ANNEX-H MINI-HYDROPOWER DEVELOPMENT

ANNEX - H

MINI-HYDROPOWER DEVELOPMENT

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1. MINI-HYDROPOWER DEVELOPMENT PLAN

1.1 General

As clarified in ANNEX-A "Selection of the High Priority Project", two sites of No.1 and No.2, and a combination of site No.1 and No.2 from 110 potential sites which NIA contemplated, were selected for the feasibility study of the mini-hydropower development project.

The site No.1 is located in the Tabuk Supply Canal No.1 within the Chico River Irrigation System. It is near Bulanao town in Kalinga Apayao province. The site has easy access and relatively short distance of 2.5 km from Tabuk sub-station.

The site No.2 is located in the Main Supply Canal within the Chico River Irrigation System. It is 2 km west from Agbannawag town in Kalinga Apayao province and accessible from the national and provincial roads. The distance is about 18.5 km from Tabuk sub-station.

The location of the sites is shown in Fig. 1.1.

The basic concept of the mini-hydropower development projects at the sites is:

- (i) to generate economic electric power and
- (ii) to sell all the electric power generated to NAPOCOR through the existing Tabuk sub-station.

1.2 Optimum Development Plan

In order to determine the optimum scale of the mini-hydropower development plan at the sites No.1 and No.2, the least construction cost per kWh to each site was examined for four alternative discharges with consideration of fluctuation in canal discharges (Duration curve at Site No.1 and No.2 is illustrated in Figs. 1.2 and 1.3).

As a result, the optimum scale of the installed capacity of plant was decided at 700 kW for Site No.1 and 770 kW for Site No.2 as shown in Table 1.1.

1.3 Basic Design Concept of Electrical Equipment and Intake Facilities

Basic design concept of electrical equipment and intake facilities is as follows:

- Water turbine is to be designed as horizontal Francis Single flow turbine which has a simple structure and can control discharge from irrigation canal without quick fluctuation.
- Electromotive operating system without pressure oil supply system will be adopted for guide vane control mechanism.
- 3) No inlet valve will be adopted from economical viewpoint.
- 4) Generator having a synchronous type will be taken to prevent occurrence of voltage drop on transmission line and large shock to power system when generators are parallel into power system.

5) Penstock made from welding thickness.

1.4 Mini-Hydropower Development Plan

1.4.1 Arrangement of Power Distribution System

The generated electric power by the mini-hydropower plant at No.1 and No.2 sites was planned to be sent to Tabuk sub-station via 13.8 kV transmission line to be installed by NIA, and can be consumed in the service area of KAELCO and Tuguegarao through NAPOCOR's 69 kV transmission line. The arrangement of power system is shown on Fig. 1.4.

The plan of the mini-hydropower developments at the sites No.1 and No.2 is outlined as follows:

1.4.2 Features of the Mini-hydropower Plants

(i) Maximum discharge

The maximum discharge is determined from economical viewpoint by estimating annual possible power generation in consideration of fluctuation in discharge. Duration curve has been prepared on the basis of monthly average canal discharge from 1984 to 1987 as shown in Fig. 1.2 for site No.1 and Fig. 1.3 for site No.2. As a study result, maximum discharge has been determined to be 4 m³/sec at site No.1 and 12 m³/sec at site No.2, respectively.

(ii) Efficiency of water turbine, generator and transformer

An efficiency of water turbine, generator, increaser and transformer is designed as follows:

Water turbine : 85% for site No.1

84% for site No.2

Generator : 95% for sites No.1 & No.2

Increaser : 96% for site No.2

(iii) Effective height of drop

An effective of height of drop is estimated to be 22.10 m at site No.1 and 8.55 m at site No.2 taking into consideration the head loss.

(iv) Estimation of expected output

An excepted output is estimated by the following formula:

 $P = 9.8 \times H \times Q \times Et \times Eg \times Ei$

where, H: height of drop (m)

Q : discharge (m³/sec) Et : turbine efficiency Eg : generator efficiency

Ei : increaser efficiency

The output in estimated as 700 kW for No.1 site and 770 kW for No.2 site.

(v) Estimation of generated energy

The generated energy expressed in kWh is determined by generated output (P) times power operation hours (hr).

Annual possible power generation has been obtained from the following formula.

Annual possible power generation = $P \times E \times 24 \times 365$

where, P: output corresponding to the maximum discharge

E: annual water utilization factor (0.75) = annual

discharge available/maximum discharge x 365 (see Figs. 1.2 and 1.3).

The estimated generated energy is 4,511 MWh for No.1 site and 5,062 MWh for No.2 site.

1.4.3 Specification of Mini-hydropower Plants

(i) Water turbine

		Site No.1	Site No.2
Туре		HF-1RS	HF-1RS
Effective head	(m)	22.1	8.55
Discharge	(m^3/sec)	4.0	12.0
Output	(kW)	736	845
Speed	(rpm)	600	165

Note: HF-1RS: Horizontal shaft Fransis type one runner

Speed governor is direct current motor operated with electronic type governor.

Level governor is applied to control the output corresponding to discharge fluctuation.

(ii) Generator

Type: Synchronous generator with salient pole revolving field type.

		Site No.1	Site No.2
Output	(kVA)	778	855
Output	(kW)	700	770
Speed	(rpm)	600	900
Power factor	0.9	0.9	
Voltage	(kV)	3.3	3.3
Frequency	(Hz)	60	60
Increaser ratio		N/A	5.5
No. of pole		12	8

Before parallel into power system, generator terminal voltage can be constantly controlled by automatic voltage regulator and after parallel into power system, the power factor can be constantly controlled by automatic power factor controller.

(iii) Switchgear for generating equipment

The panels of indoor type are provided for generator control, protection, power distribution and battery and battery charger and 3.3 kV indoor cubicles for generator switchgear are provided.

(iv) 13.8 kV outdoor switchgear

The switchgear for connecting generator to 13.8 kV transmission line comprises with main transformer, circuit breaker, disconnecting switch, potential transformer, current transformer and lightning arrester.

(v) Lifting device

Motor operated monorail hoist having 5 ton in capacity is provided on ceiling in power house is installed for installation and maintenance of water turbine and generator.

(vi) 69 kV/13.8 kV switchgear at Tabuk sub-station

The switchgear comprises main transformer, disconnecting switch, lightning arrester, potential and current transformers, gas circuit breaker and metering outfit.

(vii) Transformer

Transformer is applied to oil immersed natural air cooled outdoor use type with no-voltage tap changer on high tension side.

The specification is as follows:

		Site No.1	Site No.2	Combination
Rated capacity	(kVA)	800	900	1,600
Rated frequency	(Hz)	60	60	60
No. of phase		3	3	3
Connection		Yd1	Yd1	Yd1
Rated voltage 1st	(kV)	3.3	3.3	13.8
Rated voltage 2nd	(kV)	13.8	13.8	66
Tap voltage	(kV)	F14.5-F13.8-	F14.5-F13.8-	F72-F69-
		R13.2-F12.5-	R13.2-F12.5-	R-66-F63-
		F12.0	F12.0	F60
Cooling	,	ONAN	ONAN	ONAN

Note: Yd1 means delta-star connection.

ONAN means oil immersed natural air cooled

1.4.4 Arrangement of Mini-hydropower Plants

(i) Arrangement of mini-hydropower plant for No.1 and No.2 sites comprised with plan and profile is shown on Fig. 1.5 for No.1

site and Fig. 1.6 for No.2 site. These drawings show power house, penstock, intake facilities, tailrace and existing irrigation facilities.

(ii) Arrangement of Tabuk sub-station

The transmitted electricity is received to 13.8 kV switchgear and transformed t 69 kV voltage level by transformer and connected to 69 kV bus of the existing switchgear.

The arrangement of equipments is shown on Fig. 1.7.

