SECTION 3
RESULTS OF STUDY

3. Results of Study

3.1 Respondent Characteristics

In the final sample, 202 respondents were surveyed. They compared closely with the proposed sampling plan. Table 3 shows the distribution of the final sample by Tariff.

Table 3

Distribution of Final Sample by Tariff

Tariff	**Frequency**	**Percentage**
Domestic	143	70.8
Commercial	39	19.3
Industrial	17	8.4
Others	3	1.5
Total	202	100.0

By premise location or residence, the majority of the respondents were in Balakong area while a few were in Kajang. Table 4 shows the distribution of respondents by Location.

Table 4

Distribution of Final Sample by Location

Premise/ Residence	**Frequency**	**Percentage**
Balakong	81	40.1
Batu 9	49	24.3
Batu 14	33	16.3
Serdang	33	16.3
Kajang	6	3.0
Total	202	100.0

By gender, 55.4 % of the respondents are male.

Table 5 shows the majority or 63.4 % of the respondents, are in the 20-40 age group (23.8% in the 20-30 years and 39.6% in the 31-40 years group).

Table 5

Distribution of Respondents by Age Group

AGE GROUP OF RESPONDENTS	FREQUENCY	PERCENTAGE OF SAMPLE
12-19	12	5.9
20-30	48	23.8
31-40	80	39.6
41-50	37	18.3
51-60	14	7.0
60 and above	11	5.4
Total	202	100.0

Table 6 shows the distribution of respondents by race. It must be noted that there are concentrations of ethnic groups by area. Balakong area are mostly Chinese; Batu 9 and Batu 14 are mainly Malays and there are pockets of Indian concentrations in a number of villages. The proportions according to race is believed to be fairly representative of the population.

Table 6

Distribution of Respondents by Race

RACE	FREQUENCY	PERCENTAGE OF SAMPLE
MALAY	95	47.0
CHINESE	70	34.7
INDIANS	35	17.3
OTHERS	2	1.0
TOTAL	202	100.0

Table 7 shows the distribution of respondents by education level. Only 17.8 % of the respondents have primary or Standard 6 Education or below. The majority of the respondents (44.6 %) have MCE/SPM or Form 5 level of education.

Table 7

Distribution of Respondents by Education Level

EDUCATION LEVEL	FREQUENCY	PERCENTAGE OF SAMPLE
PRIMARY EDUCATION	36	17.8
LCE/SRP	42	20.8
SPM/MCE	90	44.6
HSC	24	11.9
DEGREE AND ABOVE	10	4.9
TOTAL	202	100.0

Table 8 shows the distribution of respondents by occupation. 22.8 % of the respondents are self-employed. 15.3 % are office workers (clerks, office-boys) and 13.4 % are homemakers (housewives). 'Self - employed' is defined as working on their own; that is running their own businesses or village work.

Table 8

Distribution of Respondents by Occupation

OCCUPATION	FREQUENCY	PERCENTAGE OF SAMPLE
EXECUTIVE/ MANAGER	12	5.9
TECHNICAL	9	4.5
TEACHER	4	2.0
SALES	14	6.9
OFFICE WORKER	31	15.3
GOVERNMENT	16	7.9
LABOR	12	5.9
SELF-EMPLOYED	46	22.8
HOMEMAKER	27	13.4
NOT EMPLOYED	1	0.5
STUDENT	10	5.0
RETIRED	8	4.0
OTHERS	12	5.9
TOTAL	202	100.0

Table 9 shows that slightly more than half (52 %) of the respondents earn less than RM 1000. Only 1.5% of the respondents earn RM 7000 and above.

