

" THE ADEQUACY OF LIFE ASSURANCE IN KENYA: "

BY

CAREN M.B. LANGIMA

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(i)

DECLARATION

THIS MANAGEMENT PROJECT IS MY OWN ORIGINAL WORK  
AND HAS NOT BEEN PRESENTED FOR AWARD OF A  
DEGREE IN ANY OTHER UNIVERSITY.

SIGNED: Caren M.B. Angima  
CAREN M.B. ANGIMA  
(STUDENT)

DATE: 2<sup>nd</sup> June 1987

THIS MANAGEMENT PROJECT HAS BEEN SUBMITTED FOR EXAMINATION  
WITH MY APPROVAL AS THE UNIVERSITY SUPERVISOR.

SIGNED: Mr. Joseph N. Khamalah  
MR. JOSEPH N. KHAMALAH

DATE: June 2<sup>nd</sup> 1987

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TABLE OF CONTENTS

	<u>PAGE</u>
Declaration	(i)
Acknowledgement	(ii)
Table of Contents	(iii)
List of Tables	(v)
List of Appendices	(vi)
Abstract	(vii)
<b>CHAPTER 1:</b>	
<u>INTRODUCTION</u>	1
1.1 Background	1
1.2 Statement of the Problem	7
1.3. Objectives and Scope of the Study	8
1.4. Importance of the Study	8
1.5. Definitions of Some of the Terms used in this Paper.	9
<b>CHAPTER 2:</b>	
<u>THEORETICAL FRAMEWORK AND LITERATURE REVIEW</u>	11
2.1 Review of related Research	11
2.2 The Concept of Human Life Value	13
2.3 Methods of Establishing the Sum Assured in Life Assurance.	19
2.4 Types of Life Assurance Policies	37
2.5 The Role of the Insurer in Assisting Clients to purchase Adequate Cover.	42



	<u>PAGE</u>
CHAPTER 3: <u>RESEARCH DESIGN:</u>	
3.1 Sampling Procedures	47
3.2 Data Collection Method	48
3.3 Data Analysis Method	50
CHAPTER 4: <u>DATA ANALYSIS AND PRESENTATION FINDINGS:</u>	52
4.1 The Response Rate	52
4.2 Presentation of Findings	53
4.3 Conclusion	79
CHAPTER 5: <u>CONCLUSION</u>	80
5.1 Summary, Discussions and Implications	80
5.2 Limitations	89
5.3 Suggestions for Further Research	90
APPENDICES	92
BIBLIOGRAPHY	121

LIST OF TABLES

<u>TABLE</u>	<u>PAGE</u>
1. Needs of Policyholders (insureds)	53
2. Type of Policies owned by policyholders	55
3. Types of life assurance policies offered by companies to their clients	56
4. The most popular type of life policy in terms of the number of people who purchase it	57
5. Intentions of purchasing policy	59
6. The sums policyholders have assured for	60
7. Factors considered in determination of sum assured: Policyholders.	62
8. Factors considered in determination of sum assured: Insurers.	63
9. Computer Printout of variables in and out of the regression set.	65
10. Computed T-statistic of partial regression for needs, income, marital status, age and sex.	67
11. The extent of cover among policyholders	69
12. Means, Maximum and Minimum values and variances of sum assured, sum of needs, income, marital status, age and sex.	71
13. (a) Views as to the cover: policyholders:	74
(b) Companies' opinions as to the cover their clients have purchased	74
14. Correlation matrix on relationships between various variables.	77

LIST OF APPENDICES:

<u>APPENDIX</u>	<u>PAGE</u>
1A	Covering Letter to Respondents: Policyholders 92
1B	Questionnaire: to Policyholders 93
2A	Covering note to Respondents: Life Executives 98
2B	Questionnaire: to Insurance Executives 99
3.	Companies Writing Life Assurance in Kenya as at January 1, 1987. 101
4A	Method used in Arriving at Insurable Value 102
4B	Discount Factors that were used in Calculation of Insurable Value: (11% rate of interest for years 1 to 40) 103
5.	Sums Assured, Sums of Needs and the Extent of Cover. 104
6.	Data that was input into the Computer 107
7A	Tabulated Data on Sum Assured for Respondents aged 28 years and below and above 28 years. 111
7B	Calculations of Means and Variances of Sum assured for respondents aged 28 years and below, and above 28 years. 112
7C	Test of Significance of Differences between the 2 means in Appendix 7B. 116
8.	Test of Significance of the Multiple Regression Equation. 119



ABSTRACT

This exploratory research's main objective was to investigate into the extent to which the life policies which Kenyans have purchased are adequate to meet the needs for which they are intended.

The primary information for the research was collected by use of questionnaires and a number of personal interviews. This information was sought from a sample of 200 life policyholders, of whom only 75 responded and from executives of 10 insurance companies, of whom only 8 responded. These 10 companies included those currently underwriting individual life business in Kenya.

The findings show that all policyholders have their basic needs as food, shelter, clothing, house operations and personal and miscellaneous expenses. Other expenses include school fees, repayment of loans, caring for relatives, contributions to 'harambee' and charity and various sorts of entertainment.

The findings also show that most policyholders have assured for the figure of Kshs 100,000 and Kshs 20,000. and this is just because the figures look convenient and attractive. Considering the extent to which they are covered, findings show that there is underinsurance in the area of life. On the average, people have assured for only about half of their needs.

The factors which influence the amount of life cover that one purchases were found to be income and age. A person's income will determine the extent to which he/she can afford premiums hence the

size of the policy. Age influences sum assured in that it is related to the marital status of a person and size of needs and obligations he/she has to meet. Findings also show that people do not purchase life cover based on an analysis of their needs and this is due to limited incomes as well as conservatism on their part. Marital status and sex of an individual were found to be of no influence in determining the sum assured.

Finally, the findings suggest that the problem of under-insurance could be due to the fact that insurers do not play their expected role of assisting clients match their needs with the sum assured. Recommendations to correct the problem (under-insurance) include a campaign by the insurance industry, to encourage people to purchase life cover earlier in life when they do not have many obligations and can afford premium payment, an encouragement to purchase other types of policies and not only endowment, as well as a more spirited effort on their part to train and supervise their agents to do a more commendable job of assisting clients do a simple needs-income analysis and hence match sums assured to needs.

1. ... "By the Best Life Insurance." Executive Journal, June 1973, p. 33.

2. ... Principles of Risk and Insurance. New York, John Wiley & Sons, Inc. p. 112.

3. ... "Life Insurance: The Market in the Third World." Executive Journal, October 1972, p. 16.

## CHAPTER 1

### 1. INTRODUCTION

#### 1.1 BACKGROUND:

The desire to live is common to all mankind. No normal person wishes to die. He has an instinctive aversion to contemplating either the possibility of his early death or the certainty of his death later in life.<sup>1</sup> But since no one lives forever, the peril of untimely death is insured against. The risk insured against increases from year to year until the insured eventually dies. There is also no partial loss in life insurance as there is in the case of property and liability insurance, and in the event of a loss, the company will pay the face amount of the policy. This is the real difference between "insurance" and "assurance".<sup>2</sup>

There are various benefits derived from life assurance. An executive director of ALICO, one of the leading life assurance companies in Kenya says that

The purpose of life assurance is to provide money when it is needed most, that is, on death, retirement and for business purposes. This will provide for the protection of financial security of individuals, families and business.<sup>3</sup>

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1. Whittacker, J.J. "Do We Need Life Assurance." Executive Journal, June 1981, p.39.
  2. Vaughan, J.E. Fundamentals of Risk and Insurance. New York, John Willey & Sons, 1982 p. 180.
  3. Bisailon, G.J. "Life Insurance. The Product in the Third World." Executive Journal, October 1982, p. 26.



Huebner<sup>4</sup> says that life assurance is a major instrument in capital formation as well as an aid to harness national savings for national development. He continues to say that life assurance provides the only unrivalled medium of disciplined savings for individuals.

Whereas this assertion is true, it is not quite right in the sense that savings through life assurance is unrivalled. There are various financial intermediaries such as commercial banks, non-bank financial institutions, building societies, development banks as well as other capital market agencies whose function is to mobilize savings from cash surplus economic agents and channel these savings for national development, hence they rival insurance companies.

Despite the benefits of life assurance, Whittacker<sup>5</sup> notes that in the Kenyan market, life assurance is a much neglected form of cover. This observation contradicts Bisailon's assertion that Life assurance is the only unrivalled medium of disciplined savings. This neglect could perhaps explain the low proportion (1.25%)<sup>6</sup> of the Kenyan population who have life policies, although every Kenyan cannot be expected to have one.

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4 Huebner, S.S. & Black J. Life Insurance. Englewood Cliffs. New Jersey, Prentice-Hall Inc., 1982 p. 34-7.

5. Whittacker, J.J. "Insurance: The Market In Kenya." Executive Journal, November, 1982 p. 33.

6. This proportion was given by the Commissioner of Insurance in an interview with the Standard Newspapers, November, 27, 1986 p. 13.

The Commissioner of Insurance<sup>7</sup> explains this by saying that many Kenyans do not know the benefits of being insured and they are poor. These sentiments are quite true and are supported by Irukwu in his article on life assurance in Africa.<sup>8</sup>

Bisaillon<sup>9</sup> has noted that due to attitudes beliefs and education of the people in the third world, Kenya being one of them, people generally do not believe that they will die and do not see the need for life assurance; while Irukwu<sup>10</sup> says that experience has proved that the average African does not believe that he will die prematurely and is not very keen on buying life assurance, unless he is compelled to do so by some other reasons outside his control. While these arguments could be true, it is not correct to say that people do not believe that they will die but rather they wish that they would not die and even dislike the thought of dying prematurely.

These attitudes were confirmed in a recent study on attitudes towards insurance in Kenya. The concept of taking care of the bereaved is still there, though in a diminishing form.<sup>11</sup> But with the level of development, peoples' attitude towards the service of life assurance should change because they have to worry about their future

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7 See the Standard Newspaper, November 27, 1986 p.13.

8 Irukwu, J.O. "Life Assurance in Africa" Journal of West African Consultative Association (WAICA), Volume 3, 1977, p. 51 - 3.

