験	1,000	SPare Parts	400	
	・コンクリートカッター	100	土質シリンダー試験機	60	電子はかり	50	フレームメーター（化学分析機）	350			
	・コンクリート圧縮試験機	700	サクション・ポンプ	20			〃 記録計	300			
							土質サンプラー	40			
大型は φ200以上	・大型三軸試験機（φ100）フィルダム用	1,000					土圧計（2セット）	100			
	・乾燥炉	65									
	・コンクリート水分計	50									
	・コンクリート温度計	100									
	・コンクリートベネトロメーター	75									
	・コンクリートテストハンマー	(130) − 20									
	雑品	30	雑品	30	雑品	25	雑品	50			
小計		2,300		130		180		1840		400	

2．ビルマ灌漑局予算推移

82/86 年資料

単位：Million K

Year	Current	Capital	Supplemental	TOTAL
82-83	110	513	19	642
83-84	117	417	23	557
84-85	134	512	28	674
85-86	150	446	27	623
	511	1,888	97	2,495
Average	127.75	471.75	24.25	623.75

8. 収集資料リスト

1. Project Information of Kinda Dam Multipurpose Project
2. Review of Project Implementation Sedawgyi Multipurpose Dam and Irrigation Project
3. (Project Information) The Central Agriculture Development Training Centre
4. Training Course (1) of Irrigation Department
5. Syllabus for The Examination of Promotion for The Inservice Personel of Irrigation Department
6. For Tracer, Assistant Draft Man, Draftman Departmental Training Course an Syllabus
7. Computer Works done in Hydrology Section
8. Rainfall Data Storage and Retrieval on Computer
9. Type of Training to be conducted annually