Table 9

Distribution of Respondents by Income Level

INCOME LEVEL (RM)	FREQUENCY	PERCENTAGE OF SAMPLE
UNDER 1000	105	52.0
1000-2999	68	33.7
3000-4999	22	10.9
5000-6999	4	1.9
7000 AND ABOVE	3	1.5
TOTAL	202	100.0

3.2 Present Satisfaction Level

3.2.1 Billing/Paying Satisfaction

3.2.1.1 Overall satisfaction

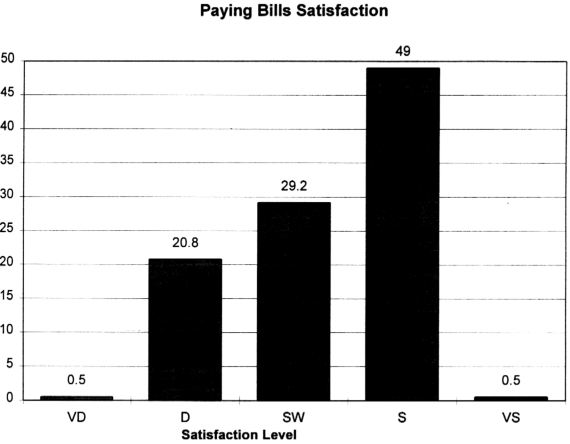
Figure 2 shows the overall satisfaction of respondents with regard to bill paying facilities in the area. From the figure, 21.3 % of the respondents are not satisfied with the existing billing facilities (0.5% Very dissatisfied and 20.8% Dissatisfied).

There is therefore, a *potential* need to upgrade services to reduce the 21.3 % dissatisfaction in billing/ paying services in the area.

3.2.1.2. Paying Satisfaction by premise location

Table 10 shows bill paying satisfaction by residence/premise location. The table indicates no statistical significance between Paying Satisfaction and premise location/residence (Mantzel-Haenszel ratio less than 0.5). This means that the percentage of dissatisfied/ satisfied customers do not vary significantly from one area to another.

Figure 2



Key : VD = Very Dissatisfied; D = Dissatisfied

SW = Somewhat Satisfied; S = Satisfied

VS = Very satisfied

Table 10

Bill-paying Satisfaction by Residence/Premise Location

SATISFACTION LEVEL	PREMISE LOCATION Kajang %	Balakong %	Serdang %	Batu 9 %	Batu 14 %
Very Dissatisfied		1.2			
Dissatisfied	33.3	11.1	24.2	24.5	33.3
Somewhat satisfied	33.3	39.5	39.4	10.2	21.2
Satisfied	33.3	48.1	33.3	65.3	45.5
Very Satisfied			3.0		

Note: No significance(Mantzel-Haenszel = 0.49751).

3.2.1.3 Paying satisfaction by tariff/consumer type

Table 11 shows the distribution of dissatisfied customers by tariff. 24 % of domestic customers interviewed are dissatisfied as compared to 12.9 % of commercial customers and 11.8 % of industrial customers.

While the percentage of industrial dissatisfaction is lowest, its relative economic impact to TNB's business must be taken into consideration.

The Pearson Coefficient indicates no statistical significance between Satisfied/Dissatisfied customers by Tariff. This means that the percentage of Dissatisfied/ Satisfied customers do not vary significantly from one tariff type to another.

Table 11

Dissatisfied Respondents by Tariff

Consumer category by Tariff	Percentage of dissatisfied respondents
Domestic	24.0
Commercial	12.9
Industrial	11.8

Note: No significance(Pearson 0.036560).

3.2.1.4 Reasons for Dissatisfaction

Table 12, shows in declining order, the reasons for dissatisfaction with regard to bill-paying services.

18.3 % of the respondents expressed dissatisfaction due to the long wait in paying their bills. This was defined to include queuing time and service time. Together with Not Updated arrears

(11.4%), these two reasons form the main dissatisfaction areas with bill paying services.

Table 12

Reasons for dissatisfaction with bill/paying services

REASONS FOR DISSATISFACTION WITH BILL/PAYING SERVICES	PERCENTAGE OF RESPONDENTS
The service takes too long	18.3
Bills/arrears not updated the following next month's bill	11.4
Poor Seating	8.9
Uncomfortable surroundings	8.4
Lack of parking facilities	6.4
Service Center too far from premise	5.0
Traffic too busy	4.0
Little free time	4.0
Impolite service	1.0

Not updated arrears or billing details was second on the dissatisfaction list. This generally happens when customers pay at collection centers other than TNB. Up to now, these agencies took a longer time to post the transactions to TNB accounts resulting in the latest transactions not reflected even in the next month's bill. For some customers, this results in disconnection of TNB supply for non-payment when in fact, they have done so.