9 Bisaillon, G.J. op cit p.26

10 Irukwu, J.O. op cit p. 53

11 Angima, C.B. Attitudes Towards Insurance and Possible Reasons For Holding Them. Unpublished Term Paper, MBA, May, 1986.

security.

It is desirable that a life policy that is purchased provides adequate cover to cater for the needs and obligation of the policyholder and/or his dependents when the policy matures, that is, at death, retirement or some other time. There are various approaches which are used to determine the sum for which a person is to insure his life, if such sum is to be adequate to cover his needs. This is unlike in general insurance where contracts underwritten are contracts of indemnity.<sup>12</sup> Here, property such as buildings, cars, personal effects, household goods etc. are valued by a professional valuer and their values ascertained, and this is the maximum value they can be insured for. If for example, the building is burned to the ground and its value destroyed, assuming it was adequately insured, the insurer will reimburse the insured for what would otherwise have been a total loss and thus put him back in the position he was after the loss as before the loss.<sup>13</sup> This therefore is the meaning of indemnity.

In life assurance, this cannot be done because a definite value cannot be attached to a person's life as can be done to some property. Human life is priceless and something that is priceless cannot be valued and cannot be restored with money.<sup>14</sup>

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12 Hastings, P & Mietus, N. Personal Finance. Mc-GRAW-HILL Inc., New York, 1972, p.344.

13 Gregg D.W. & Lucas, B.V. Life and Health Insurance Handbook, Homewood Illinois, Richard D. Irwin Inc., 1973. p 799

14 (i) Hastings and Mietus op cit  
(ii) Vaughan J.E. op cit p. 180.



Due to this feature the concept of Human Life Value<sup>15</sup> is used to establish the sum for which a person's life is to be assured if it is to be adequate to cater for the needs and obligations of the policyholder and his beneficiaries.<sup>16</sup> Alternatively, the amount of insurance purchased would be based on an analysis of the various needs and obligations such as schoolfees, mortgages or loans to be paid, health expenses etc. that would have to be met should the income producer die or become incapacitated.<sup>17</sup>

Gregg<sup>18</sup> has noted that one may not literally insure his life value or up to that amount. This is because optimal insurance cover may depend on several factors such as

- i) The characteristics of the market for insurance;
- ii) The degree to which the person believes the risk will be realized.
- iii) The cost of the risk that is, how much the policyholder or his beneficiaries will lose due to the risk; and
- iv) The trade-off between present consumption and future investment.

Hofflander et. al<sup>19</sup> have discussed a wealth maximizing model for determining optimal insurance cover, which is not applicable to life insurance.

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15 Human Life Value can be defined as the capitalized value (Present value) of the future earnings of an individual.

16 Blangh, M. Economics of Education. Second Edition. New York Pergamon Press, 1970 p. 96.

17 Gregg, D.W. & Lucas, B.V. op cit p. 799

18 Ibid p. 35

19 Hofflander A., Renshaw, E and Renshaw V, "Optimal Insurance", Journal of Risk and Insurance Vol. 38, 1971, p. 207-13.

For the purposes of this study, only item (iii) above will be considered to be what constitutes adequate cover because it is difficult to quantify the other three items.

Considering the human life value concept and the amounts for which lives are insured for, life insurance is one of the greatest areas of under-insurance in existence.<sup>20</sup> The question of over-insurance in life does not arise because firstly, no value can be attached to a human life and secondly, insurance companies have a way of checking the moral hazard<sup>21</sup> in that they look at a person's income and fix a sum assured that is not more than a multiple of that income. This is usually three or four times one's annual income.

Insurers therefore have a role to play in assisting the individual analyse his needs so as to arrive at an optimal figure, which would be adequate to cover the needs in case of any misfortune. It is doubtful whether they perform this role properly, especially in cases where they use agents to do this. This is because it has been said that the agents do not understand life assurance themselves.<sup>22</sup> The type of service therefore offered can spell the difference between a satisfactory insurance arrangement and one that fails to accomplish for the insured many things which are possible but which often time the insured does not know of at all.

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20 Greene M.R. Risk and Insurance. 2<sup>nd</sup> Edition, Cincinnati, South-West Publishing Co., 1968, p. 52.

21 Moral hazard refers to dishonest tendencies on the part of the assured that may induce him to attempt to defraud the insurance company.

22 Irukwu, J.O. op cit p. 53  
Khamala, J.N. Life Assurance Practice in Kenya. MBA, University of Nairobi, 1985 p.5.

1.2. STATEMENT OF THE PROBLEM:

Many authors have said that a majority of people do not appreciate the economic significance of the human life.<sup>23</sup> Dorfman notes that this is perhaps why people have not taken the trouble to insure themselves adequately as they do for their property.

Most people also perhaps spend more time and effort planning for, or selecting a new car or television set than on their life assurance.

In a recent investigation carried out by a Nairobi journalist<sup>24</sup> it was claimed that a vast majority of people who obtained a life policy did not get a competitive quote on premiums nor approach other insurance companies to compare the deal they got. It was also claimed that the very few people who buy life assurance from brokers did not compare the various options open to them. In most cases, salesmen (who are laymen themselves) sell them a policy in which they (salesmen) get maximum commission and not one in which insured get the best deal. This state of affairs suggest that those who buy life policies are naive and just buy what salesmen convince them to purchase, and it is therefore very possible that they are under-insured.

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23 (i) Greene, M.R. op cit p. 525

(ii) Gregg & Lucas op cit p.21 - 3

(iii) Dorfman, M.S. Introduction to Insurance. Englewood Cliffs, New Jersey. Prentice-Hall Inc., 1982 p.234.

24 Kul Bushan

"Life Assurance. Why you should ask around first" The Standard, November 27, 1986 p.11



The problem therefore that was investigated in this study was -  
"To what extent are the life policies which Kenyans have purchased  
adequate enough to meet their needs and those of their dependents?"

1.3. Objectives and Scope of the Study:

The study was basically an investigation into whether or not  
life assurance purchased by Kenyans is adequate to meet the needs and  
obligations of the policyholder and his dependents. In order to address  
itself to this objective, the study endeavoured to identify the  
following facts:-

- i) What are the needs of insureds?
- ii) a) What sums do they assure for; and  
b) What factors determine such sums?
- iii) What was the adequacy of these sums compared to their needs?
- iv) Were there any relationships between sum assured and other  
factors such as age, income, sex and marital status of the  
policyholder?

1.4. Importance of the Study:

It is hoped that this study will be of help to the following  
people and institutions.

- 1) To the academics, the findings of this study may stimulate  
discussion in this area and also form a basis for further  
research into various other aspects of life assurance.
- 2) To the public at large, the findings of the study may help  
them design better life assurance schemes. It may also help



them take remedial measures to ensure that what they purchase is reasonable enough to cover their needs.

- 3) To the insurance industry, the findings may be useful in helping them improve their approach in marketing life assurance to the public, so that they are more effective in delivering their services.
- 4) The policy makers, in particular the office of the Commissioner of insurance may find this study useful when designing policy guidelines for the insurance industry.

1.5 DEFINITIONS OF SOME TERMS USED IN THIS PAPER:

Unless otherwise stated, the following terms as used in this paper will carry the corresponding meanings assigned hereunder.

1. Agent: An individual authorized to create, terminate and modify contracts of insurance. He is paid commission by the insurer based on the amount of business he generates.
2. Assurance: This is insurance effected on the life of a person or groups of persons.
3. Assured: The party entitled to receive money under an assurance contract on the happening of a stated contingency.
4. Assurer: The party who agrees to pay money to another party (the assured) on the happening of a stated contingency.

5. Brokers: Independent companies, partnerships or individuals who solicit business for placement with insurance companies. They are more specialist and in most cases, professional than the average agent.
6. Mature: A policy matures, when the face amount of the policy is payable. Thus a 20 year endowment policy matures at the end of 20 years.
7. Peril: The event that causes loss, for example, death. It is a contingency or fortuitous event, which may be covered or excluded by a policy of insurance.
8. Premium: The consideration paid to the assurer to secure the payment of the sum assured on the happening of the contingency assured against.
9. Sum Assured: The amount or face value of the policy payable on the happening of the contingency assured against.

CHAPTER 2

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1. Review of related research:

Very little has been done in research and publications in the area of life assurance in Kenya. Over the years, a lot has been written on the much wider subject of insurance all over the world. Vernon (1968) wrote on optimal insurance coverage and used a wealth maximizing amount coverage assuming a cumulative return on entrepreneur's networth over many decision periods. This model applied to business situations for insurance of assets owned.

Hofflander, Renshaw and Vernon (1971) also examined the implications of a wealth maximizing model to determine the optimal amount of property insurance coverage in these cases of either a total or partial loss. This model however cannot be applied in determining the optimal amount of life cover.

Guya (1976) conducted a study on life expectancy in use of actuarial tables in Kenya. His findings revealed that there is need for actuaries and construction of life tables based on actual mortality in Kenya.

Irukwu (1977) conducted a study on insurance management in Africa and wrote another article on life insurance in Africa. He discussed the factors that hampered development of life assurance, methods used in marketing life assurance and made recommendations for



rapid development.

Khamalah (1985) researched into operations of and documented the life assurance industry in Kenya. The findings showed that the whole range of life assurances are offered by insurance companies to their clients. His findings also suggested that the chief problem facing the industry is lack of knowledge among most Kenyans about life assurance.

All these studies and articles appear to be methodologically sound but they do not relate directly to adequate life cover.

The only published survey which related directly to this study is a survey which was carried out by the British market research Bureau, one of the leading marketing research organizations in Great Britain, titled, "Insurance, a Consumer Council Study." Its purpose was to investigate consumer's knowledge and experience of insurance and their attitudes towards insurance. The survey covered five types of insurance policies, life insurance was one of them. One of the conclusions drawn was that most people were under-insured, especially in relation to life cover. These findings related to Great Britain; there is need to find out the position in Kenya.

Many other papers and research studies may have been written on life assurance, but a diligent search of the available research works has uncovered no other related research on adequate life cover.

Presented in this chapter therefore is a review of the theory related to adequate life cover.



