

## 5. RESEARCH RESULTS

This chapter presents the results obtained from the survey.

### 5.1 PROFILE OF RESPONDENTS

Frequency analysis was first performed to provide an overview of the respondents' profile, as shown in Table 1.

The respondents were mostly males, representing 81.4% of the total number surveyed. A large proportion of the respondents came from the "25-44 years" age group (93.8%). Only 1.9% were from "below 24 years" age group and 4.3% "above 44 years" age group. A large majority (87%) of the respondents were married. The Malays form the dominant group (95%), followed by Indians (3.1%), and Chinese (1.9%).

With regard to education level, 25.5% of the respondents have attained Form Three education; 40.4% Form Five; 11.1% diploma; and 23% degree level. The respondents with Form Three and Form Five education were mainly from the other ranks and civilians. Those with diploma education were the lieutenants and assistant technicians. The degree holders all came from the officers, starting from the rank of captain and above.

A total of 75.2% of the respondents drew a gross monthly income of RM2000 and below. This income group came largely from the other ranks and civilians. About 21.7% of the respondents drew a gross monthly income of between RM2000 and RM4000. Officers from the rank of lieutenant to major represented this income group. The highest income group were the lieutenant

Table 1. Profile of Respondents

Demographic Variable	Frequency	Percentage
Sex		
Male	131	61.4
Female	30	18.6
Total	161	100.0
Age Group		
20-24 Years	3	1.9
25-34 Years	66	41.0
35-44 Years	85	52.8
45 Years and Above	7	4.3
Total	161	100.0
Marital Status		
Single	20	12.4
Married	140	87.0
Divorced/widowed	1	0.6
Total	161	100.0
Race		
Malay	153	95.0
Chinese	3	1.9
Indian	5	3.1
Total	161	100.0
Education Level		
Form 3	41	25.5
Form 5	65	40.4
Diploma	18	11.1
Degree	37	23.0
Total	161	100.0
Gross Monthly Income		
Below RM1000	75	46.6
RM1001-RM2000	46	28.6
RM2001-RM3000	24	14.9
RM3001-RM4000	11	6.8
Above RM4000	5	3.1
Total	161	100.0

Rank		
Officers		
Lt Colonel	5	3.1
Major	13	8.1
Captain	28	17.4
Lieutenant	2	1.2
Sub-total Officers	48	29.8
Other Ranks		
Warrant Officer	4	2.5
Staff Sargeant/Sargeant	33	20.5
Corporal and below	38	23.6
Sub-total Other Ranks	75	46.6
Civilians		
Assistant Technician	5	3.1
Technician	15	9.3
Civilian Officer	3	1.9
Clerks and others	15	9.3
Sub-total Civilians	38	23.6
Total	161	100.0
Number of Years in the Organization		
Below 1 Year	22	13.7
1-5 Years	95	59.0
6-10 Years	14	8.7
Above 10 Years	28	17.4
(Missing values)	2	1.2
Total	161	100.0
Department		
Planning & Coordination	23	14.2
Quantity Survey	7	4.3
Technical Development	12	7.5
Architect	17	10.6
Electrical & Mechanical	13	8.1
Implementation	30	18.7
Special Projects & Inspectorate	6	3.7
Maintenance	53	32.9
Total	161	100.0

colonels, who had a gross monthly income of above RM4000.

When the sample was categorised according to rank, the other ranks formed the largest group, representing 46.6% of the total sample. The officers and the civilians on the other hand represented 29.8% and 23.6% respectively.

Of the total 161 respondents, a majority of 59.7% had served between one and five years in the organization, followed by 17.6% having served above ten years, 13.8% below one year and 8.9% between six and ten years.

Most of the respondents came from the maintenance department, whereby it contributed 32.9% of the total number surveyed. The implementation department was the next largest contributor followed by the planning and coordination department, representing 18.7% and 14.2% respectively. The remainder five departments made up a total of 39.2% of the total number surveyed.