4.5 % of the customers claimed that they did have their electricity supply disconnected by mistake (not updated arrears) in the last twelve months. Table 13 shows that 1 % of the respondents claimed that this happened to them greater than 2 times in the last twelve months and 3 % said that they experienced at least once in the last twelve months.

For those who were disconnected, either wrongly or rightly, 66.7% claimed that they were reconnected on the same day they settled the payment and 33.3 % on the following day. This is consistent with the present standards of reconnecting supply for disconnections practiced by TNB Kajang. Settlement of bills after 1.00 PM would result in reconnections the following day.

Table 13

Disconnection for Non-Payment by Mistake

(In the last twelve Months)

FREQUENCY OF MISTAKEN DISCONNECTIONS	PERCENTAGE OF RESPONDENTS
NEVER	95.5
ONCE	3.0
TWICE	0.5
GREATER THAN 2	1.0

3.2.2 Enquiries Services Satisfaction

Apart from bill paying facilities, the public need information on billing details, disconnections or others pertaining to their accounts. Presently, the consumers have only one resolve; that is TNB Kajang located in Kajang town. For some consumers this can be as far as 25 km (Batu 14). The results and perception of the customers on Enquiries Services relates directly to TNB Kajang main office in Kajang as there is no third party agency doing this on TNB's behalf.

3.2.2.1 The Enquiring public

In the last twelve months, the percentage of respondents that made enquiries to TNB Kajang is 38.1%.

68.1% of these respondents enquired by phone while 27.5% came in person. 1.1 % of the respondents enquired by mail, while 3.3 % enquired by fax and by other means.

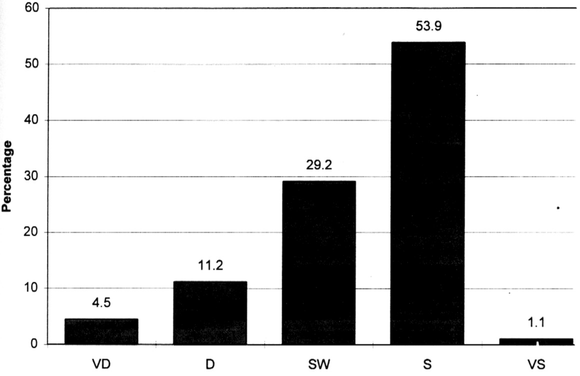
The high percentage of enquiries is reflective of the teething problems faced by TNB Kajang in implementing the new Computerized Information Billing System (CIBS). This company-wide computerization exercise undertaken in stages since 1995, currently affects bills accuracy. This percentage of enquiries is expected to come down when these CIBS problems are overcome.

3.2.2.2 Overall satisfaction

Figure 3, on the next page, shows the overall level of satisfaction with regard to Enquiries Services. Out of the respondents who enquired in the last twelve months, 4.5% of this enquiring public were Very Dissatisfied while 11.2% were Dissatisfied.

Figure 3

Level of Satisfaction with Enquiries Services



Level of Enquiries Satisfaction

y:

= Very Dissatisfied;   D = Satisfied

= Somewhat Satisfied;   D = Dissatisfied

= Very Satisfied

3.2.2.3 Reasons for Dissatisfaction

Table 14 indicates the reasons for dissatisfaction regarding Enquiries Services. The major reasons for the dissatisfaction with Enquiries Services are difficulty in getting TNB Kajang by phone and the distance of TNB Kajang from respondents' premises.

Table 14

Reasons for Dissatisfaction with Enquiries Services

Enquiries Dissatisfaction Reasons	Percentage of respondents
Line always busy (TNB Kajang)	5.9
TNB Kajang too far	4.0
TNB Kajang's staff unhelpful	3.0
Calls got passed around	3.0
Feels TNB Kajang's staff impolite	1.5

3.2.2.4 Enquiries Satisfaction by Tariff/Consumer Type

Table 15 shows the satisfaction level of respondents that enquired, in a particular tariff category.