(ix) Arrangement of 13.8 kV transmission line

The transmission line is installed between No.2 site and Tabuk sub-station and is branched on the midpoint of 2.5 km from Tabuk sub-station for No.1 site. The transmission line is 18.5 km in total route length and installed passing along Chico Main Diversion Canal with 16 km in length and crossing on 2.5 km pasture. The route of transmission line is shown on Fig. 1.8.

2. COST ESTIMATE

2.1 Project Cost

The construction cost comprises installation cost of water turbine, generator, increaser, transformer, switchgear, battery and battery charger, 69 kV sub-station, 13.8 kV transmission line, metal works and civil works of their installation, engineering and administration cost and contingency.

The engineering and administration cost is assumed as 15% of the direct cost and the contingency is estimated as 10% of both the direct cost and the engineering and administration cost.

All prices are expressed in constant 1988 price, and a standard conversion of US\$1.00 = Peso 21 = Yen 135. The estimated construction cost is shown on Table 2.1.

2.2 Operation and Maintenance Cost

The operation and maintenance cost is assumed to be 1.5% of the project cost.

2.3 Fund Requirement

The fund requirement for implementation of each of the project was estimated based on the price escalation factor and the implementation schedule, as shown in Table 2.1.

3. PROJECT EVALUATION

To confirm the project assessment, the economic and financial analysis was carried out for Site No.1, Site No.2 and a combination of Site No.1 and No.2 plan.

3.1 Precondition

Following preconditions are applied on the analysis.

- 1) The economic useful life of the project is 35 years.
- 2) All prices are expressed in 1988 constant price.
- 3) The exchange rate of US\$1.00 = Peso 21 = Yen 135.
- A standard conversion factor of 0.83 is applied to local cost necessary for civil works.
- 5) The construction of each of the projects will be done for two years.
- 6) The construction cost is disbursed to 60% of the total construction cost in the first year and 40% in he second year.
- 7) Benefit and O&M cost will occur in the third year.

3.2 Economic Analysis

3.2.1 Economic Cost

The cost is composed of economic capital cost and operation and maintenance cost.

a) Economic construction cost

The economic cost was estimated by the applying conversion factor of standard conversion rate (0.83) to local currency portion of the construction cost. The economic cost is shown below:

· · · · · · · · · · · · · · · · · · ·	(Unit: 10 ³ US\$)
Site No. 1	2,348
Site No. 2	2,853
Combination	4,858

b) Operation and maintenance cost

The economic operation and maintenance cost was estimated taking account of standard conversion rate of the financial annual operation and maintenance cost as shown below:

	(Unit: 10 ³ US\$)
Site No. 1	38
Site No. 2	46
Combination	79
· ·	

3.2.2 Benefit

The power benefit of each of the prospective power development project is estimated as the saving cost by supplying electric energy from mini-hydropower plant instead of supply from alternative diesel power plant which has equivalent power output. Capacity value is not considered in this case because dependable capacity is nearing zero in case of 90% period. The benefit is calculated by the following formula:

 $CB = Of \times Cf \times kWh \times AF$

where, CB: benefit

Qf: fuel consumption rate (lit/kWh) = 0.2844

Cf: fuel cost (US\$/lit) = 0.3

AF : adjustment factor for energy = 1.01

3.2.3 Economic Analysis

The economic analysis was carried out by economic internal rate of return (EIRR) as shown in Table 2.2. The study result is as follows:

			(Unit	: US\$1,000)
		Site No.1	Site No.2	Combination
Economic capita	al cost	2,348 389	2,853 436	4,858 825
O&M cost EIRR (%)		38 13.7	46 12.5	79 14.0

3.2.4 Sensitivity Analysis

The sensitivity analysis was carried out with following 3 cases:

Case-A: Increasing of 10% cost Case-B: Decreasing of 10% benefit

Case-C: Combined with Case-A and Case-B

The results of sensitivity analysis are shown below:

			(Unit: %)
	Site No.1	Site No.2	Combination
Case A	12.3	11.2	12.6
Case B	12.2	11.1	12.5
Case C	10.9	9.9	11.2

3.3 Financial Analysis

The repayment capacity for the capital cost (fund requirement) of the project was examined by a preparing cash flow statement for each of the mini-hydropower development project.

On the basis of fund requirements, cash flow statements were prepared under assumption of the following conditions:

- i) The foreign currency portion will be financed by the Government through a financing institution at an assumed interest rate of 2.7% per annum for a repayment period of 30 years including a grace period of 10 years.
- ii) The local currency portion will be financed by the Government from its own resources with no interest and 25 years repayment period and
- iii) The revenue depends on the sale of the annual energy generated by the mini-hydropower plant at a rate of 0.0486 US\$/kWh. The annual energy to be sold is estimated to be 95% of the generated energy. The cash flow statements for each project are shown in Table 3.1.

Table 1.1 STUDY OF OPTIMUM DEVELOPMENT PLAN

		Site No. 1	No. 1			Site No. 2	No. 2	
Item	Case 1	Case 2	Case 3	Case 4	Case 1	Case 2	Case 3	Case 4
Net Head (m)	22.1	22.1	22.1	22.1	8.55	8.55	8.55	8.55
Discharge (m3/s)	3.5	3.75	4.0	4. R	10.0	11.0	12.0	12.5
Output (kW)	612	656	700	787	642	706	770	802
Annual Energy (1,000 kWh)	4,284.16	4,402.44	4,510.80	4,642.56	4,487.04	4,790.16	5,061.67	5,092.92
Construction Cost* (1,000 US\$)	2,403.70	2,477.06	2,516.39	2,699.13	2,899.34	2,974.93	3,072.10	3,123.32
Cost per kWh (US\$)	0.561	0.563	0.558	0.581	0.646	0.621	0.607	0.613
Priority	8	m	H	বা	4"	m	rd	8

Remark : * = not including price contingency

Table 2.1 COST ESTIMATE

	S	ite No.	1		Site No.	2	~	ombinatio	1,000 USS
Item	FC	LC		FC			FC		first-teritor-rentament-territoria
Ol Congrating Boule									
(1) Generating Equipment							:		
- Water trubine	496	-	496	646	·	646	1,142		1,14:
- Generator	323	-	323	280	-	280	603		60;
- Increaser	N/A		0	108	-	108	N/A	_	
- Indoor switchgear	200		200	200		200	400	· ·	40
- DC supply	46		46	46	· -	46	92	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	9
- Transformer	. 29	-	29	32	_	32	61	_	6
- Outdoor switchgear	67	-	67	67		67	133	_	13;
(1) Sub-total:	1,161	_	1,161	1,378		1,378	2,539	- 1 1 L	2,53
			•			1,5.0	2,000		2,55
2) 13.8 kV T/L & 69 kV Sub	-station					1000			
- Transformer	40		40	43		43	63	· · · · · · <u>-</u>	6;
- 69 kV & 13,8 kV	. 251	_	251	251	_	251	251		25
sub-station		•				2.51		- 1	2.0
- 13.8 kV T/L	11	. 14	25	70	89	160	81	103	18
(2) Sub-total:	302	14	316	365			396	103	49
		7.			. 03	454	350	103	4.7
3) Penstock	_	60	60	_	63	63		123	12
					. 05			123	
4) Intake Gate	. · · -	26	26		. 26	26		51	5
					: 20	. 20	× 1	31	
5) Civil Work		427	427	_	507	507		934	93
the state of the s	•		• • •			. 307		,234	. 23
6) Sub-total of (1) to (5)	1,463	526	1,989	1,743	685	2,429	2,935	1,212	4,14
	-,			2,770		2,742	2,759	1,212	3,13
7) Engineering and	219	79	298	262	103	364	440	182	62;
Administration Cost		,,,	2,0	202	103	. 304	440	102	02.
				•				1 1	
8) Sub-total of (6) to (7)	1,682	605	2,288	2,005	788	2,793	3,376	1,393	4 70
	1,002	003	2,200	. 2,003	700	2, 193	3,376	1,393	4,76
9) Contingency	168	61	229	200	79	279	338	139	471
, , , , , , , , , , , , , , , , , , ,	100	U1	227	, 200		213	230	139	. 47
0) Project Cost (8) to (9)	1,850	666	2,516	2,205	867	3,072	3,713	1,533	5, 24
0, 110,000 0000 (0, 20 (5)	1,050	000	2,310	2,203	001	3,072	3,713	1, 333	3, 241
1) Price Contingency*									
1st year	114	84	198	136	109	245	228	193	42
2nd year	117	88	205	130	115	254	234	203	43
(11) Sub-total	231	172	403	275	224	499	462	396	
(1,000 Peso)	(4, 851)	(3,614)	(8, 465)	(5,768)					
(1,000 resu)	(4,631)	(3,614)	(8,463)	(3,700)	(4, 703)	(10, 471)	(9,712)	(8,317)	(18,018)
2) Fund Requirement**									
The state of the s	1 224	484	1 700	1 450	620	3 000	2 456	1 117	2 5
1st year	1,224		1,708	1,459		2,089	2,456	1,113	3,56
2nd year	857	354	1,211	1,021	461	1,482	1,719	816	2,539
(11) Sub-total	2,081	388	2,469	2,480	1,091	3,571	4,475	1,929	6,40
(1,000 Peso)	(43, 698)	(8,148)	(51,846)	(52,082)	(22, 911)	(79,993)	(93, 975)	(40,502)	(134, 477)