## 2.2. THE CONCEPT OF HUMAN LIFE VALUE

Many people have not shown desire for life assurance. One possible reason for this as given by Dorfman<sup>25</sup> is that many people do not appreciate the economic significance of human life. This is especially true in Africa where life insurance is still in its infancy.<sup>26</sup> Poverty and possession of very little disposable income has, and still hampers the development of life assurance.<sup>27</sup> The attitudes of the public towards life assurance and its benefits is not so positive and as established as it is in developed countries.<sup>28</sup> This may well mean that most people, especially in Africa do not appreciate, leave alone know, the economic significance of their lives so as to insure them.

Life assurance should be the first line to consider when planning for later years because it is the easiest way to compel savings regularly. It is a form of investment.<sup>29</sup> One of the unique characteristics

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- 25 Dorfman, M.S. op cit p. 234
- 26 Lacock, B.R. "Successful Management of a Life Sales Operation." Journal of West African Consultative Association Vol, 3 1977 p.49.
- 27 Irukwu, J.O. op cit p. 51
- 28 Oredugba, O. "How to Motivate and Renumerate Life Assurance Salesmen" WAICA Journal, Vol.3, 1977, p.144.
- 29 Chisholm, C. The Fund of Retirement. Wayman & Sons Ltd. London, 1957, p.25.

of life assurance is that it is not a contract of indemnity. In general insurance, an attempt is made to reinstate the individual back in the same financial position he was after a loss as before the loss. This is easy because a definite value can be attached to some property such as cars, houses and personal effects.

For obvious reasons this is not possible in life assurance. The simple fact of the matter is that a value cannot be placed on human life.<sup>30</sup> Hastings and Mieutus<sup>31</sup> argue that something that is priceless cannot be restored with money. Due to this feature, the concept of human life value is used to establish the sum for which life is to be assured if it is to be adequate enough to cover the needs and obligations of the policyholder.<sup>32</sup>

This concept of human life value is one of the foundations of life assurance. Every human life has economic value in some respect, which is measured in terms of pecuniary advantage that people or business may derive from the continued existence of that person. Huebner defines it as follows:-

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\* 30 Vaughan, J.E. op cit p. 180.

31 Hastings & Mieutus op cit p. 344

32 Blangh, M. op cit p. 16

Human life value is the capitalized monetary worth of the earning capacity resulting from the economic forces that are incorporated within our being; namely our experience, our personality and industry, our creative power, our driving force to realize the economic ages of the mind.<sup>33</sup>

Gregg<sup>34</sup> defines it quantitatively as the capitalized value of future earnings of an individual.

If a human life or health is destroyed, both the family and the employer of the individual will be deprived of the earning capacity of this "human engine", the value of which may be determined by an appropriate capitalization process<sup>35</sup>. This is the insurable value of the individual's earning ability. Vaughan<sup>36</sup> says that it may be viewed as his maximum potential earnings that would be lost if the individual died.

Prudent financial management requires the individual whose life has economic value to act in relation to that value just the same as he would in relation to tangible property which he owns. If he owns valuable buildings, he insures them against fire and other hazards which might destroy them and their value. If such buildings are destroyed, assuming adequate insurance, the insurer will reimburse the insured - owner

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- 33 Huebner, S.S. The Economics of Life Insurance. Third Edition. New York. Appleton - Century - Crafts, 1959 p.5.
- 34 Gregg & Lucas op cit p. 799
- 35 Greene, M.R. op cit p.525
- 36 Vaughan, J.E. op cit p. 180



for what would otherwise have been a total loss.<sup>37</sup> The same logic can be applied to human life value. As a fire is a major hazard to property values, so is premature death a major hazard to human life value.

One may not literally assure his life value, or up to that amount but just as the fire insurer indemnifies the insured owner for the lost value of the building so does the life assurer pay for the lost human life value.<sup>38</sup>

If a person's life at this moment has a value of Kshs 500,000 to his dependents, that is the present value of the amount they would be denied over the future years if his death were to occur today; and if at the time of his death, he has Kshs 100,000 of life assurance payable to his dependents, then it is clear that in effect he has assured 20 percent of his life value for their benefit. Although his life value has vanished, an amount equal to 20 percent of that value has been continued to them.<sup>39</sup>

Human life values aside from being more important from a personal standpoint are far greater and more significant than all the property values combined.<sup>40</sup> Gregg<sup>41</sup> argues that the true wealth of a nation, lies not in its natural resources, or its accumulated property, but in

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37 Gregg & Lucas op cit p. 35

38 Ibid

39 (i) Alico Training Manual "Life Insurance as a Solution" P.2

(ii) Gregg and Lucas op cit p. 36

40 Greene, M.R. op cit p. 525

41 Gregg & Lucas op cit p. 21 - 3



the inherent capabilities of its population and the way in which this population is employed. Thus preservation of human life values is of basic interest to all of us.<sup>42</sup>

There are several perils that can destroy wholly or partially the economic value of a human life and these need to be protected against. These include:-

2.2.1 Premature death:

The risk of premature death burdens survivors, who are dependent upon the bread winner when he dies, losing earnings, the measure of which is the present value of these earnings.<sup>43</sup> A business may also experience loss due to the premature death of a key employee, partner or important shareholder in a closely held corporation ; for example it may lose valuable customers whose loyalty depended on this individual or incur extra costs of training and hiring a replacement.<sup>44</sup>

2.2.2. Loss of Health:

Death is not the only way in which income earning ability can be destroyed. Disability can be equally destructive, for it results in unemployment and may entail additional expenses as well.<sup>45</sup> For example

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42 Gregg & Lucas op cit p. 21 - 3

43 Hastings & Mientus op cit p. 333

44 (i) Greene, M.R. op cit pp. 506 -30

(ii) Macleans, J.B. Life Insurance. Mc-GRAW-HILL Insurance series, New York, 1962.

(iii) Schweickart, L. "The Human Factor in Business" Policyholder

Insurance News , Vol 101, No.48, Dec. 1983, p.7-1

45 Vaughan, J.E. op cit p. 179.

it becomes necessary to pay medical bills to care for the individual during his illness. This imposes a considerable financial drain on the person's family and upon society.<sup>46</sup>

2.2.3. Old Age:

Income may be stopped as a result of retirement. Chisholm<sup>47</sup> says that ageing has an effect on health and on the ability of a person to work and generate income. The prolonged life of some people involves not only non-continuation of income but also continued expenses because a person must continue maintaining himself and perhaps some dependents after he retires.<sup>48</sup>

2.2.4. Unemployment:

Unemployment resulting from causes other than disability has the same impact as the other risks. The type of unemployment found to be susceptible to partial solution by insurance method is essentially short-term, involuntary unemployment.<sup>49</sup>

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46 (i) Greene, M.R. op cit. p. 526 - 30

(ii) Vaughan, J.E. op cit p. 255

(iii) Gregg & Lucas op cit p. 278 - 9.

47 Chisholm, C. op cit. p. 19

48 Mowbray, A.H. Insurance. Theory and Practice in the United States. New York. Mc-Graw- Hill Inc., 1969 p. 300 - 1.

49 Greene, M.R op cit p. 693.

These perils lead to the risk of loss of income. These potential losses faced by families and businesses can be alleviated through life insurance and annuity contracts.<sup>50</sup> Their chief benefits can only be realized if the proper types of insurance contracts are purchased and if these are arranged suitably and skilfully in a program.<sup>51</sup>

### 2.3. METHODS OF ESTABLISHING THE SUM ASSURED IN LIFE ASSURANCE

#### 2.3.1. The Concept of Programming

Generally, people make mistakes when they buy life assurance. They either buy too little or too much. Vaughan<sup>52</sup> says that this is due to the lack of a plan. Buying too little assurance is potentially more costly because it consists of the failure to purchase essential coverages that can leave the individual vulnerable to financial loss. One needs to plan in order to buy adequate cover. This is just one aspect of programming. Gregg defines it as

The process used by a life and health underwriter to assist a client in measuring his desired financial goals and aspirations against his present assets including life assurance, health insurance and any other investments.<sup>53</sup>

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- 50 Mowbray, A.H. op cit p. 301  
51 Greene, M.R. op cit p. 540  
52 Vaughan, J.E. op cit p. 44  
53 Gregg & Lucas op cit p. 799



Vaughan<sup>54</sup> says that life assurance programming consists of a study of the individual's needs and capital resources. It includes an assesment of the person's present financial position and future obligations.

This includes a careful analysis of the amount of funds needed for each applicable purpose and the kind of insurance to be purchased. In order to do this, the services of a well-trained life and health insurance underwriter are required.<sup>55</sup>

There is need therefore to plan and purchase adequate life cover so that the right kind of policy is purchased to cater for the needs of the individual. This will ensure that the maximum benefit of monies spent on premiums is obtained.<sup>56</sup>

2.3.2. Approaches to valuing Human Life for assurance purposes:

One aspect of life assurance programming is to determine the amount of cover to be purchased. The willingness to spend hard earned money on assurance will depend on the individual's subjective orientation and the desire to provide protection for his dependents.<sup>57</sup> However,

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- 54 Vaughan, J.E. op cit p. 323  
55 Gregg & Lucas op cit p. 32  
56(i) Mowbray, A.H. op cit p. 301  
(ii) Hastings & Mieutus op cit p. 346  
(iii) Chisholm, C. op cit p. 25 - 30  
57 Chisholm, C. op cit p. 30



as Cohen<sup>58</sup> argues, the decision on how much to assure for and for how long depends largely on personal situation, and this is a very personal matter that rests with the individual.

There are at least two generally accepted approaches that can be helpful in determining the amount of life assurance that should be purchased if such cover is to be adequate to cover the needs of the policyholder. These are, the life value approach and the needs approach.

2.3.2.1 The Life Value (or income) approach

The human life value concept as developed by Huebner has had a very significant influence in the theory of programming.<sup>59</sup> It is therefore a basic principle of insurance that we insure only economic values. This value may be determined by calculating the present value of that portion of an individual's estimated future earned income that would be devoted to his family.<sup>60</sup>

Greene<sup>61</sup> says that the insurable value can be estimated by discounting the expected stream of income that would accrue to dependents as a result of the breadwinner's continued employment. The personal expenses of the income producer are deducted from his income and the

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58 Cohen, J.B. Programmed Learning for Personal Finance.  
Learning Systems Co. Richard D. Irwin, Inc.,  
Homewood Illinois, 1972. pp 54 - 6.