Of the consumers that have made enquiries, 3.8% of domestic consumers are dissatisfied while 1.9% of them are very dissatisfied with the enquiries service.

For commercial tariff, 8.7% are dissatisfied while 13.0% are very dissatisfied. For industrial sector, the percentage of dissatisfied respondents is 50% of the industrial consumers that enquired.

Based on 1994/ 95 TNB Kajang budget figures, industrial consumers, by far, contribute the most revenue followed by commercial consumers. Priority on industrial and commercial consumers should therefore be given in any Enquiries Service improvement program.

Table 15

Dissatisfied Enquirers by Tariff

LEVEL OF SATISFACTION	Domestic %	Commercial %	Industrial %	Others %
Very dissatisfied	1.9	13.0		
Dissatisfied	3.8	8.7	50.0	
Somewhat satisfied	30.2	26.1	33.3	
Satisfied	62.3	52.2	16.7	100.0
Very satisfied	1.9			
TOTAL	100.0	100.0	100.0	100.0

3.2.2.5 Enquiries Satisfaction by Premise Location

The majority of the respondents that enquired were from Balakong (44.9%) and Batu 9 (25.8%). They form about 70.7% of the respondents that enquired over the last twelve months. Table 16 shows the details.

Table 16

Percentage of Respondents that Enquired By Location

LOCATION	PERCENTAGE OF RESPONDENTS THAT ENQUIRED
KAJANG	3.4
BALAKONG	44.9
SERDANG	18.0
BATU 9	25.8
BATU 14	7.9

Table 17 shows the satisfaction level of the respondents that enquired by Location.

The Pearson's Coefficient indicates that the results are not statistically significant (Pearson's coefficient less than 0.5). This suggests that generally, there is no significant difference in the level of satisfaction (or dissatisfaction) with regard to Enquiries Services between the different locations.

This appears to indicate that effective Enquiries Services do not depend on the distance between consumers' premises and a TNB Consumers Service Center.

Table 17

Enquiries Satisfaction Level by Location

Location Level	Kajang %	Balakong %	Serdang %	Batu 9 %	Batu 14 %
Very Dissatisfied	33.3	5.0	6.3		
Dissatisfied	33.3	12.5	12.5	8.7	
Somewhat satisfied		35.0	50.0	13.0	14.3
Satisfied	33.3	47.5	31.3	78.3	71.4
Very Satisfied					14.3

Note: No significance(Pearson 0.00905).

3.2.3 Fault Restoration Satisfaction

Another service offered by Tenaga Nasional is fault restoration after supply interruptions. Consumers must be given recourse to report the interruptions and have their complaints attended to as promptly as is possible. Prompt fault restoration depends on type and location of fault. If the fault is systemic; that is affecting the whole system or subsystems, having a nearby TNB center will not make much difference. However, if a significant number of faults occur in or nearby the consumers' premises, then TNB teams have to be dispatched to these locations. Having TNB teams stationed close to their premises would definitely improve restoration times in these cases.

Presently, the customers in the area is served by three supply restoration stations. Breakdown office in Kajang serves customers closer to Kajang town which include consumers in Balakong Town. Another Breakdown Station in Serdang serves Serdang customers and another station in Dusun Nanding serves Batu 9 and Batu 14 customers.

This section examines the Interruption Restoration aspect of service satisfaction. Dissatisfaction in this aspect may indicate the potential need to set up a new Fault Restoration Station(normally referred to as Breakdown Station) or to combine restoration services with other services offered by a consumers service center.

The need to offer this service is reduced if interruptions can be prevented or reduced. However, reduction or prevention of interruptions fall outside the scope of this service and this study.

3.2.3.1 The Interrupted Public

`The survey indicated that 83.7 % of respondents claimed that they had experienced interruptions in the last 12 months. Table 18 shows the frequency of interruptions and the distribution of these affected respondents.