Remarks:

Price contingency was taken into account on the basis of an annual escalation rate of 10% for the local currency portion and 5% for the foreign currency portion
 Fund requirement consists of 60% of total fund requirement in the 1st year of implementation year and 40% in the 2nd year

Table 2.2 ECONOMIC COSTS AND BENEFITS FLOW

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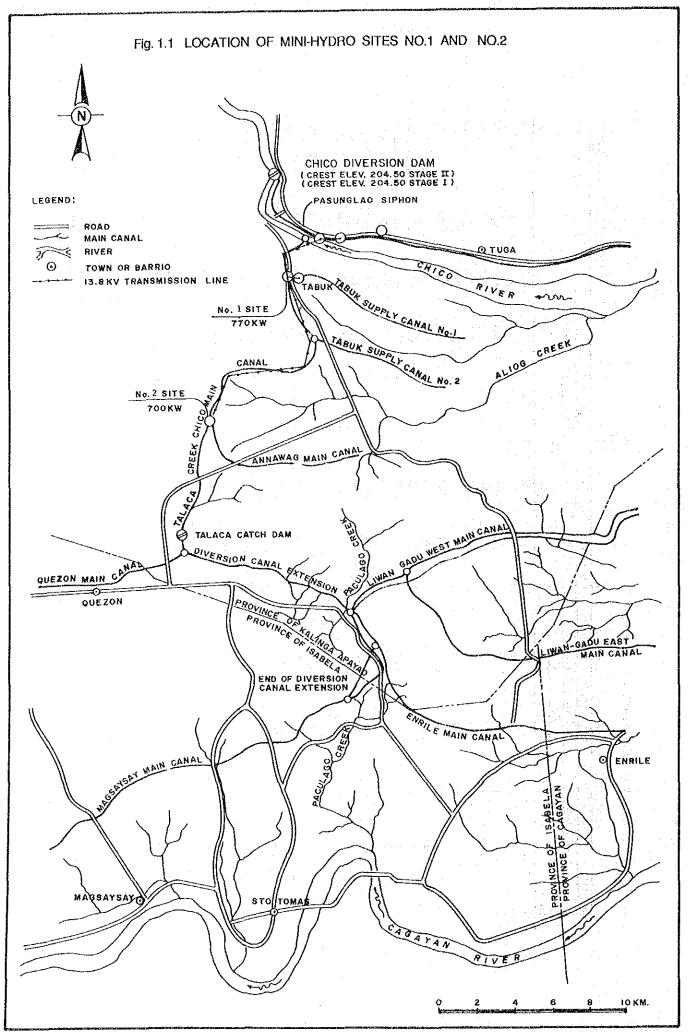
Table 3.1 (2/3) CASH FLOW STATEMENT (SITE NO. 2)