59 Huebner, S.S. op cit p.5

60 Gregg & Lucas op cit p. 799

61 Greene, M.R. op cit p. 527

remainder is discounted to get the present value that would be lost. This amount represents the amount of life assurance that would be necessary to assure the full economic value of the person and to replace the net income which he formerly produced.

Gregg<sup>62</sup> gives the following as the steps used in calculating this amount (present value).

- 1) Estimate the amount of his expected annual earnings, net after taxes.
- 2) Estimate the amount of his expected annual maintenance expenses.
- 3) Estimate his working life expectancy; and
- 4) Select an appropriate capitalization rate.

To get the present (insurable) value subtract expenses (2) from net earnings (1) and capitalize this amount at the selected rate (4) for the working life expectancy (3).

Example:<sup>63</sup>

A person is aged 35. His expected earnings after taxes are Kshs. 10,000 a year over his remaining working years (i.e. 30 years). Expected annual maintenance expenses are Kshs 4,000 and the capitalization rate is 3.5%.

The sum of money now at hand that would produce a net of shs. 6000 a year and would last exactly 30 years should the person die now would be

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62 Gregg and Lucas op cit p.24

63 Greene , M.R. op cit p. 527

$$6000 (PVIF_a 30, 3.5\%) = 6000 (18.7391) \\ = \text{shs. } 112,435$$

where

$PVIF_a 30, 3.5\%$  means the present value interest factor of annuities for 30 years at 3.5%. This value, (18.7391) can be read from present value tables.

Difficulties in using this approach:

- 1) a) The most difficult part of the computation as noted by Vaughan<sup>64</sup> is estimating the person's average annual income. Changes in income which may be expected as the individual progresses in his career or field will obviously affect the average income and therefore are important determinants in this value. In this approach, estimating future changes in income is a mere enlightened guess and is about the only result possible. Although the approach sometimes uses present income than projected average, it understates the life value except where income is not subject to change.<sup>65</sup>
- b) Human life value also declines with age, since each year that goes by means that the worker has one year less of income to earn. Eventually the economic value disappears at retirement (other things being equal). This is not taken into account in calculating the insurable value.<sup>66</sup>

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64 Vaughan, J.E. op cit p. 324

65(i) Ibid

(ii) Greene, M.R. p. 527

66 Vaughan, J.E. op cit p.324



c) The selection of the rate at which<sup>67</sup> future earnings are to be discounted is also an important determinant of the value indicated. Rates keep on changing and the one used at the time of calculating the value may not be the same one in future. There is therefore, no concrete basis of choosing a rate that reflects changing conditions.<sup>67</sup>

2. The fact that the insurable value of an individual's income producing ability is a given amount does not necessarily mean that this is the sum for which it should be insured.<sup>68</sup> There are instances in which the loss of income may deprive no one, making insurance unnecessary. Desalvo<sup>69</sup> says that in addition part of the income lost through a person's death may be replaced by other sources such as group life assurance, and pension income; Hence life insurance purchased might be determined in the light of other sources of protection. This approach does not take into account such sources.

3. Lives of people not in salaried employment also have economic value. Homemakers, for instance, provide services to the family that would require some amount to replace. This approach does not say how such lives should be valued.<sup>70</sup>

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67 Greene , M.R. op cit p. 527

68 Vaughan , J.E. Op cit p.324

69 Desalvo, J.L. Consumer Finance. New York, John Wiley & Sons, 1957 p. 259.

70 Dorfman, M.S. op cit p. 234.

Even though considerable guesswork is required, this method is still the most acceptable method of calculating the economic value of a human life, although it is probably a defective technique for determining the amount of life assurance that should be purchased.<sup>71</sup> This calculation only produces a rough estimate of human life values, which is a very personal matter for each individual. Life assurance designed to offset the loss of human life value must take into consideration these and many other factors and should be tailored to individual needs.

However, as argued by Dorfman<sup>72</sup> this method is widely used in determining the amount of damages payable in wrongful death and injury cases.

#### 2.3.2.2. The Needs Approach:

The needs approach is another method of measuring the loss to the family in case of death of the breadwinner.<sup>73</sup> It may be a more practical approach than the income approach. As Cohen<sup>73</sup> and Dorfman<sup>74</sup> argue, it is wiser to generally purchase life assurance on a needs basis rather than as an attempt to indemnify for the lost earnings. The amount of assurance purchased is based on an analysis of the various needs that would have to be met by the dependents should the income producer die. In other words, this approach shows where cash and income

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71 Greene, M.R. op cit p. 527

72 Dorfman, M.S. op cit p. 234

73 Cohen, J.B. op cit p. 54 - 6

74 Dorfman, M.S. p. 234 - 5

has to go, not where it is coming from.<sup>75</sup>

However, Vaughan<sup>76</sup> argues that in reality, the needs approach is related to the life value concept. He notes that in summarizing the needs that would have to be met (or exist) in the event of the wage earner's death, we are merely looking at the other side of the income-expenditure equation. While the life value concept focuses on the income that would be lost, the needs approach attempts to identify the allocation of that income and determine the purpose to which it would have to be put.

In addition, the needs approach attempts to recognise the non-usual or non-regular expenditures that may result from the death of the individual and additional expenses that may accompany the period of re-adjustment following the wage-earner's death.<sup>77</sup>

The value lost is estimated in terms of the various uses to which the earnings would have been put had the individual lived to produce them. This is got by adding together the sums necessary to meet certain family needs for income during various periods of life after the death of the income producer.<sup>78</sup> Critical here is the extent of the individual's financial responsibilities, marital status, the role of husband and wife, the presence of children and plans for them and the employable skills

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75 Alico Training manual op cit p.1

76 Vaughan, J.E, op cit p. 324

77 Cohen, J.B. op cit p. 54 - 6

78 Huebner & Black op cit p. 43



of dependents.<sup>79</sup> Each has different implications regarding the need for life assurance.

Taking an example of life styles and the needs approach, we have the following

1) Single Individual

A single individual needs little or no insurance if no one is dependent on him except himself.<sup>80</sup> In this case, he may only purchase life assurance to cover any indebtedness and a fund for last expenses. However, it is still advisable for the young single person to purchase life insurance because it is uncertain that he will be able to buy it at a later time.

2) Childless Couple:

The need for death protection is modest, particularly if both spouses are employed and is only limited to an amount to meet indebtedness and final expenses. If the couple intends to have children, the need to guarantee future insurability becomes important so that future responsibilities can be met.<sup>81</sup>

3) Persons with children

Vaughan<sup>82</sup> notes that when both parents earn incomes then their combined income permits a standard of living that would be threatened

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79 Vuaghan, J.E. op cit p. 325

80(i) Ibid

(ii) Desalvo, J.L. op cit p. 259

81 Vaughn, J.E. op cit p.326

82 Ibid

if either income were cut off. The income of both spouses may have to be insured as opposed to when one works outside the home and one is a homemaker.

Hastings<sup>83</sup> and Desalvo<sup>84</sup> advise that it is wise to carry some insurance on the life of a young mother even if her work is confined to caring for the home and children. Her early death would cause financial problems to the family. The husband may certainly have to hire a housekeeper at considerable out-of-pocket expenses which assurance proceeds could finance. Desalvo<sup>85</sup> continues to say that such full time house keepers are not only difficult to find but also very expensive. The amount of assurance on such a mother would depend on family finances, he concludes.

#### 2.3.2.2.1. Classification of financial Needs:

The basic financial needs of a family are often divisible into two, that is, cash needs and income needs.<sup>86</sup>

##### Cash Needs

- i) Final expenses fund
- ii) Emergency fund
- iii) Mortgage fund
- iv) Education fund

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- 83 Hastings & Mientus op cit p. 347  
84 Desalvo, J.L. op cit p. 265  
85 Ibid  
86 Gregg & Lucas op cit p. 808

Income Needs

- i) Re-adjustment income
- ii) Dependency income
- iii) Life income for the widow
- iv) Retirement income

The list assumes that the breadwinner has died. In the event that he lives up to retirement age, the emphasis shifts to providing an adequate retirement income for the husband and wife.<sup>87</sup>

As has already been indicated, meeting each of these needs involves making provision for a given sum of money to be paid following the occurrence of the a stipulated future event - that is, the death or disability of the insured while the policy is in force.

1) Funds for last expenses ("Clean-up" fund)

Costs are created at death which do not exist during life. Added to this are debts which were incurred but unpaid and all these costs must be paid before an estate can pass to the deceased's family. Widows and children stand at the end of the line.<sup>88</sup> Among the different purposes for which funds will be needed almost immediately or soon after death are hospital, medical and surgical expenses prior to death, funeral expenses (that is, the cost of the casket and the cost of burial plot plus expenses associated with funerals), expenses of administration including legal fees and probate costs and cost of

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87 Ibid

88 Alico Training Manual op cit p. 1



administration by executor or administrator.<sup>89</sup>

It is therefore suggested that perhaps the initial need for life insurance for most people is to provide money immediately following death, estimated to be sufficient in amount to assure the executor, or administrator will have adequate funds to pay all estate liabilities.<sup>90</sup>

2) Emergency Fund:

This fund is to provide for unexpected financial needs (expenses). In a sense, this special fund serves to soften the corrosive effects inflation will have on a fixed income. If additional funds are also needed to meet the increased living costs, it would be readily available in the emergency fund without disrupting the balance of the programme. The amount set aside for this is up to individual situation. The main thing is that some sort of definite financial provision for the unforeseen contingencies should be arranged.<sup>91</sup>

3) Mortgage Fund:

This need and the education fund fall under special family needs. The widow acquires both the home and the debt, without the continuing income of the deceased husband, father and breadwinner. This may force a move because she cannot afford to stay or would probably create a forced sale.<sup>92</sup> The purpose of this fund is to provide the money needed

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89(i) Ibid p. 1 - 2

(ii) Gregg p - 31

90 Gregg & Lucas op cit p. 31

91 (i) Ibid p. 808

(ii) Alico Training Manual op cit p.4.

92 Ibid p. 2 - 3.

by the widow to pay off the remaining balance of the mortgage on the family house. Vaughan<sup>93</sup> and Gregg<sup>94</sup> say that this is a particularly effective way of reducing the amount of income needed during dependency period. Huebner<sup>95</sup> adds that if the mortgage permits prepayment without penalty, substantial savings can be gained by paying off the loan at the death of the income producer.