## **5.2 RELIABILITY TESTS**

The reliability tests conducted on the item-scales of the constructs of Motivation Level, Physiological Needs, Security Needs, Social Needs, Esteem Needs, and Self-Actualization Needs, gave alpha values of above 0.5. These values are acceptable as they are above the Nunnally's minimum standard of reliability coefficient for exploratory research. Table 2 shows the alpha values obtained for the six constructs.



Table 2. Reliability Tests of Hierarchy  
of Needs Constructs

Constructs	Coefficient of Alpha
Motivation level	0.890
Physiological needs	0.504
Security needs	0.589
Social needs	0.745
Esteem needs	0.631
Self-actualization needs	0.643

### 5.3 MOTIVATION LEVEL

Based on the respondents' profile, they were stratified into three distinct groups: officers, other ranks and civilians. This was because each of these groups by itself represented a large proportion of the respondents while within each group similarities could be found in many aspects such as the nature of their work, pay structure, promotion prospects, education level, as well as their social interaction.

The motivation levels of the three groups are shown in Table 3. It was found that the majority (93.8%) of the respondents were highly motivated, while none of them had low motivation levels.

Examining the three groups, the motivation levels were fairly consistent. These findings suggested that the respondents, irrespective of their grouping, were generally committed to their tasks and to the organization.

**Table 3. Motivation Level Scores**

Rank	Motivation Levels						Total Number of Respondents	
	High		Medium		Low			
	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency
Population	93.8	45	6.2	3	-	-	100.0	48
Officers	89.5	34	10.5	4	-	-	100.0	38
Other Ranks	89.3	67	10.7	8	-	-	100.0	75
Civilians	90.7	146	9.3	15	-	-	100.0	161

### 5.3.1 Test for Significant Differences in Motivation Level

Among the three groups, the highest motivation score came from the other ranks, followed by the civilians, and lastly the officers, as shown in Table 4. All of them were highly motivated. However one-way ANOVA results showed no significant differences ( $F\text{-value}=0.18$ ) in motivation level among the three groups.

Examining the motivation levels within the group of officers, the ANOVA test showed significant differences ( $F\text{-value}=0.01$ ) in the motivation level among the officers. The lieutenants and the majors had the highest motivation score (32.85), followed by the lieutenant colonels (32.00), and the captains (28.70). The significant differences in motivation levels among the officers may be chiefly due to their prospect of promotion. The lieutenants being relatively new in the organization had better prospects of promotion to the rank of captain than the other officers. The captains and the lieutenant colonels on the other hand were less motivated because the vacancies for promotion to majors and colonels respectively were very limited. Associated with the problem of promotion is the pay scale. Most of the captains have almost reached the end of their

pay scale.

Significant differences (F-value=0.04) were also found in the motivation levels among the other ranks. The warrant officers had the highest motivation score (34.75), followed by the staff sergeants and sergeants (32.76), and the corporals and below (30.66). These findings again suggested that both promotion and income affected the motivation levels of the other ranks. The warrant officers being the highest rank commanded a much higher salary than the corporals who earned less than RM500.

**Table 4. ANOVA Tests for Differences in Motivation Levels**

<b>Rank</b>	<b>Motivation Score</b>	<b>F - value</b>
<b>Groups:</b>		<b>0.18</b>
Officers	30.38	
Other Ranks	31.80	
Civilians	31.53	
<b>Officers:</b>		<b>0.01</b>
Lt Colonel	32.00	
Major	32.85	
Captain	28.70	
Lieutenant	32.85	
<b>Other Ranks:</b>		<b>0.042</b>
Warrant Officer	34.75	
Staff Sergeant & Sergeant	32.76	
Corporal & Below	30.66	
<b>Civilians:</b>		<b>0.43</b>
Assist. Technician	30.20	
Technician	31.87	
Civilian Officer	28.33	
Clerks & Others	32.27	

As for the case of the civilians, the highest motivation score came from the clerks and below (32.27). Civilian officers were the least motivated (28.33). However no significant differences ( $F\text{-value}=0.43$ ) in motivation levels among the civilians were found. These findings suggested that other factors were in play; probably because of the pleasant working environment or the job security provided, which are typical in a government organization.