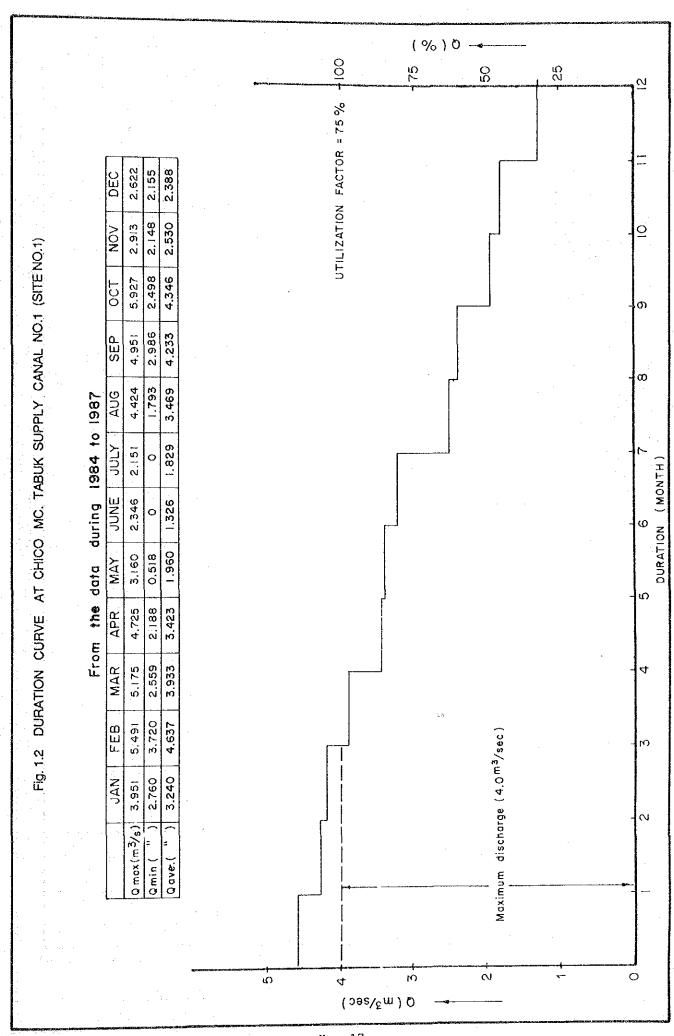
1	Year				Cash Ou	Outflow		Ö	Cash Inflow	ΜO	ตั	Balance Accu	Accumulation
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3 0 0 0 72 0 0 46 118 0 0 234 4 0 0 0 72 0 0 44 46 161 0 0 234 6 0 0 0 72 0 0 44 46 161 0 0 234 7 0 0 0 72 0 0 44 46 161 0 0 234 9 0 0 0 72 0 0 44 46 161 0 0 234 110 0 0 0 72 0 44 46 161 0 0 234 111 0 0 0 68 133 44 46 291 0 0 234 113 0 0 0 61 133 44 46 287 0 0 234 114 0 0 0 65 133 44 46 287 0 0 234 115 0 0 0 54 133 44 46 287 0 0 234 116 0 0 0 57 133 44 46 287 0 0 234 117 0 0 0 43 133 44 46 263 0 0 234 118 0 0 0 35 133 44 46 263 0 0 234 120 0 0 29 133 44 46 263 0 0 234 121 0 0 0 133 44 46 263 0 0 234 122 0 0 0 22 133 44 46 253 0 0 234 124 0 0 0 22 133 44 46 253 0 0 234 125 0 0 0 13 6 13 3 44 46 253 0 0 234 126 0 0 0 1 13 3 44 46 251 0 0 234 127 0 0 0 1 13 3 44 46 251 0 0 234 128 0 0 0 1 13 3 44 46 251 0 0 234 129 0 0 0 1 13 3 44 46 230 0 0 234 120 0 0 0 1 1 1 13 3 44 46 230 0 0 234 120 0 0 0 1 1 1 13 3 44 46 230 0 0 234 120 0 0 0 1 1 1 13 3 44 46 230 0 0 234 120 0 0 0 1 1 1 13 3 44 46 230 0 0 0 234 120 0 0 0 1 1 1 13 3 44 46 230 0 0 0 234 120 0 0 0 1 1 1 13 3 44 46 230 0 0 0 234 120 0 0 0 0 1 13 0 0 0 0 0 0 0 0 0 0 0 0 0		,20	φ		0		1,73	20	ω	0	99	-72	-111
4 0 0 0 12 0 44 46 161 0 0 234 5 0 0 0 72 0 44 46 161 0 0 234 7 0 0 0 72 0 44 46 161 0 0 234 8 0 0 0 72 0 44 46 161 0 0 234 10 0 0 72 0 44 46 161 0 0 234 11 0 0 0 72 0 44 46 161 0 0 234 11 0 0 0 72 0 44 46 161 0 0 234 11 0 0 0 68 133 44 46 281 0 0 234 11 0 0 0 68 133 44 46 281 0 0 234 11 0 0 0 54 133 44 46 280 0 0 234 11 0 0 0 54 133 44 46 262 0 0 234 11 0 0 0 22 133 44 46 263 0 0 234 12 0 0 0 36 133 44 46 263 0 0 234 13 0 0 0 22 133 44 46 253 0 0 234 14 13 3 44 46 253 0 0 234 15 0 0 0 14 133 44 46 253 0 0 234 16 0 0 0 22 133 44 46 253 0 0 234 17 1 133 44 46 253 0 0 234 18 0 0 0 14 133 44 46 230 0 0 234 18 0 0 0 14 133 44 46 233 0 0 234 18 0 0 0 1 14 133 44 46 233 0 0 234 28 0 0 0 1 14 133 44 46 233 0 0 234 28 0 0 0 1 14 133 44 46 233 0 0 234 28 0 0 0 1 1 133 44 46 233 0 0 234 28 0 0 0 1 1 133 44 46 233 0 0 0 234 28 0 0 0 1 1 133 44 46 233 0 0 0 234 28 0 0 0 0 1 1 133 44 46 233 0 0 0 234 28 0 0 0 0 1 1 133 44 46 233 0 0 0 234 28 0 0 0 0 1 1 133 44 46 233 0 0 0 234 28 0 0 0 0 0 1 1 133 44 46 233 0 0 0 0 234 28 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ო	0	0	72	0	ਧਾ	i i	0	 O	ന	~	116	ιΩ
5 0 0 0 72 0 44 46 161 0 0 234 6 0 0 72 0 44 46 161 0 0 234 8 0 0 72 0 44 46 161 0 0 234 11 0 0 0 72 0 44 46 161 0 0 234 11 0 0 0 72 0 44 46 161 0 0 234 11 0 0 0 65 133 44 46 287 0 234 11 0 0 0 65 133 44 46 287 0 234 11 0 0 0 67 133 44 46 287 0 234 11 0 0 0 57 133 44 46 289 0 0 234 11 0 0 0 57 133 44 46 273 0 234 11 0 0 0 36 133 44 46 263 0 234 11 0 0 0 36 133 44 46 263 0 234 12 0 0 0 36 133 44 46 263 0 0 234 13 0 0 0 22 133 44 46 253 0 0 234 14 0 0 0 36 133 44 46 263 0 0 234 15 0 0 0 22 133 44 46 253 0 0 234 16 0 0 1 1 133 44 46 233 0 0 234 17 0 0 0 1 1 133 44 46 233 0 0 234 18 0 0 0 22 133 44 46 233 0 0 234 18 0 0 0 1 1 133 44 46 233 0 0 234 26 0 0 1 1 133 44 46 233 0 0 234 27 0 0 0 1 13 133 44 46 233 0 0 0 234 28 0 0 0 1 1 133 44 46 233 0 0 0 234 29 0 0 0 1 1 133 44 46 233 0 0 0 234 29 0 0 0 1 13 133 44 46 233 0 0 0 234 29 0 0 0 1 1 133 44 46 233 0 0 0 234 20 0 0 0 1 1 133 0 44 6 233 0 0 0 234 20 0 0 0 1 1 133 0 44 6 233 0 0 0 234 20 0 0 0 1 1 133 0 44 6 233 0 0 0 0 234 20 0 0 0 1 1 1 133 0 44 6 233 0 0 0 0 234 20 0 0 0 1 1 1 133 0 44 6 233 0 0 0 0 234 20 0 0 0 1 1 1 133 0 44 86 233 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ći.	0	o	72	0	4	16	0	0	ന	m	72	77
6 0 0 0 72 0 44 46 161 0 0 234 8 0 0 72 0 44 46 161 0 0 234 9 0 0 72 0 44 46 161 0 0 234 10 0 0 72 0 44 46 161 0 0 234 11 0 0 0 72 0 44 46 161 0 0 234 11 0 0 0 68 133 44 46 281 0 234 11 0 0 0 61 133 44 46 280 0 234 11 0 0 0 54 133 44 46 280 0 234 11 0 0 0 54 133 44 46 283 0 234 11 0 0 0 43 133 44 46 269 0 234 12 0 0 0 32 133 44 46 269 0 234 13 0 0 0 22 133 44 46 253 0 234 24 0 0 0 22 133 44 46 253 0 234 25 0 0 0 22 133 44 46 253 0 0 234 26 0 0 0 22 133 44 46 253 0 0 234 27 0 0 0 22 133 44 46 253 0 0 234 28 0 0 0 22 133 44 46 233 0 0 234 28 0 0 0 22 133 44 46 233 0 0 234 29 0 0 14 133 44 46 233 0 0 234 29 0 0 13 133 44 46 233 0 0 234 29 0 0 1 14 133 44 46 233 0 0 234 29 0 0 1 14 133 44 46 233 0 0 234 29 0 0 1 14 133 44 46 233 0 0 234 29 0 0 1 14 133 44 46 233 0 0 234 29 0 0 1 18 133 44 46 233 0 0 234 29 0 0 1 18 133 44 46 233 0 0 234 29 0 0 1 18 133 44 46 233 0 0 234 29 0 0 1 18 133 44 46 233 0 0 0 234 29 0 0 1 18 133 44 46 233 0 0 0 234 29 0 0 1 18 133 0 0 0 0 234 20 0 0 1 18 133 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Ŋ	0	0		0	44 46	16	0	: O	ന	m	72	149
7 0 0 0 72 0 44 46 161 0 0 234 8 0 0 0 72 0 44 46 161 0 0 234 10 0 0 72 0 44 46 161 0 0 234 11 0 0 68 133 44 46 291 0 0 234 113 0 0 0 57 133 44 46 284 0 0 234 114 0 0 0 54 133 44 46 284 0 0 234 115 0 0 0 54 133 44 46 263 0 0 234 116 0 0 0 40 133 44 46 269 0 0 234 119 0 0 0 40 133 44 46 263 0 0 234 119 0 0 0 25 133 44 46 263 0 0 234 120 0 0 25 133 44 46 255 0 0 234 120 0 0 25 133 44 46 255 0 0 234 120 0 0 25 133 44 46 255 0 0 234 120 0 0 14 133 44 46 237 0 0 234 120 0 0 133 44 46 255 0 0 234 120 0 0 14 133 44 46 237 0 0 234 120 0 0 133 44 46 237 0 0 234 120 0 0 14 133 44 46 237 0 0 234 120 0 0 133 44 46 237 0 0 234 120 0 0 133 44 46 237 0 0 234 120 0 0 133 44 46 237 0 0 234 120 0 0 133 44 46 237 0 0 234 120 0 0 133 44 66 235 0 0 0 234 120 0 0 14 133 44 46 237 0 0 234 120 0 0 120 133 44 62 250 0 0 234 120 0 0 120 133 44 62 250 0 0 234 120 0 0 120 133 44 66 235 0 0 0 234 120 0 0 120 133 44 66 235 0 0 0 234 120 0 0 120 133 44 66 235 0 0 0 234 120 0 0 120 133 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	φ	0	0		0	4	16	Ó	0	ന	m	72	221
8 0 0 0 72 0 44 46 161 0 0 234 110 0 0 68 133 44 46 291 0 0 234 111 0 0 68 133 44 46 291 0 0 234 112 0 0 68 133 44 46 291 0 0 234 113 0 0 0 61 133 44 46 281 0 0 234 114 0 0 0 54 133 44 46 287 0 0 234 115 0 0 0 54 133 44 46 273 0 0 234 119 0 0 0 47 133 44 46 262 0 0 234 119 0 0 0 36 133 44 46 259 0 0 234 120 0 0 36 133 44 46 259 0 0 234 121 0 0 0 22 133 44 46 259 0 0 234 122 0 0 0 36 133 44 46 259 0 0 234 124 0 0 0 22 133 44 46 259 0 0 234 125 0 0 0 22 133 44 46 259 0 0 234 126 0 0 14 133 44 46 251 0 0 234 127 0 0 1 133 44 46 237 0 0 234 128 0 0 1 1 133 44 46 230 0 0 234 129 0 0 14 133 44 46 230 0 0 234 130 0 0 133 44 46 226 0 0 234 130 0 0 14 133 44 46 230 0 0 234 130 0 0 18 133 44 46 230 0 0 234 130 0 0 18 133 44 46 230 0 0 234 130 0 0 18 133 44 46 226 0 0 234 130 0 0 18 133 44 46 230 0 0 234 130 0 0 18 133 0 0 0 234 130 0 0 1 14 133 44 46 226 0 0 234 130 0 0 18 133 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	۲	0	0	72	0		16	0	0	m	m	72	294
9 0 0 0 72 0 44 46 161 0 0 234 11 0 0 0 68 133 44 46 291 0 0 234 11 1 0 0 0 65 133 44 46 291 0 0 234 13 0 0 61 133 44 46 284 0 0 234 14 0 0 0 61 133 44 46 284 0 0 234 15 0 0 0 54 133 44 46 277 0 0 234 16 0 0 0 47 133 44 46 269 0 0 234 19 0 0 0 43 133 44 46 269 0 0 234 19 0 0 0 32 133 44 46 259 0 0 234 20 0 0 32 133 44 46 259 0 0 234 21 0 0 0 22 133 44 46 259 0 0 234 22 0 0 0 22 133 44 46 251 0 0 234 23 0 0 22 133 44 46 251 0 0 234 24 0 0 22 133 44 46 251 0 0 234 25 0 0 0 14 133 44 46 251 0 0 234 26 0 0 18 133 44 46 251 0 0 234 27 0 0 0 14 133 44 46 251 0 0 234 28 0 0 0 13 133 44 46 237 0 0 234 29 0 0 1 1 133 44 46 237 0 0 234 30 0 0 1 1 133 44 46 226 0 0 234 30 0 0 1 1 133 44 46 230 0 0 234 30 0 0 1 1 133 44 46 226 0 0 234 30 0 0 1 1 133 44 46 226 0 0 234 30 0 0 1 1 133 44 46 226 0 0 234 30 0 0 1 1 133 44 46 230 0 0 234 30 0 0 0 1 1 133 44 46 226 0 0 234 30 0 0 0 1 1 133 44 46 226 0 0 234 30 0 0 0 1 1 1 133 44 46 226 0 0 0 234 30 0 0 0 0 0 1 138 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00	0	0	72	0		16	0	0	(r)	m	72	366