It is noted that Table 18 represents the consumers' perception on the frequency of interruptions. Respondents give information based on memory and feeling and are not expected to keep records of interruptions over the last twelve months. They are also not expected to recall perfectly those incidences.[1]

Table 18

Frequency of Interruptions experienced by Affected Respondents

Interruption frequency	**Percentage of Respondents affected by Interruptions**
Greater than 1 monthly	17.6
Once a month	22.2
Once in 3 months	40.3
Once in 6 months	13.6
Once a year	6.3

[1] Actual records are available at TNB offices regarding interruptions and can be used for comparison purposes.

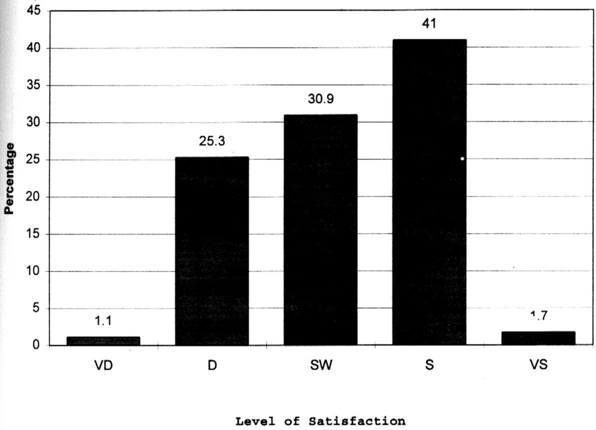
3.2.3.2 Overall satisfaction

Figure 4 represents the satisfaction level of respondents with regard to the speed of restoration of interruptions in their areas.

From the figure, 26.4% of the consumers who experienced interruptions (1.1% Very dissatisfied and 25.3% Dissatisfied) are not satisfied with the speed of restoration of the interruptions.

Figure 4

Satisfaction Level regarding Speed of Restoration



ey: VD = Very Dissatisfied; D = Dissatisfied

S = Somewhat Satisfied S = Satisfied

VS = Very Satisfied

Table 19 below indicates customers' perception of the speed of restoration that is, the average time for their interrupted supply to be restored.

Table 19

Speed of Restoration as Perceived by Respondents

RESTORATION TIME	PERCENTAGE OF AFFECTED RESPONDENTS
LESS THAN 30 MINS	11.2
30 MINS TO 2 HOURS	32.0
2 HOURS TO 4 HOURS	22.5
MORE THAN 4 HOURS	34.3

From the table, 43.2 % of those affected perceived that the faults were restored in 2 hour or less,[2] while 56.8% of the consumers said that restoration is beyond 2 hours.

[2] This means that the existing system is to a certain extent, successful in meeting the Jabatan Bekalan Elektrik's Supply Licensee's condition of restoring non-serious faults within 2 hours.

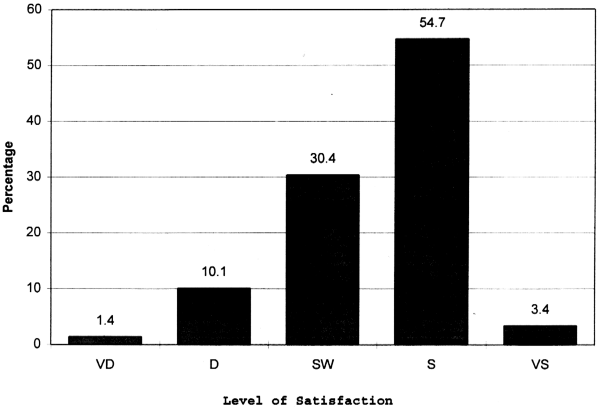
3.2.3.3 Satisfaction with existing Breakdown offices

There are three existing Fault Restoration Centers (Breakdown Centers) which provide these restoration services in Cheras/Balakong area. They are in Serdang Town, Kajang Town and Dusun Nanding (near Batu 14) respectively (see Figure 2). While the level of satisfaction regarding the speed of restoration has been determined in the previous section, useful insights may be obtained by examining the perceptions of consumers regarding the overall service of these existing Fault Restoration Centers, taken as a whole.