#### 5.4 HIERARCHY OF NEEDS BY MOTIVATION LEVEL

This section aims to determine whether the respondents' high and medium motivation could be attributed to differences in their hierarchy of needs. Both t-test and ranking of the scores were used, as shown in Table 5.

T-test results for the overall sample show no significant differences between each hierarchy of needs mean scores of the high and medium motivation level groups, indicating a common level of importance of needs between these two groups. The rankings showed both groups had in common a priority for physiological and security needs, followed by social and self-actualization needs, and lastly esteem needs.

When the mean scores of the hierarchy of needs of each individual group was examined, no significant differences occurred in the scores between the high and medium motivation level groups for the officers, other ranks and civilians. This suggests a common level of importance of needs between the high and medium motivation level respondents within each group.

Table 5. Hierarchy of Needs by Motivation Level

Motivation Level	Hierarchy of Needs									
	Physiological		Security		Social		Esteem		Self-Actual	
	Rank-ing	Mean score	Rank-ing	Mean score	Rank-ing	Mean score	Rank-ing	Mean score	Rank-ing	Mean score
<b>Population</b>										
High	<b>1</b>	4.159	<b>2</b>	4.106	<b>4</b>	3.914	<b>5</b>	3.753	<b>3</b>	3.930
Medium	<b>2</b>	4.080	<b>1</b>	4.150	<b>3</b>	3.983	<b>5</b>	3.693	<b>4</b>	3.783
Low	-	-	-	-	-	-	-	-	-	-
T-Test : F value	1.27		1.82		1.31		1.43		1.16	
2-Tailed Prob.	0.59		0.79		0.70		0.73		0.38	
<b>Officers</b>										
High	<b>1</b>	4.094	<b>5</b>	3.761	<b>2</b>	4.050	<b>4</b>	3.764	<b>3</b>	4.011
Medium	<b>1</b>	4.660	<b>4</b>	4.080	<b>2</b>	4.500	<b>5</b>	3.467	<b>3</b>	4.330
Low	-	-	-	-	-	-	-	-	-	-
T-Test : F value	4.62		2.04		8.94		1.47		1.46	
2-Tailed Prob.	0.13		0.50		0.31		0.44		0.38	
<b>Other Ranks</b>										
High	<b>2</b>	4.172	<b>1</b>	4.175	<b>4</b>	3.840	<b>5</b>	3.827	<b>3</b>	3.925
Medium	<b>2</b>	3.938	<b>1</b>	4.125	<b>3</b>	3.875	<b>5</b>	3.625	<b>4</b>	3.688
Low	-	-	-	-	-	-	-	-	-	-
T-Test : F value	1.67		1.15		1.40		1.18		1.53	
2-Tailed Prob.	0.18		0.71		0.90		0.39		0.26	
<b>Civilians</b>										
High	<b>2</b>	4.169	<b>1</b>	4.360	<b>3</b>	3.868	<b>5</b>	3.629	<b>4</b>	3.853
Medium	<b>3</b>	3.938	<b>1</b>	4.250	<b>4</b>	3.813	<b>2</b>	4.000	<b>5</b>	3.563
Low	-	-	-	-	-	-	-	-	-	-
T-Test : F value	1.03		1.91		27.69		2.11		2.09	
2-Tailed Prob.	0.32		0.66		0.87		0.35		0.45	

The rankings of the mean scores for officers showed both high and medium motivation respondents placed a priority for physiological needs, followed by social needs, self-actualization needs, and lastly esteem and security needs. However, those in the other ranks, as well as civilians, placed a priority for security needs, followed by physiological needs, social and self-actualization needs, and lastly esteem needs.