4) Education Fund:

The dramatic increase in the cost of securing college education is common knowledge. Education costs here in Kenya are high and will be higher in the future.<sup>96</sup> This fund is often arbitrary and parents may differ in attitude regarding the obligation to help finance a child's college education. In the event that parents plan to assist their children with college expenses, the plan should specifically recognise these expenses as part of the income need. Vaughan says that it can either take the form of a specific lumpsum to be made available to each child to help defray the cost of college education, or the income of the dependency period can be extended to provide income throughout college years.

Whatever the situation, a major risk of loss facing the father while alive is that his family will probably need additional income for

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93 Vaughan, J.E. op cit p.326

94 Gregg & Lucas op cit p. 31

95 Huebner & Black op cit p. 4

96 Alico Training Manual p. 5.

a number of years following his death, should he die while his children are young.<sup>98</sup> The actual cost of college education is difficult for many parents to comprehend - until their own children start college. On the amount of this fund Greene<sup>99</sup> says that this will depend on the school or college selected and the spending habits of the children.

2.3.2.2.2. Income Needs:

1) Re-adjustment Income:

Concurrent with the needs for an estate clearance fund is the need for re-adjustment income. Gregg<sup>100</sup> notes that seldom will the assurance on the life of the breadwinner be sufficient to allow the surviving dependents to live on the same economic level as that to which they had been accustomed. The purpose of this fund is to provide a sufficient sum so that survivors will have some time to recover from the severe emotional shock before they have to adjust their scale of living downwards. During the period that this income is being received the family will have to make intelligent plans for moving to lower levels of income without having to cope with financial worries at the same time.<sup>101</sup>

2) Dependency period income:

When a husband dies, it is also the death of the father and the income.<sup>102</sup> Income needs during this period bulk largest in most programmes and consist of income required during the period, when others,

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98 Gregg & Lucas op cit p. 32

99 Greene, M.R. op cit p. 527

100 Gregg & Lucas op cit p.31

101 (i) Ibid p. 31, 111

(ii) Vaughan, J.E. op cit p. 327

102 Alico Training Manual, op cit p.6.



generally children are dependent. Dorfman<sup>103</sup> says that the size of this income will usually depend on various factors such as the number of children, their ages and relative contribution of the income producer to the total family income. The widow will be provided with a fixed income until the children reach a specified age. An example given by Vaughan is "till the youngest child reaches 18 years."<sup>104</sup>

3) Life Income for the spouse:

This exists when one partner in a marriage is not employed outside the home and would have few employment opportunities if the income producing spouse should die.<sup>105</sup> The widow's life income period begins after her youngest child is self-supporting at the conclusion of the dependency period.<sup>106</sup> It continues as long as she lives or till retirement benefits begin. Typically the amount will be considerably less than the dependency period income since the children are expected to be self-supporting. In considering the size of the monthly income, thought should be given to the standard of living the surviving spouse enjoyed before the death of his/her spouse.<sup>107</sup> The main items in a widow's budget which should be considered are food, clothing and shelter.<sup>108</sup>

103 Dorfman, M.S. op cit p.

104 Vaughan, J.E. op cit p. 328

105 Ibid

106 Alico Training manual op cit p. 7.

107 MacGregor, M.A. "Individual Life Assurance" Financial Underwriting Seminar 1975, p. 5

108 Alico Training Manual op cit p. 7.

4) Retirement Income:

Cohen<sup>109</sup> notes that this income is needed if one is lucky enough to survive up to, and past retirement. It would be a supplementary income to the social security benefits. More and more people are living longer and those who receive retirement income live longer than those who do not, it has been noted.<sup>110</sup>

Once a total amount of these financial needs have been calculated the total net assets available to meet these needs must be computed. Life insurance purchased would be equal to the amount of financial needs less the amount of available assets, assuming that death occurs immediately.

There are some advantages associated with this approach and these include:-

- 1) The approach focuses attention on specific objective in the purchase of life assurance. Life assurance purchased for a certain need can be arranged in the most appropriate way to provide funds for the need.<sup>111</sup> The needs thus motivate the purchase of insurance for a given motive.
- 2) Since these needs arise at different times throughout life, the needs approach also provides a guide as to which type of need should have priority and the type of need which should be catered for.

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109 Cohen, J.B. op cit p. 54 - 6

110 Alico Training Manual op cit p. 8

111 Greene, M.R. op cit p. 259

The greatest problem in this approach is that of determining the amount needed for each item especially since most people pass through several states of life over time, with needs varying with each of these periods. This may result in the purchase of an amount of insurance that may be correct at a specific point in time but will be innaccurate as time goes by.<sup>112</sup>

Naturally this technique produces a different figure than the capitalization of income approach because of the different assumptions underlying each. Both methods however reveal clearly that a human life is much more valuable economically than the amount for which life is commonly insured.<sup>113</sup> It has therefore been rightfully declared that life assurance represents one of the greatest areas of under-insurance in existence.<sup>114</sup>

Besides the two approaches discussed above, several writers have suggested other methods that could be used for establishing the insurable amount.

### 2.3.2.3 OTHER METHODS

The Rule of Thumb has for years been used by North America underwriters, to state the maximum amount of personal life assurance that may be issued. It has been 10 times the applicant's income.<sup>115</sup>

112 Vaughan, J.E. op cit p.

113 Greene, M.R. op cit p. 529

114 Ibid

115 MacGregor, M.A. op cit p. 7.



Hastings and Mielus<sup>116</sup> say that one can take an amount of life insurance equal to 5 years take home pay. They also suggest that a person can examine his budget for his own family for one year and multiply this figure by 5, 10 or 20 years to see if his prospective needs are covered.

Of course this rule of thumb like all other rules has to be applied with common sense. If for instance, an application is received from a young professional man just out of university his income can be expected to increase substantially in the near future and more insurance can be granted. On the other hand, with advancing years, the need for insurance may have diminished at retirement age and perhaps only 5 times coverage is justified as opposed to 10 times as suggested before.<sup>117</sup>

The ability to pay is also another method used in determining insurable value. As MacGregor<sup>118</sup> points out, this is a very difficult area to judge and the best thing to do is apply to old adage "when everything else fails, try common sense". In determining the ability to pay, the types of income to be included are salary, bonuses if they are received regularly, commissions, unless there are great fluctuations from year to year and profit sharing if stable. Items not to be counted include capital gains and investment that is likely to continue after the death of the insured.<sup>119</sup>

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116 Hastings & Mielus op cit p. 344 - 7

117 MacGregor, M.A. Ibid

118 Ibid

119 Ibid

Some progressive insurance companies now feed into a computer a variety of data about the potential assured, his dependents, assets, liabilities and financial needs and expectations. The machine then generates a figure for the amount the individual is to be insured for. This technique is a most useful aid and a major improvement over most "guesstimates."<sup>120</sup> These writers however advise that the seemingly scientific precision of such calculations should not mislead us as variables and uncertainties about the future remain.

There is however no generally applicable formula for a meaningful answer as to how much life insurance is enough in view of the several methods that are available.

#### 2.4. TYPES OF LIFE ASSURANCE POLICIES:

The type of policy that an individual purchases has got a bearing on the type of needs that are to be catered for. These are briefly discussed below.

##### 1) Term Policy

This is a policy that gives protection against financial loss resulting from death during a specified period. It is the simplest and cheapest type of policy.<sup>121</sup>

This policy is suitable for young and up-coming executives who have good prospects but only a small salary at the moment. They can

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120 Hastings & Mientus op cit p. 344

121 Taylor, W.J. & Watling, T.F. Personal Finance for Managers. Redwood Press Ltd., London, 1972 p. 47.

buy cover cheaply and invest it at a later date when they can afford a full cover.<sup>122</sup> Decreasing term policy is usually taken out in connection with loans when the loan is gradually being paid.<sup>123</sup>

Bisaillon<sup>124</sup> says that considering ALICO's experience term policy is not popular because people do not relate to protection per se unless they can see a return of monies in a foreseeable period of time.

2) Whole Life Policy:

This policy is taken out over the whole life time of the proposer. Premiums must be paid by the proposer for the remainder of his life or they can be limited by prior arrangement. When the person dies, whenever that may be, the office will pay out the sum assured.<sup>125</sup>

Whittacker notes that this policy is suitable for professional men and others whose capital is used in their professional business to protect this capital. A keyman in an organization can also be protected by use of this contract. It can also be taken out by one who has a family or commitments to take care of after his death. Death can come any time and only a policy such as this with cover throughout life can provide security against possible hardships.

In the Kenyan experience, whole life has not appealed because of

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122 Whittacker, J.J. "Do We Need Life Assurance." Executive Journal, June, 1981, p. 39

123 Ibid

124 Bisaillon, G.J. op cit p. 26

125 Whittacker, J.J. op cit p. 39.



the low surrender value<sup>126</sup> or return on capital (face amount) which is payable too far off in the future, that is, at death. It also has not appealed to the more affluent sectors, which have similar life styles as those in the western world. The purpose of whole life for protection has taken a secondary position.<sup>127</sup>

Irukwu<sup>128</sup>, a west African writer has noted that experience has proved that the average African is not very keen on buying whole life policies unless he is compelled to do so by a bank or some other reason beyond his control. The reason he gives for this is that the average African does not believe he will die prematurely hence to interest him in life assurance emphasis should be transferred to its investment and savings aspects.

### 3) Endowment Policy

This is a primarily savings contract with an element of pure protection. In a pure endowment the sum assured is only paid if the assured survives the endowment period, while in an endowment life policy this sum is paid if the assured dies within the policy period or survives to the end of the period.<sup>129</sup>

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126 This is the value that the policy acquires after being in force for several years and it will be usually less than the total amount of premiums paid by the assured.