Not all consumers who experienced supply interruptions called TNB Fault Restoration Centers to have their supply restored. Other consumers may have already done this for them or TNB may already have been aware of the problem. 76.6% of our respondents had called TNB Fault Restoration Centers in the last twelve months. Figure 5 examines the respondents' satisfaction level regarding the existing supply restoration centers (Breakdown Centers) serving the area.

Figure 5

Satisfaction Level on existing Breakdown Center services



Key: VD = Very Dissatisfied; D = Dissatisfied

S = Somewhat Satisfied S = Satisfied

VS = Very Satisfied

From the figure, a total of 11.5 % (1.4% Very dissatisfied and 10.1% Dissatisfied) of the respondents that called the Breakdown centers in the last twelve months expressed dissatisfaction on existing breakdown services.

3.2.3.4 Reasons for Dissatisfaction on existing Breakdown services

The reasons for dissatisfaction are as shown in Table 20.

11.4 % of the consumers indicate slow restoration as the reason for their dissatisfaction with the restoration service. The other reasons are line busy (10.4 %), Late to arrive at consumer premises (7.9 %) and consumer calls get passed around (3.5 %).

Table 20

Reasons for Dissatisfaction on Existing Breakdown Services

REASONS FOR DISSATISFACTION	PERCENTAGE OF RESIDENTS
Slow restoration	11.4
Line busy	10.4
Late to arrive	7.9
Calls get passed around	3.5
Others	3.0
Impoliteness	1.5

3.3 Opinions on new Collection Center

3.3.1 Will the new Collection Center help?

Figure 6 presents the customers' opinions on the usefulness of a new Consumer Collection Center (that is, Consumer Service Center with bill paying services).

As expected, the views of the customer regarding a new collection center or consumer service center is unanimously positive. None felt it would get worse or does not make a difference.

3.3.2 Features desirable by consumers of a new Consumer Center

Customers are requested to rank from 1 to 8 corresponding from most important to least important of the features they desire in a new consumers center. Table 21 gives the percentage of consumers who rank each feature respectively from 1 to 8.

Figure 6

Consumers' Opinions on New Collection Center

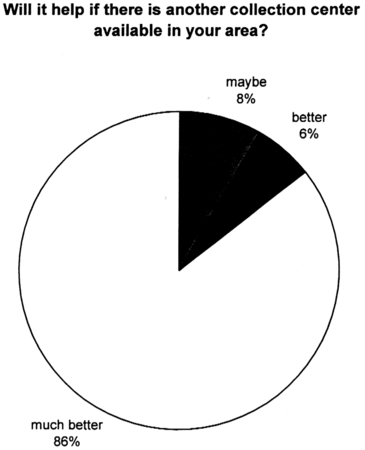


Table 21

Features of New Consumers Center as Ranked by Consumers

	FEATURES	RANK							
		1st	2nd	3rd	4th	5th	6th	7th	8th
1	Sunday service	36	12	10	7.5	11.5	9.0	4.5	9.5
2	Comfortable surroundings	4.5	24.1	17.6	24.1	14.1	8.0	5.0	2.5
3	Drive-in	7.0	16.5	15.0	11.5	9.5	9.5	14.5	16.5
4	Efficient bill payment	35.5	15.0	13.0	10.5	8.5	13.0	3.5	1.0
5	Parking facilities	6.5	11.5	10.0	11.0	18.5	13.0	20.5	9.0
6	Information	0.5	3.0	9.0	4.5	7.0	14.5	24.0	37.5
7	Polite service	5.0	7.0	13.0	17.0	17.5	17.5	10.5	12.5
8	Interruption reporting	4.5	11.0	13.0	14.0	14.0	15.5	17.0	11.0

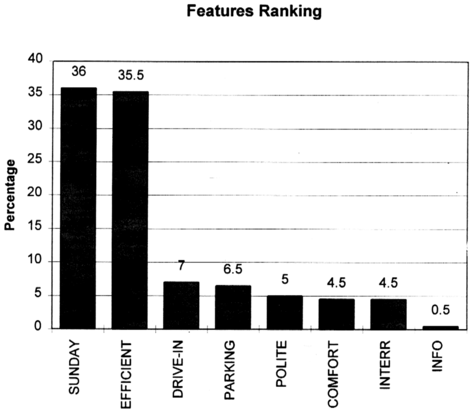
There are a number of ways to rank the features from the summary table. Giving most weightage to column 1, the net result is summarized in Figure 7.