The above findings showed that there were no significant differences in needs between the high and medium motivation group. Both had the same set of needs. The priority placed on physiological needs by the officers and other ranks supports the earlier explanation of promotion and pay as the cause of differences in motivation level. The need for security by the civilians confirms the reasons given earlier for the insignificant differences in motivation level found. However, a complete picture of the above situation can only be drawn by looking at the respondents' perception of provision of these needs.

## **5.5 PROVISION OF NEEDS BY MOTIVATION LEVEL**

The analysis of the findings in this section is similar to that in Section 5.4. The analysis here is aimed to determine whether high and medium motivation levels were due to differences in the respondent's perceived level of provision of hierarchy of needs.

Examining the sample as a whole, t-test results in Table 6 showed significant differences in the perceived level of provision of physiological, esteem and self-actualization needs between the high and medium motivation level groups.

The rankings of the mean scores showed both groups have in common a high perceived provision of physiological and security needs, followed by social and self-actualization needs, and lastly esteem needs.

With regard to the officers, the results showed no significant differences in the perceived level of provision of security needs, but significant differences in the other four needs. The rankings of their mean scores showed both groups have in common a high perceived provision of security needs, followed by physiological needs and social needs, esteem needs and lastly self-actualization needs.

In the case of the other ranks and civilians, the t-tests showed no significant differences in the perceived level of provision of needs between the high and medium motivation level groups. Only significant differences were found in the provision of self-actualization needs of the civilians.

The rankings of the mean scores of both other ranks and civilians, showed both groups had a high perceived provision of security needs, followed by social needs, physiological needs and self-actualization needs, and lastly esteem needs.

The significant differences in the perceived level of provision of physiological needs of the officers and the other ranks verifies the earlier assumptions that differences in pay together with the high need for the same, affected their level

Table 6. Perceived Provision of Needs by Motivation Level

Motivation Level	Perceived Provision of Hierarchy of Needs									
	Physiological		Security		Social		Esteem		Self-Actual	
	Rank-ing	Mean score	Rank-ing	Mean score	Rank-ing	Mean score	Rank-ing	Mean score	Rank-ing	Mean score
<b>Population</b>										
High	<b>3</b>	3.500	<b>1</b>	3.976	<b>2</b>	3.660	<b>5</b>	3.360	<b>4</b>	3.442
Medium	<b>4</b>	3.067	<b>2</b>	3.667	<b>3</b>	3.333	<b>5</b>	2.800	<b>1</b>	3.833
Low	-	-	-	-	-	-	-	-	-	-
T-Test : F value	2.21		1.17		1.12		1.05		1.53	
2-Tailed Prob.	0.015		0.087		0.113		0.004		0.003	
<b>Officers</b>										
High	<b>3</b>	3.450	<b>1</b>	3.783	<b>2</b>	3.629	<b>4</b>	3.307	<b>5</b>	3.283
Medium	<b>2</b>	2.583	<b>1</b>	3.330	<b>3</b>	2.580	<b>4</b>	2.200	<b>5</b>	1.800
Low	-	-	-	-	-	-	-	-	-	-
T-Test : F value	3.54		3.54		3.71		1.68		4.27	
2-Tailed Prob.	0.042		0.342		0.02		0.012		0.003	
<b>Other Ranks</b>										
High	<b>3</b>	3.675	<b>1</b>	4.071	<b>2</b>	3.687	<b>5</b>	3.510	<b>4</b>	3.608
Medium	<b>4</b>	3.344	<b>1</b>	3.813	<b>2</b>	3.625	<b>5</b>	3.225	<b>3</b>	3.531
Low	-	-	-	-	-	-	-	-	-	-
T-Test : F value	3.28		1.1		1.1		2.15		1.95	
2-Tailed Prob.	0.116		0.225		0.769		0.212		0.762	
<b>Civilians</b>										
High	<b>4</b>	3.184	<b>1</b>	4.015	<b>2</b>	3.441	<b>5</b>	3.108	<b>3</b>	3.324
Medium	<b>3</b>	2.875	<b>1</b>	3.600	<b>2</b>	3.313	<b>4</b>	2.400	<b>5</b>	2.188
Low	-	-	-	-	-	-	-	-	-	-
T-Test : F value	3.76		3.56		1.44		1.59		1.73	
2-Tailed Prob.	0.342		0.22		0.703		0.076		0.005	