10 0 0 72 0 44 46 161 0 0 234 11 0 0 68 133 44 46 291 0 0 234 12 0 0 65 133 44 46 284 0 0 234 13 0 0 54 133 44 46 280 0 0 234 14 0 0 57 133 44 46 280 0 0 234 15 0 0 54 133 44 46 277 0 0 234 16 0 0 47 133 44 46 265 0 0 234 18 0 0 40 133 44 46 265 0 0 234 19 0 0 40 133 44 46 265 0 0 234 22 0 0 0 36 133 44 46 265 0 0 234 23 0 0 0 25 133 44 46 255 0 0 234 24 0 0 0 25 133 44 46 255 0 0 234 25 0 0 0 25 133 44 46 255 0 0 234 26 0 0 14 133 44 46 251 0 0 234 27 0 0 0 22 133 44 46 248 0 0 234 28 0 0 0 14 133 44 46 251 0 0 234 29 0 0 1 13 133 44 46 241 0 0 234 29 0 0 1 133 44 46 237 0 0 234 29 0 0 1 133 44 46 237 0 0 234 29 0 0 1 133 44 46 220 0 0 234 29 0 0 1 1 133 44 46 230 0 0 234 29 0 0 1 1 133 44 46 220 0 0 234 29 0 0 1 1 133 44 46 220 0 0 234 29 0 0 1 1 133 44 46 220 0 0 234 29 0 0 1 1 133 44 46 220 0 0 234 20 0 0 1 1 133 44 6 220 0 0 234 20 0 0 1 1 133 44 6 220 0 0 234 20 0 0 1 10 133 44 6 220 0 0 234 20 0 0 1 10 133 44 6 220 0 0 234 20 0 0 1 10 133 0 4 6 220 0 0 234 20 0 0 1 10 133 0 4 6 220 0 0 234 20 0 0 1 10 133 0 4 6 220 0 0 234 20 0 0 0 1 10 133 0 4 6 220 0 0 234 20 0 0 0 1 10 133 0 4 6 220 0 0 234 20 0 0 0 1 10 133 0 4 6 220 0 0 0 234 20 0 0 0 0 10 133 0 0 0 0 0 0 0 0 0 0 0 0	თ	0	0		0	44 46	16	0	oʻ	n	m	72	438
11 0 0 68 133 44 46 291 0 0 234 12 0 0 65 133 44 46 287 0 0 234 13 0 0 0 57 133 44 46 287 0 0 234 14 0 0 0 54 133 44 46 277 0 0 234 15 0 0 0 57 133 44 46 273 0 234 16 0 0 0 47 133 44 46 273 0 234 17 0 0 0 47 133 44 46 262 0 234 18 0 0 0 440 133 44 46 262 0 234 20 0 0 36 133 44 46 259 0 234 21 0 0 0 36 133 44 46 259 0 234 22 0 0 0 25 133 44 46 259 0 234 23 0 0 0 25 133 44 46 244 0 234 24 0 0 25 133 44 46 235 0 234 25 0 0 14 133 44 46 241 0 234 26 0 0 18 133 44 46 235 0 234 27 0 0 18 133 44 46 237 0 234 28 0 0 1 14 133 44 46 236 0 234 29 0 0 1 14 133 44 46 226 0 234 29 0 0 1 14 133 44 46 236 0 234 29 0 0 1 14 133 44 46 226 0 2 234 29 0 0 1 14 133 44 46 226 0 2 234 29 0 0 1 14 133 44 46 226 0 2 234 29 0 0 1 14 133 44 46 226 0 2 234 29 0 0 1 14 133 44 46 226 0 2 234 29 0 0 1 14 133 44 46 226 0 2 234 29 0 0 1 13 133 44 46 226 0 2 234 20 0 0 1 13 133 44 46 226 0 2 234 20 0 0 1 13 133 44 46 226 0 2 234 20 0 0 1 13 133 44 46 226 0 2 234 20 0 0 1 13 133 44 46 226 0 2 234 20 0 0 1 13 133 44 46 226 0 2 234 20 0 0 0 133 0 0 234 20 0 0 0 0 133 0 0 234 20 0 0 0 0 0 133 0 0 0 0 0 0 0 0 0 0 0 0	10	0	0	72	0	44 46	16	0	Ö	ന	m	72	510
12 0 0 65 133 44 46 287 0 0 234 13 0 0 61 133 44 46 284 0 0 234 14 0 0 0 57 133 44 46 280 0 0 234 15 0 0 0 54 133 44 46 273 0 0 234 16 0 0 0 47 133 44 46 269 0 0 234 18 0 0 4 43 133 44 46 269 0 0 234 19 0 0 40 133 44 46 269 0 0 234 20 0 0 36 133 44 46 262 0 0 234 21 0 0 0 36 133 44 46 255 0 0 234 22 0 0 0 25 133 44 46 255 0 0 234 23 0 0 25 133 44 46 248 0 0 234 24 0 0 25 133 44 46 231 0 234 25 0 0 0 25 133 44 46 233 0 234 26 0 0 14 133 44 46 233 0 234 27 0 0 1 1 133 44 46 230 0 0 234 28 0 0 0 14 133 44 46 230 0 0 234 29 0 0 1 1 133 44 46 230 0 0 234 29 0 0 1 1 133 44 46 230 0 0 234 29 0 0 1 1 133 44 46 230 0 0 234 29 0 0 1 1 133 44 46 230 0 0 234 29 0 0 1 1 133 44 46 236 0 0 234 29 0 0 1 1 133 44 46 236 0 0 234 29 0 0 1 1 133 44 46 236 0 0 234 29 0 0 1 1 133 44 46 236 0 0 234 29 0 0 1 1 133 44 46 236 0 0 234 29 0 0 1 1 133 44 46 236 0 0 234 29 0 0 1 1 133 44 46 236 0 0 234 29 0 0 1 1 133 44 46 236 0 0 234 29 0 0 1 1 133 44 46 236 0 0 234 20 0 0 1 1 133 44 46 236 0 0 234 20 0 0 1 1 1 133 44 46 236 0 0 234 20 0 0 1 1 1 133 44 46 236 0 0 234 20 0 0 1 1 1 133 44 46 236 0 0 0 234 20 0 0 1 1 1 133 44 46 236 0 0 0 234 20 0 0 1 1 1 133 44 46 236 0 0 0 234 20 0 0 1 1 1 133 44 46 236 0 0 0 234 20 0 0 1 1 1 133 44 46 236 0 0 0 234 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	11	0	0	89	ന		29	0	0	E	m	-57	453
13 0 6 1 133 44 46 284 0 234 14 0 0 0 57 133 44 46 280 0 0 234 15 0 0 54 133 44 46 277 0 0 234 16 0 0 57 133 44 46 269 0 0 234 17 0 0 0 43 133 44 46 262 0 0 234 20 0 0 40 133 44 46 262 0 0 234 21 0 0 0 32 133 44 46 269 0 0 234 22 0 0 0 32 133 44 46 259 0 0 234 23 0 0 0 22 133 44 46 259 0 0 234 24 0 0 22 133 44 46 259 0 0 234 25 0 0 0 22 133 44 46 259 0 0 234 26 0 0 18 133 44 46 248 0 0 234 27 0 0 18 133 44 46 231 0 234 28 0 0 0 14 133 44 46 230 0 0 234 29 0 0 0 14 133 44 46 230 0 0 234 29 0 0 0 1 1 133 44 46 230 0 0 234 29 0 0 0 1 1 133 44 46 230 0 0 234 29 0 0 0 1 1 133 44 46 230 0 0 234 29 0 0 0 1 1 133 44 46 230 0 0 234 29 0 0 0 1 1 133 44 46 230 0 0 234 29 0 0 0 1 1 133 44 46 230 0 0 234 20 0 0 1 1 133 44 46 230 0 0 234 20 0 0 1 1 133 44 46 230 0 0 234 20 0 0 1 1 133 0 1 1 1 1 1 1 1 1 1 1 1 1	12	0	0	65	(r)	4	28	0	0	234	m	-54	400
14 0 0 0 57 133 44 46 280 0 0 234 15 0 0 0 54 133 44 46 277 0 0 234 16 0 0 0 47 133 44 46 269 0 0 234 19 0 0 40 133 44 46 269 0 0 234 20 0 0 32 133 44 46 269 0 0 234 21 0 0 0 32 133 44 46 269 0 0 234 22 0 0 0 29 133 44 46 259 0 0 234 23 0 0 0 29 133 44 46 259 0 0 234 24 0 0 0 29 133 44 46 259 0 0 234 25 0 0 0 18 133 44 46 248 0 0 234 25 0 0 0 18 133 44 46 237 0 0 234 26 0 0 14 133 44 46 237 0 0 234 27 0 0 1 1 133 44 46 233 0 0 234 28 0 0 0 14 133 44 46 233 0 0 234 29 0 0 0 1 1 133 44 46 233 0 0 234 29 0 0 0 1 1 133 44 46 233 0 0 234 29 0 0 0 1 1 133 44 46 233 0 0 234 29 0 0 0 1 1 133 44 46 233 0 0 234 29 0 0 0 7 133 44 46 233 0 0 234 29 0 0 0 1 1 133 44 46 233 0 0 234 29 0 0 0 7 1 133		0	0	61	ŝ	ਧਾ	28	0	0	234	m	-50	350
15 0 0 0 54 133 44 46 277 0 0 234 16 0 0 50 133 44 46 273 0 0 234 17 0 0 0 47 133 44 46 269 0 0 234 18 0 0 43 133 44 46 262 0 0 234 20 0 0 32 133 44 46 255 0 0 234 21 0 0 0 32 133 44 46 255 0 0 234 22 0 0 22 133 44 46 251 0 0 234 23 0 0 22 133 44 46 248 0 0 234 24 0 0 18 133 44 46 244 0 0 234 25 0 0 18 133 44 46 241 0 0 234 26 0 0 18 133 44 46 237 0 0 234 27 0 0 11 133 44 46 233 0 0 234 28 0 0 1 14 133 44 46 233 0 0 234 29 0 0 14 133 44 46 233 0 0 234 29 0 0 1 14 133 44 46 233 0 0 234 29 0 0 1 12 133 44 6 233 0 0 234 29 0 0 1 12 133 44 6 233 0 0 234 29 0 0 1 12 133 44 6 233 0 0 234 29 0 0 1 12 133 2 44 26 233 0 0 234 20 0 0 234 25 25 23 23 20 234 20 0 0 234 25 233 0 0 0 234 20 0 0 0 234 25 233 0 0 0 234 20 0 0 0 0 234 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0	0	57	ന	4	28	0	0	234	m	-46	303
16 0 0 50 133 44 46 273 0 0 234 17 0 0 47 133 44 46 269 0 0 234 18 0 0 43 133 44 46 266 0 0 234 19 0 0 40 133 44 46 262 0 0 234 20 0 0 29 133 44 46 255 0 0 234 22 0 0 0 29 133 44 46 251 0 0 234 23 0 0 0 22 133 44 46 241 0 234 24 0 0 22 133 44 46 241 0 234 25 0 0 0 18 133 44 46 241 0 0 234 26 0 0 18 133 44 46 237 0 0 234 27 0 0 0 14 133 44 46 237 0 0 234 28 0 0 0 11 133 44 46 233 0 0 234 29 0 0 11 133 44 46 233 0 0 234 29 0 0 133 44 6 233 0 0 234 29 0 0 133 2 46 26 0 0 234 29 0 0 133 2 46 26 0 0 234 20 0 0 133 2 47 46 233 0 0 234 20 0 0 133 2 26 0 0 234 20 0 0 0 234 20 0 0 0 234 20 0 0 0 234 20 0 0 0 234 20 0 0 0 234 20 0 0 0 0 234 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	15	0	0	54	m	4	27	0	0	234	m	4	261