127 Bisailon, G.J. op cit p. 26

128 Irukwu, J.O. op cit p. 53

129 Greene, M.R. op cit p. 562 - 3

In Kenya, this is probably the most popular type of policy. Whittacker<sup>130</sup> notes that many people think only of endowment business when they think of life assurance. Despite its being more expensive for saving purposes, it is preferred for its versatility and promise of eventual payment of a lumpsum. But because of evergrowing rates of inflation and due to rapid population growth resulting in high consumption level, people have a considerably reduced disposable income to afford expensive endowment plans.<sup>131</sup>

However, it is possible to get a considerable amount of life cover very cheaply by taking out term assurance instead, or in addition to endowment type of contract and convert it later to a more permanent form of cover. In the Kenyan case, considerably more marketing and education is needed in this class of business if a full service is to be provided to the insuring public.<sup>132</sup>

4) Annuity Contracts:

The purpose of an annuity is to protect against the risk of outliving one's income, which is just the opposite of life assurance's purpose. It consists of a periodic payment made during a fixed period or for the designated life or lives. The purpose of annuities therefore is to liquidate an estate.

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130 Whittacker, J.J. "Insurance: The market in Kenya." Executive Journal, October, 1982 p. 33.

131 Bisailon, G.J. op cit p. 26

132 Whittacker, J.J. op cit. P. 33

Basically therefore, there are three types of life assurance contracts namely term, whole life and endowment. In addition to these, life assurance companies offer a wide variety of policies that combine two or more of the basic types into one contract. These specialized contracts have been developed to fill the particular needs of individuals, and possess advantages that make them more attractive in many situations.

A few examples <sup>133(a)</sup> include:-

i) Mortgage Redemption Policy:

This is designed to provide protection in some amount sufficient to pay off the mortgage at any given time. Since the amount of the mortgage is constantly decreasing throughout its term, the policy is written on a decreasing basis for the term of the mortgage.

ii) Family Protection Policy:

This special form attempts to provide insurance on the entire family, for example the husband can have a shs. 50,000 cover on an ordinary life basis, the wife shs 10,000 term insurance till the husband reaches a certain age and shs. 5,000 term coverage on each child, with coverage designated to a certain age.

iii) Juvenile Insurance:

This policy is widely used by parents to provide a college fund for children. It includes endowment, educational endowment to mature when the child goes to college, and jumping juvenile

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133(a) Vaughan, J.E. op cit p. 238 - 44



written on a basic amount of insurance that automatically increases to some multiple of the basic amount when the child reaches age 21.

Other examples include, the family income policy, the family income rider, family maintenance policy and modified whole life.

Life assurance should be taken by one and everyone with a family and dependents or financial commitments. Clever use of the right kind of policies can considerably ease financial hardships and can provide security needed to lead a happy and successful life.<sup>133(b)</sup>

2.5. THE ROLE OF THE INSURER IN ASSISTING CLIENTS TO PURCHASE

ADEQUATE COVER:

If a person wishes to derive the best benefit from insurance, he can consult someone who knows it. He can go direct to the company or to an intermediary to search the market and arrange the cover for him.<sup>134</sup> That person will look into the potential insured's requirements and advise him or the kind of insurance he should take and also where he can get it. Such a person is known as a risk manager.<sup>135</sup> There are not many risk managers in Kenya yet and at present, this job is done

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133(b) Whittacker, J.J. op cit p. 33

134 Whittacker, J.J. "Do we need Life Assurance". Executive Journal, June, 1981 p. 33.

135 Saskena, D.C. "Insurance,..... the Modern Magic" The Kenya Underwriter Vol 8, Dec. 1983 P. 22 - 3.

either by insurance brokers or by the technical and marketing departments of the insurance companies.<sup>136</sup>

Insurance brokers are not usually trained in the marketing of life products. The direct agency system through which agents are trained, supervised and kept motivated has been the most successful distribution system in the field of life assurance.<sup>137</sup> Agents and the insuring public relate on a personal basis and insurers are thus kept in close contact with the product needs of the market.

Greene<sup>138</sup> has noted that insurance is such a complex subject hence fitting life assurance to an individual's particular needs partakes a professional service supplied by the agent. Advanced knowledge of this subject is required to render the quality of sales service expected of him.

Reduced to the bare essentials, life salesmen find and contact people who are potential buyers, interview them to find out their life assurance needs, present information that shows how life assurance can satisfy one or more of these needs and then help them come to the decision to buy.<sup>139</sup> The job of the salesman is by no means finished at this point, and having completed the sales he is hereafter required to give a regular and continuous service to his policyholders.

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136 Ibid

137 Bisailon, G.J. op cit p. 27

138 Greene, M.R. op cit p. 129

139 Lacock, B.R. "Successful Management of a Life Sales Operation." Journal of West African Consultative Association. Vol. 3 1977, p. 49.

Greene<sup>140</sup> notes that the fact that a buyer usually purchases life assurance infrequently, has infrequent needs for claims service and has little day-to-day contact with the agent regarding endorsement to policies and requests for information does not imply that the life insurance agent renders no service once the contract has been put in force. He is supposed to stand ready as the major local person who represents his company to the assured, answers questions, writes letters to the assurer on behalf of the assured and collects premiums as a convenience to his client. The agent can develop and maintain over the years a comprehensive plan of life assurance designed to meet the unique needs of his client. Ideally, the agent can (and should) sell a policy that comes closest to meeting the real needs of the client.<sup>141</sup> But in most cases as several writers and authors have asserted, they sell policies that net them the greatest commission regardless of whether or not they are appropriate.<sup>142</sup>

Hence agents should behave like other professionals. Just as a good doctor would not blindly prescribe a medicine or surgical procedure, a good life underwriter/agent should not recommend a life contract unsuited to his client's particular needs.<sup>143</sup>

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- 140 Greene, M.R. op cit p. 130  
141 Ibid  
142 Kul Bushan op cit p. 11  
Greene, M.R. Ibid  
143 Gregg & Lucas op cit p. 797



The individual agent cannot be effective all by himself without any assistance. He needs the support of efficient, well organized sales management in order to do his work properly.<sup>144</sup> The company should provide the motivation and training opportunities to help agents develop their sales career. This will ensure that they are equipped with knowledge on the subject of life assurance selling if they must do so with conviction.<sup>145</sup> Otherwise success in selling life assurance is not easy to achieve simply because helping members of the public to do that which is good for them and their families is never easy particularly when the benefit from their (agents ) point of view is intangible.

In the Kenyan case, it is doubtful whether the insurance industry performs this role effectively. This is evidenced by assertions by various people, for instance Bisailon<sup>146</sup> says that many insurers are not involved in the marketing of life assurance, instead they are involved in the selling of life assurance.

According to Oredugba<sup>147</sup> life agents are school droupouts while Saskena<sup>148</sup> says that they are laymen who do not understand the life contract themselves. Khamalah<sup>149</sup> asserts that they are only bent on convincing people into buying insurance against one's own better judgement.

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- 144 Lacock, B.R. op cit. p. 49  
 145 Irukwu, J.O. op cit p. 53.  
 146 Bisailon, G.J. op cit p. 26  
 147 Oredugba, O op cit p. 145  
 148 Saskena, D.C. op cit p. 22  
 149 Khamalah, J.N. op cit p. 5

No matter what the quality of service is obtained, the premium is the same, so it behooves the assurance buyer to examine carefully how much in the way of service he can expect of his agent. The variations in service can spell the difference between a satisfactory assurance arrangement and one that fails to accomplish for the assured many things that are possible but which often time the insured does not know of at all.<sup>150</sup>

In judging the degree and quality of service that may be received from an agent, Greene<sup>151</sup> gives the following as indicators.

- i) The methods employed in selling the coverage
- ii) Evidence of professional accomplishment
- iii) The length of time the agent has been in business, and
- iv) References from outside impartial sources.

It would help if insurers also adapted their life policies, selling techniques and emphasis to suit local conditions and interest. Each market should be studied and the life assurance needs of the community ascertained by inquiry and research and policies tailored to meet the desires of every class.<sup>152</sup>

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150 Greene, M.R. op cit p. 131

151 Ibid p. 163

152 Irukwu, J.O. op cit p. 53.

CHAPTER 3

3. RESEARCH DESIGN

This was an exploratory research which investigated into the adequacy of life cover among policyholders in relation to their needs and those of their dependents.

3.1. SAMPLING PROCEDURES

3.1.1. The Population

The population of interest in this study consisted of all people who hold life policies in Kenya and all insurance companies underwriting life business in Kenya. A list of these companies was obtained from monthly returns sent to the Kenya Reinsurance Corporation. The current list was as of January, 1987 and it gave a total of 15 companies underwriting life business (see appendix 3).

3.1.2. The Sample:

From the list of companies which underwrite life business, those that underwrite group business only and those that operate closed funds (they do not accept new business) were eliminated from the sample as these were not of interest to the study. Kenya Reinsurance Corporation was also not of interest as it does not deal directly with individuals as clients. This gave a total sample size of 10 companies which were used in the study.

The Policyholders:

A total of 200 policyholders were selected for the study.

These were picked as follows:

Twenty (20) questionnaires were delivered to each of the 10 companies in the sample, who administered them to their clients, that is, those who came in for the servicing of their policies at the company offices. These consisted of clients who came to collect their insurance certificates, pay their premiums, get policy loans, surrender values and bonuses, those who came to complain, purchase additional insurance cover or renew their policies. Every third policyholder who came in for service was included in the sample until all the twenty questionnaires were given out.

3.2. DATA COLLECTION METHOD:

The primary data for this study was collected through the use of two questionnaires and a number of personal interviews with executives of insurance companies.

The first questionnaire (see appendix 1B), which was administered to policyholders first underwent pretesting and the necessary changes according to experience on the answers given to questions asked were made. The questionnaires were administered to the respondents by the companies on behalf of the researcher. The respondents were asked to fill the questionnaires as they waited to be attended to. For those respondents who felt that they could not possibly complete the questionnaire on the spot, they were provided with a self-addressed and stamped return envelope for sending the questionnaire back to the Company's life manager. A letter to respondents (see appendix 1A) was attached to the questionnaire to explain the purpose of the survey.



The questionnaire was designed to collect both quantitative and qualitative data and covered the major dimensions of the issues raised in the problem. It sought to find out the needs of policyholders, the sums they have assured for, the factors that are considered to arrive at the sum assured and their opinions and views as to the cover. A section of the questionnaire also sought to bring out demographic data which was used for finding out the relationship between the sum assured and needs, income, age, marital status and sex.