of motivation. In the case of the civilians, their need for security matches with their level of provision of this need, completes the explanation on why there were no significant differences in their motivation levels.

## 5.6 HIERARCHY OF NEEDS

The analysis in this section attempts to identify the hierarchy of needs of the stratified respondents: officers, other ranks and civilians. One-way ANOVA and rankings of the mean scores were used to determine the hierarchy of needs among the three groups as well as within each group. Table 7 shows the results of the tests.

Comparing the three groups, tests using one-way ANOVA showed significant differences in security needs among the officers, other ranks and civilians. No significant differences in the other four hierarchy of needs were found to exist among the three groups. The results inferred that the three groups placed the same important level of needs on physiological, social esteem and self-actualization needs. Their differences were in security needs, where this need was highest with the civilians, followed by the other ranks, and lastly the officers. When ranking their mean scores, it revealed the three groups had in common high security needs, followed by physiological, social and self-actualization needs, and lastly esteem needs.

With regard to the individual groups, ANOVA results showed no significant differences in hierarchy of needs within the officers group, the other ranks, as well as the civilians. The

Table 7. Hierarchy of Needs of the Respondents

Rank	Hierarchy of Needs									
	Physiological		Security		Social		Esteem		Self-Actual	
	Rank-ing	Mean score	Rank-ing	Mean score	Rank-ing	Mean score	Rank-ing	Mean score	Rank-ing	Mean score
<b>Groups:</b>										
Officers	<b>1</b>	4.141	<b>4</b>	3.802	<b>2</b>	4.078	<b>5</b>	3.733	<b>3</b>	4.021
Other Ranks	<b>2</b>	4.163	<b>1</b>	4.187	<b>3</b>	3.850	<b>5</b>	3.797	<b>4</b>	3.897
Civilians	<b>2</b>	4.145	<b>1</b>	4.349	<b>3</b>	3.862	<b>5</b>	3.668	<b>4</b>	3.822
ANOVA: F-value	0.968		0		0.137		0.581		0.314	
<b>Officers:</b>										
Lt Colonel	<b>4</b>	3.900	<b>2</b>	4.100	<b>1</b>	4.550	<b>5</b>	3.880	<b>3</b>	4.050
Major	<b>1</b>	4.154	<b>4</b>	3.904	<b>3</b>	4.019	<b>5</b>	3.846	<b>2</b>	4.038
Captain	<b>1</b>	4.143	<b>4</b>	3.679	<b>2</b>	4.009	<b>5</b>	3.629	<b>3</b>	3.991
Lieutenant	<b>1</b>	4.625	<b>4</b>	4.125	<b>2</b>	4.251	<b>5</b>	4.100	<b>3</b>	4.250
ANOVA: F-value	0.588		0.531		0.485		0.520		0.954	
<b>Other Ranks:</b>										
Warrant Officer	<b>4</b>	4.000	<b>2</b>	4.375	<b>5</b>	3.813	<b>3</b>	4.200	<b>1</b>	4.438
Staff Sergeant & Sergeant	<b>2</b>	4.053	<b>1</b>	4.242	<b>3</b>	3.924	<b>5</b>	3.885	<b>4</b>	3.917
Corporal & Below	<b>1</b>	4.276	<b>2</b>	4.118	<b>4</b>	3.789	<b>5</b>	3.679	<b>3</b>	3.822
ANOVA: F-value	0.142		0.434		0.645		0.128		0.106	
<b>Civilians:</b>										
Assist. Technician	<b>3</b>	4.000	<b>1</b>	4.250	<b>4</b>	3.95	<b>5</b>	3.520	<b>2</b>	4.200
Technician	<b>2</b>	4.283	<b>1</b>	4.400	<b>3</b>	3.867	<b>5</b>	3.773	<b>4</b>	3.850
Civilian Officer	<b>4</b>	3.665	<b>1</b>	4.417	<b>2</b>	4.083	<b>5</b>	3.667	<b>3</b>	4.000
Clerks & Others	<b>2</b>	4.150	<b>1</b>	4.317	<b>3</b>	3.783	<b>5</b>	3.613	<b>4</b>	3.633
ANOVA: F-value	0.121		0.921		0.878		0.905		0.456	