17 0 0 0 47 133 44 46 269 0 0 234 18 0 0 43 133 44 46 266 0 0 234 19 0 0 40 133 44 46 262 0 0 234 20 0 0 36 133 44 46 259 0 0 234 21 0 0 32 133 44 46 255 0 0 234 22 0 0 0 29 133 44 46 255 0 0 234 23 0 0 0 25 133 44 46 255 0 0 234 24 0 0 0 25 133 44 46 248 0 0 234 25 0 0 0 14 133 44 46 237 0 0 234 26 0 0 1 1 133 44 46 230 0 0 234 27 0 0 0 1 1 133 44 46 230 0 0 234 28 0 0 0 7 133 44 46 230 0 0 234 29 0 0 0 7 133 44 46 230 0 0 234 30 0 0 0 13 33 44 26 230 0 0 234 30 0 0 0 13 33 44 26 230 0 0 234 30 0 0 0 1 133 42 26 0 0 234 30 0 0 0 1 133 42 26 0 0 234 30 0 0 0 234 30 0 0 0 22 Local Currency Condition of Loan Repayment; Local Currency Local Currency Condition of Loan Repayment; Local Currency Condition of Loan Repayment;	16	O	ö	20	ďΣ	4.	27	0	Ö	234	m	(1)	221
18 0 0 43 133 44 46 266 0 0 234 20 0 0 36 133 44 46 262 0 0 234 21 0 0 32 133 44 46 259 0 0 234 22 0 0 29 133 44 46 255 0 0 234 23 0 0 25 133 44 46 248 0 0 234 24 0 0 22 133 44 46 248 0 0 234 25 0 0 0 22 133 44 46 248 0 0 234 26 0 0 18 133 44 46 237 0 0 234 27 0 0 0 14 133 44 46 237 0 0 234 28 0 0 0 1 1 133 44 46 230 0 0 234 29 0 0 0 1 1 133 44 46 230 0 0 234 29 0 0 0 1 1 33 44 46 230 0 0 234 30 0 0 0 1 33 0 46 230 0 0 234 30 0 0 0 1 33 0 46 230 0 0 234 30 0 0 0 1 133 0 46 226 0 0 234 30 0 0 0 1 133 0 46 230 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 0 234 30 0 0 0 0 234 30 0 0 0 0 234 30 0 0 0 0 0 234 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17	0	0	47	ന	4 4	26	Ö	0	234	3	-36	186
19 0 0 40 133 44 46 262 0 0 234 20 0 0 32 133 44 46 259 0 0 234 22 0 0 29 133 44 46 255 0 0 234 23 0 0 29 133 44 46 248 0 0 234 24 0 0 22 133 44 46 244 0 0 234 25 0 0 18 133 44 46 241 0 0 234 26 0 0 14 133 44 46 237 0 0 234 27 0 0 1 14 133 44 46 237 0 0 234 28 0 0 0 11 133 44 46 230 0 0 234 29 0 0 4 133 44 46 230 0 0 234 30 0 0 133 0 46 226 0 0 234 30 0 0 133 0 46 226 0 0 234 30 0 0 133 0 46 226 0 0 234 30 0 0 0 133 0 46 226 0 0 234 30 0 0 0 133 0 46 226 0 0 234 30 0 0 0 133 0 46 226 0 0 234 30 0 0 0 133 0 46 226 0 0 234 30 0 0 0 133 0 46 226 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 0 234 30 0 0 0 0 234 30 0 0 0 0 0 234 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8	0	. · O	4. W	ന	4	7	0	0	234	ന	-32	154
20 0 0 36 133 44 46 259 0 0 234 21 0 0 29 133 44 46 255 0 0 234 22 0 0 0 29 133 44 46 251 0 0 234 23 0 0 22 133 44 46 244 0 0 234 24 0 0 22 133 44 46 244 0 0 234 25 0 0 18 133 44 46 241 0 0 234 26 0 0 14 133 44 46 237 0 0 234 27 0 0 1 1 133 44 46 233 0 0 234 28 0 0 0 1 1 133 44 46 230 0 0 234 29 0 0 1 33 44 46 230 0 0 234 30 0 0 133 44 46 226 0 0 234 30 0 0 133 0 46 200 0 234 30 0 0 133 0 6 25 0 0 234 30 0 0 0 133 0 6 200 0 234 30 0 0 0 133 0 6 200 0 0 234 30 0 0 0 133 0 6 200 0 0 234 30 0 0 0 133 0 6 0 0 234 30 0 0 0 0 133 0 6 0 0 0 234 30 0 0 0 0 133 0 6 0 0 0 234 30 0 0 0 0 133 0 6 0 0 0 234 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	61	0	0	40	(r)	7	C)	0	0	234	m	-28	125
21 0 0 32 133 44 46 255 0 0 234 22 0 0 0 29 133 44 46 251 0 0 234 23 0 0 25 133 44 46 248 0 0 234 24 0 0 22 133 44 46 244 0 0 234 25 0 0 18 133 44 46 241 0 0 234 26 0 0 14 133 44 46 237 0 0 234 27 0 0 11 133 44 46 237 0 0 234 28 0 0 0 11 133 44 46 237 0 0 234 29 0 0 0 1 1 133 44 46 230 0 0 234 29 0 0 0 133 44 46 230 0 0 234 30 0 0 133 46 230 0 0 234 30 0 0 133 64 46 230 0 0 234 30 0 0 234 30 0 0 234 30 0 0 234 30 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 0 234 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20	0	0	36	ന.	, T		0	0	234	ന		100
22 0 0 29 133 44 46 251 0 0 234 23 0 0 25 133 44 46 248 0 0 234 24 0 0 22 133 44 46 244 0 0 234 25 0 0 18 133 44 46 241 0 0 234 26 0 0 14 133 44 46 237 0 0 234 27 0 0 11 133 44 46 237 0 0 234 28 0 0 0 1 1 133 44 46 237 0 0 234 29 0 0 4 133 44 46 230 0 0 234 29 0 0 0 133 44 46 230 0 0 234 29 0 0 0 133 46 226 0 0 234 30 0 0 0 133 64 46 226 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 234 30 0 0 0 0 234 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	21	0	Ö	32.	(r)	4	7	0	0	234	m	-21	7.
23 0 0 25 133 44 46 248 0 0 234 24 0 0 22 133 44 46 244 0 0 234 25 0 0 18 133 44 46 241 0 0 234 26 0 0 14 133 44 46 237 0 0 234 27 0 0 11 133 44 46 237 0 0 234 28 0 0 1 1 133 44 46 236 0 0 234 29 0 0 4 133 44 46 226 0 0 234 30 0 0 133 46 226 0 0 234 6marks: FC = Foreign Currency, IC = Local Currency Condition of Loan Repayment; Local Currency 0.0%	22	0	0	29	m	4	~	Ö	0	234	m	44	62
24 0 0 22 133 44 46 244 0 0 234 25 0 0 18 133 44 46 241 0 0 234 26 0 0 14 133 44 46 237 0 0 234 27 0 0 11 133 44 46 233 0 0 234 28 0 0 7 133 44 46 236 0 0 234 29 0 0 4 133 44 46 226 0 0 234 30 0 0 0 133 0 0 0 234 emarks: FC = Foreign Currency, IC = Local Currency Condition of Loan Repayment; Local Currency	23	0	0	25	3	な	8	0	0	234	C.J	-1-4	4
25 0 0 18 133 44 46 241 0 0 234 26 0 0 14 133 44 46 237 0 0 234 27 0 0 11 133 44 46 233 0 0 234 28 0 0 7 133 44 46 236 0 0 234 29 0 0 4 133 44 46 226 0 0 234 30 0 0 0 133 0 0 0 234 emarks: FC = Foreign Currency, IC = Local Currency Condition of Loan Repayment; Foreign Currency Condition of Condition Currency Foreign Cond		0	Ö	22	m	4	24	O	0	234	3	-10	37
26 0 0 14 133 44 46 237 0 0 234 27 0 0 11 133 44 46 233 0 0 234 28 0 0 7 133 44 46 230 0 0 234 29 0 0 4 133 44 46 226 0 0 234 30 0 0 0 133 0 0 0 234 emarks: FC = Foreign Currency, IC = Local Currency Condition of Loan Repayment; Foreign Currency Foreign Currency Foreign Currency Condition of Loan Repayment; Foreign Currency Foreign Currency Condition of Loan Repayment; Foreign Currency Condition of Condition of Condition Currency Foreign Currency Condition Of Condition Currency Foreign Currency Condition Of Condition Currency Foreign Currency Condition Currency Foreign Currency Foreign Currency Condition Of Condition Currency Foreign Currency For		0	0	18	ന	4	24	0	0	234	ŝ		30
27 0 0 11 133 44 46 233 0 0 234 28 0 0 0 7 133 44 46 230 0 0 234 29 0 0 4 133 44 46 226 0 0 234 30 0 0 133 0 0 234 emarks: FC = Foreign Currency, LC = Local Currency Condition of Loan Repayment; Foreign Currency Local Currency Condition of Loan Repayment; Foreign Currency Foreign Currency Condition of Loan Repayment; Foreign Currency Foreign Currenc		0	0	च्या ल	ന	4	23	0) O	234	m		27
28 0 0 0 234 29 0 0 4 133 44 46 226 0 0 234 30 0 0 133 0 46 179 0 0 234 30 0 0 133 0 46 179 0 0 234 emarks: FC = Foreign Currency, LC = Local Currency Condition of Loan Repayment; Foreign Currency 2.78 30 years Local Currency 0.08		0	0	11	(r)	4	23	0	0	234	234	o	2
29 0 0 4 133 44 46 226 0 0 234 30 0 0 133 0 46 179 0 0 234 emarks: FC = Foreign Currency, IC = Local Currency Condition of Loan Repayment; Foreign Currency 2.7% 30 years Local Currency 0.0%		0	0		m	4	23	0	0	234	234	4	31
emarks: FC = Foreign Currency, LC = Local Currency Condition of Loan Repayment; Foreign Currency 2.7% 30 years Local Currency 0.0%			0	4	(r)	4	22	0	0	234	ന	7	38
emarks: FC = Foreign Currency, LC = Local Currency Condition of Loan Repayment; Foreign Currency 2.7% 30 years Local Currency 0.0%		 	0	0	ന	4	17	0	Ο.	234	m		92
tion of Loan Repayment; Foreign Currency 2.7% 30 years Local Currency 0.0%	emark	l o	14	gn Curr	H C)		ζc						
Foreign Currency 2.7% 30 years (including Local Currency 0.0% 25 year			급	of Loan				nterrest			Repay	ment Period	
0.0% 25 year						ign Curren		2.7%		γ 0	- 4	grac	e period)
		•	. Î-		Loca	1 Currency		80.0			0	year	