The second questionnaire (see appendix 2B) was administered to insurance company executives in the life departments. The executives were first contacted by telephone and the purpose of the call was briefly explained to them. The researcher later delivered the questionnaire personally to the executives who completed them. These were later on supplemented by personal interviews by the researcher when they were picked up, to clarify issues which were not very clear in the answers given. A covering note to respondents (see appendix 2A) was attached to the questionnaire to explain the purpose of the survey.

The questionnaire sought to find out the factors that insurers consider in arriving at the sum assured and also whether or not their clients have purchased adequate cover, in their present experience. This information was meant to countercheck the information given by policyholders and establish whether or not it tallied.

The questionnaires consisted of multiple choice and open ended questions. The questionnaires were delivered to, answered by respondents and received between the 15th of April and 8th of May, 1987. Three

executives asked for a copy of the research findings.

3.3. DATA ANALYSIS METHOD:

The data collected in this study was presented mainly by use of summarized tabulations and proportions. Multiple regression and correlation analysis using a computer package (XDS3) was performed to give the relationships between sum assured and variables such as age, sex, income, marital status and needs. Tests of significance were carried out to give statistical backing and inferences to the findings.

3.3.1. The Income (Life Value) approach:

This method was used to determine the sum for which respondents ought to have assured for if such sums were to be adequate to cover their future needs, assuming that death occurs immediately.

The insurable value was estimated by discounting the expected stream of income that would accrue to dependents as a result of the policyowner's continued employment. The amount of monthly income earned by respondents, including other sources of income was obtained from the questionnaire and from this the income that was personally consumed by him/her was deducted to give an amount that is spent on dependents.

To cross check that the personal expenditures of respondents given was correct, a comparison of what they gave as the amount they spend on dependents was examined, so as to ascertain the correct amount. The amount of income spent on dependents annually was discounted at 11% rate of interest for the remaining years of the individual to

retirement age (55 in Kenya). This gave an indication of the present value of the stream of income that would be lost. Appendix 4A shows the method that was utilized in arriving at the insurable value.

The capitalization rate of 11% was chosen because this is the rate of interest that is given by commercial banks on all savings deposits with them (since 1984). Life insurance is also a form of savings hence it is like depositing some money in the bank to earn interest for a certain period of time. The discount factors for annuities that were used are shown in appendix 4B (at 11% interest rate for years 1 to 40).

#### 4.1 THE RESPONSE RATE

The effective response rate to the questionnaire to policyholders was 40%. Out of the 200 questionnaires given out to life policyholders, a total of 80 were returned within the time limit set (three weeks). Others which came in later were not used due to the time limitation for finishing up the project. Of the 80 which were received within the time limitation 5 could not be used as they were not fully completed as some crucial information was left out.

The response rate of the questionnaire to insurance companies was 80%. 8 out of the 10 companies selected responded. One of the executives of the firms which did not return the questionnaire was sick over the period of the survey and in his absence, there was nobody in the company who could do it. The other firm which did not respond claimed that they had called the questionnaire to the researcher.

CHAPTER 4

4. DATA ANALYSIS AND PRESENTATION OF FINDINGS:

This chapter documents and discusses the findings on the specific areas of inquiry of the study. There is also an attempt to draw statistical inferences from the findings. Results are summarized and presented by the use of tables, the major method of analysis being the use of proportions. Multiple regression analysis using the computer has also been used to give results on various kinds of relationships.

4.1 THE RESPONSE RATE:

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This questionnaire however was never received.

4.2 PRESENTATION OF FINDINGS

Four major questions were raised in the statement of the problem that was researched in this study. Presented below are the findings that go towards answering these questions.

4.2.1 THE NEEDS OF INSURED:

It was found that the following were the major needs and obligations which policyholders have to meet in their daily lives. (see table 1 ).

Table 1: Needs of Policyholders:

Need:	Number of Policyholders	Percentage
Shelter	72	96%
Food	75	100%
Clothing	75	100%
Personal & Miscellaneous	75	100%
House operations	75	100%
School fees	33	44%
Caring for relatives	44	58.7%
Mortgage loans	33	44%
Contributions (to harambee & charity)	6	8.0%
Reading Material	7	9.3%
Car operation, Bus fare	33	44%
Entertainment	10	13.3%
Others	11	14.7%

N = 75

The table shows that all policyholders have to meet expenses for food, clothing, personal and miscellaneous expenditures and house operations. The very few (4.%) who did not indicate that shelter was a major expense said that they own the houses they stay in and hence have no need for funds to pay for rent. 44% of the respondents indicated that they have mortgage loans which they have to pay back while another 44% gave school fees as a major need. This group mainly consisted of people who are married and have children who go to school and and those that are unmarried but have dependent relatives whom they have to educate.

Among the other needs indicated were, caring for relatives (58.7%), contributions both to charity and 'harambee' (8%), reading material such as newspapers, books, magazines and journals (9.3%) car operation expenses and bus fare (44%) and entertainment of various sorts (13.3%). 11% of the respondents also indicated that farm development costs as well as medical expenses were part of their daily needs.

The other needs that have to be met incase a breadwinner dies prematurely such as funeral costs, re-adjustment income, retirement income and life income for the spouse were all assumed to be needs for everybody because they will actually exist if the policyholder dies prematurely. For this reason, respondents were not asked to indicate whether these were among their needs.

4.2.2. TYPES OF POLICIES OWNED BY POLICYHOLDERS:

The type of policy a person purchases may have a bearing on the type of need one wishes to cater for. Table 2 shows the types of policies that policyholders have.

Table 2: Type of Life policies held by Respondents:

Type of Policy	Number of Respondents	Proportion
Endowment	64	85.3%
Whole life	11	14.7%
Decreasing term/ Mortgage Protection	2	2.7%
Personal Accident	14	18.7%
Level or Straight Term Assurance	0	0%

N=75

The majority of respondents (85.3%) indicated that they had an endowment policy, 14.7% had wholelife, 2.7% had a decreasing term/mortgage protection policy. In addition to endowment or whole life policies, 18.7% of the respondents had purchased a personal accident policy. None of the respondents had a level term policy.

policy<sup>153</sup> was the most popular as majority of clients go for it. 87.5% of the respondents indicated that this is the most popular type of policy while 12.5% indicated that mortgage protection policy was the most popular. None of the respondents indicated that straight term or whole life were popular. (see table 4).

Table 4: The Most Popular Type of Life Policy In terms of Number who purchase it

Type of Policy	Number of Companies that said it is most popular	Proportion
Anticipated endowment	7	87.5%
Mortgage protection	1	12.5%
Straight term assurance	0	0%
Whole Life	0	0%
Total	8	100%

153 Anticipated endowment, (for example 1 -2-4) is paid in three instalments. For instance a 15-year anticipated endowment for kshs.75,000 would pay the first kshs.25,000 after the first 5 years, the second shs. 25,000 on the tenth year with double the sum assured if death occurs during this time and the last kshs 25,000 on the fifteenth year with the assured being paid 4 times the sum assured if death occurs during this time.



Insurers gave the following as reasons for the popularity of the endowment series type of policy:

- (i) The policy has more benefits than other life plans. The cash bonus element provides the policyowner with money to meet their obligations, (for example school fees), and at the same time provides full coverage to the insured and his family. People want money in the course of their lives and this is the only policy that provides such a benefit.
- (ii) The policy's high investment value and definite maturity date and provision of partial maturity benefits are also contributing factors to its popularity. People are assured that they will get the sum assured incase they die within the endowment period or survive it.

Even for those who have spouses who are insured (25.3% of the respondents), endowment is the most popular type of policy held by such spouses.

The respondents who indicated that mortgage protection policy was the most popular (12.5%), gave the reason that the increase in mortgage facilities throughout the country and the increase in house rents have prompted many people to desire having houses of their own.

Straight term policies are not popular because they tend to cater for very remote risks that policyholders tend to think will not happen, for example covering oneself for a period of 5 years against death. Death within this period seems so remote. For whole life policies, benefits seem to

be so far off and this makes them less appealing.

Respondents were also asked to indicate what they had intended the policy for when they first purchased it; This threw some light as to the purpose for which life assurance is purchased as well as the kind of needs it is intended for. Table 5 shows the findings for this.

Table 5: Intentions of purchasing Policy

Intention	Number of respondents	Proportion
To use it as some form of investment later in life	43	57.3%
To benefit family or dependents	34	45.3%
To pay back a loan taken incase of premature death	4	5.3%
Others	5	6.6%

N=75

A majority of respondents (57.3%) took life assurance as a form of savings which can be useful later while 45.3% intend it for their dependents to cater for their needs incase of any misfortune. Very few (5.3%) use life assurance for purposes of protecting their creditors while another minority (6.6%) take life assurance for other reasons such as catering for their retirement needs (1.3%) or to benefit them

incase of disability (5.3%).

4.2.3. THE SUMS POLICYHOLDERS HAVE ASSURED FOR:

The amount which a person purchases for his life cover should bear some relation to the needs that would have to be covered, and/or his income. Findings on the sums which policyholders have assured for are shown in table 6.

Table 6: Sum Assured that Policyholders have Purchased:

Sum Assured	Number of Respondents	Proportion
< 50,000	30	40%
50,000 - 99,999	15	20%
100,000 - 149,999	23	30.7%
150,000 - 199,999	1	1.3%
200,000 - 249,999	2	2.7%
250,000 - 299,999	0	0%
300,000 - 349,999	0	0%
350,000 - 399,999	0	0%
400,000 - 449,999	2	2.7%
450,000 - 499,999	0	0%
500,000 - 549,999	2	2.7%
550,000 and over	0	0%
<b>Total</b>	<b>75</b>	<b>100%</b>

The amounts policyholders have purchased ranges from kshs. 20,000 to 510,000. A total of 30 respondents (40%) had assured for less than kshs. 50,000. In this group, the majority, (13 or 43.3%) had assured for kshs. 20,000, 26.7% had assured for kshs. 30,000, while 30% had assured for kshs. 40,000. In the category of sum assured 50,000 - 49,999, a total of 15 respondents (20%) fell here. 73.3% of these respondents had assured for kshs. 50,000, 6.7% had assured for kshs. 65,000, 13.3% had assured for kshs. 70,000 while another 6.7% had assured for kshs. 80,000.