While it is hardly surprising that consumers will vote highly for efficient bill payment service, Sunday Service appears to garner the most votes (36 % of consumers). This may be due to the fact that many of the consumers are working and prefer to pay their bills in their leisure hours.

Parking facilities or drive-in facilities appear to have almost same vote percentage reflecting the problem of finding adequate parking space which is typical in the area. They are, however, very distinctly of lesser importance than the Sunday Service and efficient bill payment.

Interruption reporting which can be best served by stationing TNB team (Fault Finders) did not get as much votes as the rest of the features. Providing information to consumers is not deemed to be of essential importance to consumers in a new consumer service center. The advantages of this service though may benefit more to TNB in terms of public relations and communications.

Figure 7



Key : Interr = Interruption Services;

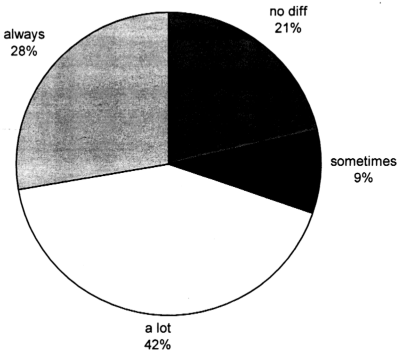
Info = Information Services

3.3.3 Sunday Service - potential patronage/usage

Consumers are asked on their potential patronage or usage of a new consumer service center which will open on Sunday. Figure 8 illustrates their views. 79% of the respondents claimed that they would patronize the new Consumer Service Center.

Figure 8

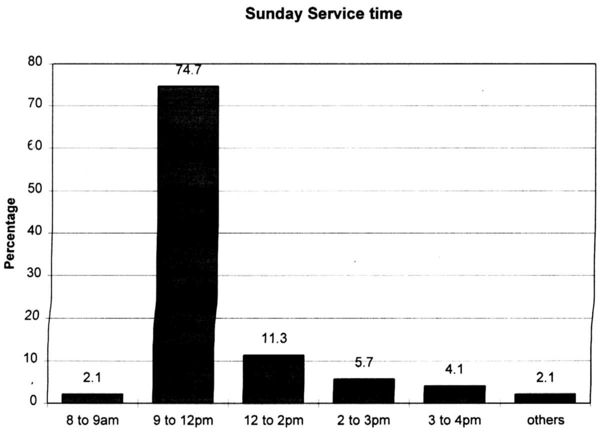
Use of Sunday service



3.3.4 Sunday Service - Working hours (Timing)

Figure 9 shows the results on consumer preferences on the time they would most likely come to pay their bills on a Sunday. From the figure, peak morning hours for this center would appear to be from 9 AM to 12 PM; extending over lunch time.

Figure 9

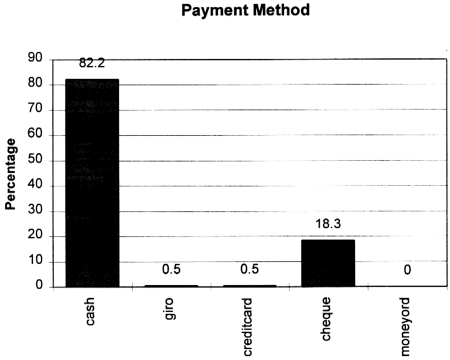


3.4 Bill Paying Pattern

3.4.1 Payment Method

Figure 10 below indicates that the most popular mode of payment is still by Cash(82.2%) and Cheque(18.3%).