Table 3.1 (3/3) CASH FLOW STATEMENT (COMBINATION)

(Unit: 1,000 US \$)

					ŀ	L			ı		מדקווכני	こうつけるこうこう
ta.	Cost	Loan	Repayment		Σ w	Total	Fun	ช	Revenue	Total		
-	ပ္ပ	EH C)		LC	Cost		FC	ដ				
		Interest P	cincipal Pri	ncipal								
l _o	1-4	99	0		0	, 63	45	~	0	56	99-	99-
б	816	113	0	0	0	2,648	1,719	816	0	2,535	-113	-179
.0	0		0	0		Q,	0	0	442	4	251	72
0	0	~~	0	77		9	0	0	442	442	~	4,
0	0		0	77	79	φ	0		442	442	174	419
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0	0	O	O	77		466	0	0	442	442		S
0	0	96	0	77		460	0	0	442	442		ď
0	0	06	209	77		455	0	0	442	442	er H	ď
0	0	85	0	77		449	Ö	0	442	442	<u>L</u> -	4
0	0	79	0	77	. 79	443	0	0	442	442	rri l	ન્
0	0	73	0	77		438	0		442	442	7	1,197
0	0	89	0	77		432	0	0	442	442		ď
0	0	62	0	77	7.9	426	0	0	442	442	72	ď
0	0	36	209	77	7.9	421	0	0	442	442	21	1,244
0	0	51	0	77	7.9	415	0	0	442	442		,27
0	0	45	209	77	79	410	0	0	442	442	32	1,303
0	0	5°C	0	77.		404	0	O	442	442		,34
0	0	34	О	77		398	Ö	0	442	442		,38
0	0	28	0	11	15	393	0	0	442	442	9	1,434
0	0	23	0	11		387	0	0	442	442	ເນ	,48
0	0	17	О	77		381	0	0	442	442	19	55
0	0	건다	\circ	11	79	376	0	0	442	442	99	⊣
0	0		\circ	77	79.	370	0	0	442	442	72	68
0	0	0	0	0	79	ω	0	0	442	442	155	1,842
	FC = F	oreign Curr	ency, LC m	Local Cu	Currency							
	Conditi	on of Loan	ment			ĤΙ	Intermest	[Repayment	ent Peri	po
			ь Б	Foreign Cu	Currency		2.7%		30 year	rs (includin	ag guipt	ace period)