results inferred that there was a common preference of needs among each group.

When their mean scores were ranked, a distinct pattern formed. It generally indicated a common priority of needs among the respondents within each group. The rankings revealed that the officers generally had high physiological needs, followed by social needs, self-actualization needs, security needs and lastly esteem needs. The other ranks had in common high physiological and security needs, followed by self-actualization and social needs, and lastly esteem needs. The civilians on the other hand had in common high security needs, followed by physiological, social and self-actualization needs, and lastly esteem needs.

The above findings showed that there were no differences in the preference of needs among the three groups and within each of the groups. It showed that the respondents generally had a higher preference for the lower needs than the growth needs.

## **5.7 PROVISION OF NEEDS**

This section serves to identify the perceived level of provision of needs within and among the three stratified groups as shown in Table 8.

One-way ANOVA tests showed significant differences in the perceived level of provision of physiological, esteem and self-actualization needs among the three groups of officers, other ranks and civilians. As no significant differences were found in the perceived level of provision of security and social needs

Table 8. Perceived Provision of Needs of the Respondents

Rank	Perceived Provision of Hierarchy of Needs									
	Physiological		Security		Social		Esteem		Self-Actual	
	Rank-ing	Mean score	Rank-ing	Mean score	Rank-ing	Mean score	Rank-ing	Mean score	Rank-ing	Mean score
<b>Groups:</b>										
Officers	<b>1</b>	3.411	<b>4</b>	3.760	<b>2</b>	3.557	<b>5</b>	3.250	<b>3</b>	3.198
Other Ranks	<b>2</b>	3.647	<b>1</b>	4.053	<b>3</b>	3.680	<b>5</b>	3.485	<b>4</b>	3.597
Civilians	<b>2</b>	3.151	<b>1</b>	3.974	<b>3</b>	3.428	<b>5</b>	3.032	<b>4</b>	3.204
ANOVA: F-value	0.001		0.056		0.135		0.005		0.004	
<b>Officers:</b>										
Lt Colonel	<b>4</b>	3.650	<b>2</b>	4.000	<b>1</b>	4.250	<b>3</b>	3.680	<b>5</b>	3.500
Major	<b>2</b>	3.846	<b>1</b>	4.019	<b>3</b>	3.808	<b>4</b>	3.662	<b>5</b>	3.596
Captain	<b>3</b>	3.188	<b>1</b>	3.598	<b>2</b>	3.286	<b>4</b>	3.000	<b>5</b>	2.983
Lieutenant	<b>4</b>	3.125	<b>3</b>	3.750	<b>2</b>	4.000	<b>5</b>	3.000	<b>1</b>	4.125
ANOVA: F-value	0.039		0.403		0.015		0.029		0.018	
<b>Other Ranks:</b>										
Warrant Officer	<b>5</b>	3.500	<b>2</b>	3.813	<b>3</b>	3.563	<b>4</b>	3.550	<b>1</b>	4.000
Staff Sergeant & Sargeant	<b>3</b>	3.780	<b>1</b>	4.235	<b>2</b>	3.864	<b>4</b>	3.691	<b>5</b>	3.659
Corporal & Below	<b>2</b>	3.546	<b>1</b>	3.921	<b>3</b>	3.533	<b>4</b>	3.300	<b>4</b>	3.500
ANOVA: F-value	0.204		0.056		0.037		0.027		0.252	
<b>Civilians:</b>										
Assist. Technician	<b>4</b>	3.250	<b>1</b>	4.250	<b>2</b>	3.650	<b>5</b>	3.120	<b>3</b>	3.500
Technician	<b>4</b>	3.083	<b>1</b>	3.967	<b>2</b>	3.283	<b>5</b>	2.813	<b>3</b>	3.150
Civilian Officer	<b>5</b>	2.833	<b>1</b>	3.833	<b>2</b>	3.500	<b>4</b>	3.000	<b>3</b>	3.250
Clerks & Others	<b>3</b>	3.250	<b>1</b>	3.917	<b>2</b>	3.483	<b>4</b>	3.227	<b>5</b>	3.150
ANOVA: F-value	0.668		0.725		0.679		0.522		0.849	