Figure 10

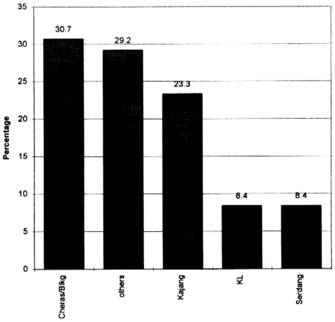


3.4.2 Pay Location

Figure 11 below indicates that the most frequented place for paying bills is Batu 9/Balakong Town denoted by Cheras/Balakong (as claimed by 30.7% of respondents) in the figure. It is followed closely by Kajang Town (23.3% of respondents).

Figure 11

Most Frequented Center (by Location)



Pay Location

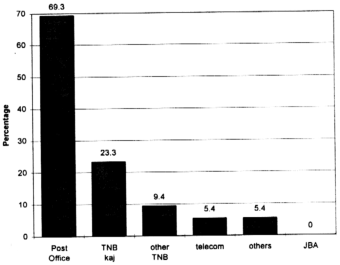
3.4.3 Collection Centers

Figure 12 indicates that the most utilized collection center for paying electricity bills within the area of study is the Post Office followed by TNB Kajang.

Figure 12

Most Frequented Collection Center

(By Organization)



Collection Centers

3.4.4 Time of Payment

Table 22 shows the % of consumers paying their bills by Time of Payment. From the table, majority of consumers pay at end of month or have no fixed pattern.

Table 22

Bill paying pattern by Time of Payment

TIME OF PAYMENT	PERCENTAGE OF CONSUMERS
Immediately	17.8
Beginning of month	10.9
Middle of month	6.9
End of month	32.7
Not fixed	31.7

3.4.5 Day of Payment

Table 23 shows the bill paying pattern of respondents with regard to day of payment. The table indicates that majority of the consumers(80.7% of respondents) do not have a fixed pattern of paying their electricity bills.

Table 23

Bill paying pattern by Day of Payment

Pattern	**Frequency**	**Percent**
Fixed Day	18	8.9
Fixed Date	21	10.4
Not Fixed	163	80.7

3.5 Summary of Results

This section summarizes the key results of the findings.

3.5.1 Bill Paying Satisfaction

a) A total of 21.3% of respondents were dissatisfied (20.8%) or very dissatisfied (0.5%) with the bill paying services.

b) The main reasons for dissatisfaction, in declining order, are: the service takes too long, the arrears are not updated, poor seating and uncomfortable surroundings.

3.5.2 Enquiries Services Satisfaction

a) In the last twelve months, 38.1% of the respondents made enquiries.

b) Out of these respondents, 15.7% are not satisfied (4.5% are very dissatisfied; 11.2% are dissatisfied).

c) The main reasons are difficulty in getting TNB Kajang by phone, the distance of TNB Kajang from the respondents' premises is too far, unhelpful TNB staff and calls get passed around.

3.5.3 Fault Restoration Satisfaction

a) In the last twelve months, 83.7% of the respondents experienced supply interruptions.

b) Out of the above respondents, a total of 26.4% are not satisfied with the speed of restoration(1.1% are very dissatisfied and 25.3% are dissatisfied).

c) With respect to the overall existing Breakdown Centers' services, 11.5% of the respondents are not satisfied (1.4% are very dissatisfied and 10.1% are dissatisfied).

d) The main reasons for the dissatisfaction with the existing Breakdown Centers' services are slow restoration of supply, telephone lines busy and slow arrival of Restoration team.

3.5.4 Opinions of a new collection center

a) Overall, 92% of the respondents think that a new collection center would improve their satisfaction level regarding services while 8% says the new collection center may help.

b) The features of a new center favored by respondents are, in declining order, are Sunday service, efficient bill paying facilities and to a much lesser amount, drive-in facilities and parking facilities.

c) 79% of the respondents claimed that they will take advantage of the Sunday service offered by a new collection center.

d) On Sunday, 74.7% of the respondents prefer to pay their bills during 9.00 am to 12.00 pm.

e) The most frequented pay location in the Cheras/ Balakong area is at Batu 9 Town/Balakong Town (30.7% of respondents) followed by Kajang Town(23.3% of respondents).

f) The most frequented collection center are run by Post Office (69.3% of respondents) and TNB Kajang (23.3%).