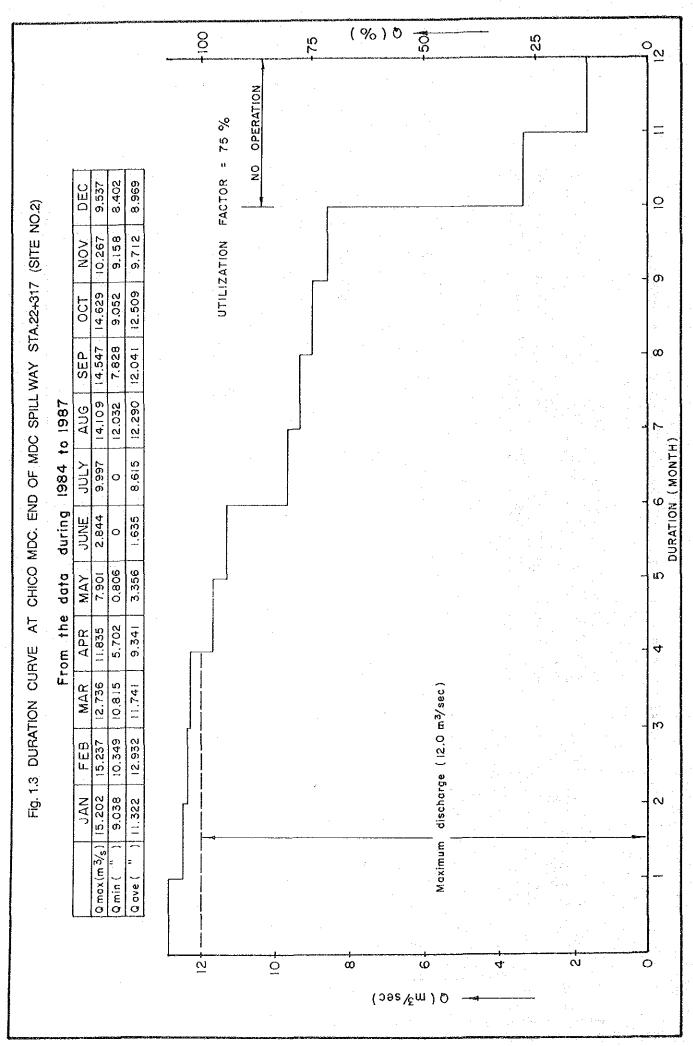


Fig. 1.4 SINGLE LINE DIAGRAM FOR MINI-HYDRO SYSTEM IN CHICO RIS