among the three groups, they could be said to have a common perceived level of provision of security and social needs.

The rankings revealed that the three groups had perceived a high provision of security needs, followed by physiological needs, social needs, self-actualization needs, and lastly esteem needs.

Significant differences occurred in the perceived level of provision of needs within the group of officers except for security needs. Their perceived level of provision of needs differed for three types of needs. Physiological needs were perceived as best provided by the majors; Social and esteem needs were deemed best by the lieutenant colonels; and self-actualization needs were regarded most favourably by the lieutenants.

The rankings of the "level of provision" mean scores revealed that there was a common placement of the level of perceived provision of hierarchy of needs among the officers.

In the case of the other ranks there were significant differences in the perceived level of provision of social and esteem needs within this group. No significant differences were found in the provision of the other three needs. The perceived level of provision of social and esteem needs were deemed the highest by the staff sergeants and sergeants, followed by the warrant officers, and lastly the corporals and below. The ranking of the mean scores for the "level of provision" indicated a common placement of the perceived level of provision of hierarchy

of needs among other ranks. The rankings revealed that the other ranks had perceived a high provision of security needs, followed by social needs, physiological needs, and lastly esteem needs and self-actualization needs.

With regard to the civilians, there were no significant differences in the perceived level of provision of needs. The rankings of the "level of provision" mean scores showed a common placement of the perceived level of provision of hierarchy of needs among the civilians. The rankings revealed the civilians had perceived a high provision of security needs, followed by social needs, self-actualization, physiological needs, and esteem needs.

The above findings revealed several similarities in the results obtained from earlier analysis in Section 5.5. With regard to the officers, the above findings showed that the order of the officers in relation to the perceived level of provision of self-actualization needs perfectly matches the order of the officers with significant varying motivation scores, shown in Table 4. This suggested that the provision of self-actualization needs was an important factor in influencing motivation among the officers. Similarly, the provision of social and esteem needs strongly suggested the importance of these two factors in influencing motivation among the other ranks. However the above inferences can only be confirmed by carrying out regression analysis.

## 5.8 REGRESSION RESULTS

Regression analysis was performed to analyse the linear model of Motivation Level. The analysis served to determine whether a linear composite of the predictor variables (Xs) existed, and if it existed, how strong their relationship were, and which predictor variables were statistically significant. The model is as shown below:-

$$Y = b_0 + b_1.X_1 + b_2.X_2 + b_3.X_3 + b_4.X_4 + b_5.X_5 \\ + b_6.X_6 + b_7.X_7 + b_8.X_8 + b_9.X_9 + b_{10}.X_{10}$$

where, Y = Motivation level  
X<sub>1</sub> = Physiological Needs  
X<sub>2</sub> = Security Needs  
X<sub>3</sub> = Social Needs  
X<sub>4</sub> = Esteem Needs  
X<sub>5</sub> = Self-actualization Needs  
X<sub>6</sub> = No. of years in the organization  
X<sub>7</sub> = Age  
X<sub>8</sub> = Education Level  
X<sub>9</sub> = Income  
X<sub>10</sub> = Rank  
b's = Regression coefficients of X's

Similarly, five linear regression analysis were performed separately to analyse the linear model of each of the five hierarchy of needs, as shown below below:-

$$Y = b_0 + b_1.X_1 + b_2.X_2 + b_3.X_3 + b_4.X_4 + b_5.X_5$$

where, Y = Hierarchy of Needs, i.e. Physiological Needs; Security Needs; Social Needs; Esteem Needs; and Self-actualization Needs.  
X<sub>1</sub> = No. of years in the organization  
X<sub>2</sub> = Age  
X<sub>3</sub> = Education Level  
X<sub>4</sub> = Income  
X<sub>5</sub> = Rank  
b's = Regression coefficients of X's

### 5.8.1 The Motivation Level Model

The motivation level of the population, shown in Table 9, was found to be related to security needs and the level of provision of social and self-actualization needs. The computed adjusted R square, indicated that 27.5% of the variation of the criterion, motivation level, could be explained by the three predictors, security needs and the level of provision of social and self-actualization needs.

The motivation level of the officers was shown to be related to the level of provision of self-actualization needs. This finding was in agreement with the inferences made earlier in Section 5.7., in which 39.8% of the variation of the criterion, motivation level, could be explained by the predictor, level of provision of self-actualization needs.

Similarly, the motivation level of the other ranks was shown to be in agreement with the earlier inferences in Section 5.7, whereby it was found to be related to esteem needs and the level of provision of social needs.

As for the case of the civilians, the critical independent variables identified the level of provision of self-actualization needs and education level. It showed that civilians with lower education level were more motivated than those with higher education level. This explains the relatively lower motivation scores for the civilian officers and assistant technicians as compared to the clerks.



Table 9. Linear Regression Results

Dependent Variable	Coefficient	Independent Variables	Adjusted R <sup>2</sup>
<b>Motivation Level:-</b>			
a. Population	bo= 15.83 b1= 0.49 b2= 0.29 b3= 0.28	X1= Provision of self-actualization needs X2= Provision of social needs X3= Security needs	0.27521
b. Officers	bo= 20.15 b1= 0.30	X1= Provision of self-actualization needs	0.39825
c. Other Ranks	bo= 14.44 b1= 0.47 b2= 0.56	X1= Esteem needs X2= Provision of social needs	0.22941
d. Civilians	bo= 28.30 b1= 0.66 b2= -2.46	X1= Provision of self-actualization needs X2= Education level	0.30186
<b>Hierarchy of Needs:-</b>			
a. Physiological Needs	bo= 17.16 b1= -0.96	X1= Sex	0.02537
b. Security Needs	bo= 18.21 b1= -0.75	X1= Education level	0.10906
c. Social Needs	bo= 14.60 b1= 0.14	X1= Rank	0.10906
d. Esteem Needs	-	No variables found	-
e. Self-actualization needs	bo= 14.53 b1= 0.15	X1= Rank	0.02177

### 5.8.2 The Hierarchy of Needs Model

Table 9 also shows the results of the regression analysis performed for the hierarchy of needs model.

The physiological needs of the respondents were found to be related to the gender of the respondents. Males had a higher

physiological need than the females. However the relationship was a weak one, whereby the adjusted R square was only 0.025.

The security needs of the respondents on the other hand were found to be related to education level. It showed that respondents with higher education level had lower security needs as opposed to those who had lower education level.

With regard to the social needs of the respondents, the critical independent variable was rank. Those with higher ranks tended to have higher social needs than those with lower ranks. The results in Table 7 verify this finding, in which the officers showed a higher social need than the other ranks.

There was no linear relationship found for the esteem needs model. The self-actualization needs of the respondents were found to be weakly related to rank (adjusted R square of 0.0218). Those with higher ranks tended to have higher self-actualization needs.