The figure of sum assured kshs. 100,000 was purchased by all (100%) respondents who fell in the category of sum assured kshs. 100,000 - 149,999. There were very few respondents who had assured for sums greater than kshs. 100,000. Only 1.3% had assured for sums between kshs. 150,000 and 199,999, all of them falling in the 150,000 figure, 2.7% had assured for sums between 200,000 and 249,999, with 50% of them assuring for kshs. 200,000 and 50% for kshs. 240,000. None of the respondents had assured for any amount between 250,000 and 399,999. Two respondents (2.7%) fell in the category of kshs. 400,000 and 499,999 and all of them had assured for kshs. 400,000. Nobody had assured for sums between 450,000 and 499,999, and 2.7% of the respondents fell in the category of kshs. 500,000 and 549,999, with 50% insuring for kshs. 500,000 and the other 50% for kshs. 510,000. None of the respondents had assured for more than this value (510,000).

The results show that there is a wide range in the sums that policyholders have assured for. The majority (90.7%) have assured for amounts of less than kshs. 150,000. While most of these (40%) respondents



have assured for less than kshs. 50,000, the figure of kshs. 100,000 is the most popular. Very few ( 9.4%) respondents are assured for kshs. 150,000 and over.

Discussions with insurance executives revealed that the figures of 20,000 and 100,000 are popular with policy purchasers because they just look convenient and attractive. No other factor emerged as a reason for their popularity.

4.2.4. FACTORS THAT INFLUENCE THE AMOUNT TO ASSURE FOR:

Table 7 shows the factors that policyholders considered in order to arrive at the amount of life assurance they purchased.

Table 7: Factors that are considered so as to arrive at the sum assured:

Factor	Number of Respondents	Proportion
1) Needs that have to be met incase of premature death	25	33.3%
2) Ability to pay premiums in relation to income	60	80%
3) Reasonable figure	7	9.3%
4) Influence by friends who had purchased similar	3	4%
5) Considered nothing in particular	1	1.3%
6) Convinced by the agent that such cover was reasonable	4	5.3%

N= 75

Of the six possible factors that could be considered in arriving at the sum assured, ability to pay premiums emerged as the most important factor as this was indicated by 80% of the respondents. This was followed by consideration of needs to be met in case of premature death (33.3%). Those who just thought that the figure they assured for was reasonable were 9.3% while those who were influenced by friends who had purchased similar cover were 4%. Some 5.3% indicated that they were convinced by the agent who sold them the policy that such cover was reasonable, while very few (1.3%) indicated that they did not consider any factor in particular in order to arrive at the amount to assure for.

The responses given by policyholders and those given by insurers tallied when they were compared. Insurers' responses are summarized in table 8 below.

Table 8: Factors considered in determination of sum assured: Insurers:

Factors	Number of Companies	Proportion
1. Ability to pay premiums for the amount of cover desired	7	87.5%
2. Based on Needs to be met	5	62.5%
3. Clients assure for whatever amount they desire.	1	12.5%
4. Based on a certain multiple of clients' income	1	12.5%

The table shows that 87.5% of the companies consider ability to afford premiums, as the most important factor in arriving at the sum assured. This was followed by 62.5% of the companies considering the needs that have to be met, which are analysed in order to arrive at the amount to assure for. Other factors considered included determination of the client's income for a whole year and the sum assured being equal to a certain multiple of this income, usually a maximum of four times this income (by 12.5% of the respondents). Another 12.5% indicated that the client can assure for whatever amount he/she desires and this is especially for straight term and mortgage protection policies.

Income, or ability to pay premiums emerged as the most important factor considered in arriving at the sum assured. Insurers indicated that despite the many needs and obligations that one may need to cater for, he/she may not be allowed to insure for a sum which is adequate to cover these needs if he cannot afford it. Ideally, there should be a multi-dimensional consideration of all factors before one can decide what amount to assure for.

In order to ascertain the statistical significance of the responses given by both the policyholders and insurers, five variables, which were expected to have an influence on the sum assured were input into the computer, to see if they had any bearing to the sum assured. The variables were the sums that policyholders ought to assure for based on their needs, the incomes of the policyholders, their marital status, their ages as well as their sex (see appendix 6). Thus sum assured would have been a function of all these factors. The computer print

out was as shown in Table 9 below:

Table 9: Computer Print out of variables in and out of the Regression Set:

Variables In The Regression Set:

Variable Name	Regression Coefficient	Standard Error	Confidence interval	T-Statistic	Partial Correlation	Multiple Correlation	E.S.S.
Income	20.072903	.281664E1	.560511E1	7.13	0.64	0.649	.726,862E12
Age	-1459.8787	.657 104E3	.130764E4	2.22	-0.25	0.797	.457628E12

Variables Not in The Regression Set

Variable Name	T-Statistic	Partial Correlation	Multiple Correlation	E.S.S.
Constant	0.75	0.09	0.813	.425311E12
Sum of Needs	0.49	0.06	0.812	.427230E12
Marital Status	0.22	0.03	0.812	.428355E12
Sex	0.03	0.00	0.811	.428639E12

The results show that it is only income and age that have a significant influence on the sum assured. The income a person earns, as policyholders and insurers stated, is a very important factor in determining what



premiums one can afford and hence the size of the sum assured.

The age of respondents also came out as a significant factor in determining the sum assured, and this tallies with literature on factors that are considered in premium determination and hence sum assured. In order to throw more light on the influence of age on sum assured, an inspection of the data revealed that those who are aged 28 years and below tend to assure for larger amounts than those aged above 28 years.

A test was carried out to see if the means of the two sets of sums assured were significantly different so that a firm conclusion could be made about this observation. Appendix 7 part A shows the raw data tabulated on the basis of age and part B shows calculation of means and variances of the data. Part C of appendix 7 shows calculation of the test for significant differences between the two population means.

Findings showed that the computed Z value (-6.4) was less than the tabulated Z value of (-1.96) at 5% level of significance; hence this implied that the two population means were significantly different, thus reinforcing the contention that age has an influence on the sum assured.

Based on the findings, the regression equation was

$$Y = 20X_2 - 1460X_4$$

Where

Y = Sum assured;

$X_2$  = Income; and

$X_4$  = Age.

It can be noted that there is no constant in this equation, in other words, the constant is zero.

In order to use the multiple regression equation with confidence for prediction and estimation purposes, it was tested for significance to give some indication that it adequately represents the relationship among the variables under study. The coefficient of multiple determination and an overall significance test for regression was accomplished by means of analysis of variance and the F-test. The calculations are shown in appendix 8.

The computed value of F ( 69.2) was greater than the critical value of F (3.10) at 5% of significance with 2 and 72 degrees of freedom. This finding supports the contention that there is a linear regression between sum assured and the two variables (income and age).

The test for significance of partial regression coefficients using T-statistic as given by the computer also helped reinforce the view that the two variables (income and age) are useful in predicting and estimating the dependent variable (sum assured). The results from the computer are summarized in the table below.

Table 10: Computed T-Statistic of Partial Regression

Variable Name	T-Statistic
Constant	0.75
Sum of Needs	0.49
Income	7.13
Marital Status	0.22
Age	2.22
Sex	0.03

i) Hypothesis

Ho:  $\beta$  (regression coefficient) = 0

Ha  $\beta \neq 0$

ii) Level of significance:  $\alpha = 0.05$

at  $\alpha = 0.05$  and 73 degrees of freedom, the tabulated t value is 1.66.

Decision: Since 2.22 and 7.13 (for age and income) are greater than the tabulated value of t (1.66) we reject the null hypothesis and conclude that income and age are linearly related to sum assured. This shows that the two variables are useful in predicting and estimating the sum assured.

The other three variables (sum of needs, marital status, sex and the constant) have their calculated t values less than the critical t value of 1.66 at  $\alpha = 0.05$ . This means that the null hypothesis is not rejected hence the conclusion that they cannot be used for predicting or estimating the sum assured.

Asked to indicate the kind of advice they give their clients as concerns the sum assured, insurers gave the following:-

i) They advise their clients not to spend more than 10% of their income on premium payment. Incomes in this country are not so high as noted by the executives. This research also revealed that most of the respondents' monthly income lies between four and five thousand shillings, hence this limits the amount of insurance cover one can purchase. Some companies (12.5%) have set maximum limits of

kshs. 16 million as the maximum each person can assure for. If the client desires to insure for more than this he/she has to make a statement as to why he desires so much cover.

ii) Term assurance covers are based on the purpose of the cover and insurances to cover loans would depend on the amount of the loan. Sums assured for medical plans as well as personal accidents have issued limits which will dictate the amount to assure for.

4.2.5. The Adequacy of the Sums Assured Compared to Needs:

Table 11 shows, by proportion, the extent to which policyholders are covered in relation to their needs. This was done through a comparison of the sums they have insured for and the sums they ought to insure for using the income (Life value) approach. These two sets of data are shown in appendix 5.

Table 11: The extent to which policyholders are covered:

Extent of Cover(%)	Number of Policyholders	Proportion
100% and over	18	24%
90 - 99.9%	5	6.7%
80 - 89.9%	3	4.0%
70 - 79.9%	2	2.7%
60 - 69.9%	1	1.3%
50 - 59.9%	2	2.7%

41.4%



Extent of Cover (%)	Number of Policyholders	Proportion
40 - 49.9%	5	6.7%
30 - 39.9%	8	10.7%
20 - 29.9%	12	16.0%
10 - 19.9%	17	22.7%
0 - 9.9%	2	2.7%
Total	75	100%

58.8%

The table shows the proportion of policyholders in each category as regards extent of cover. The ones who are 100% and over covered (24%), by inspection of the data were mainly the singles who do not have many needs and obligations to relatives. Many respondents (22.7%) also fell in the class that was 10 - 19.9% covered. In summary 58.8% of the respondents had assured for less than 50% of their needs while 41.4% had insured for more than half (50%) of their needs.

In order to draw statistical inferences from these findings, raw data (appendix 6) was fed into the computer, and the means and variances of the variables were given as shown in the table below. These were used to test for the significance of the difference between the means of what people have assured for and what they ought to assure for if such assurance is to be adequate to cater for their needs.

Table 12: Means, Minimum and Maximum values and variances of the variables:

Variable Name	Means	Minimum Value	Maximum Value	Variance
Constant (1.000)	1.000	1.000	1.000	0.000
*Sum assured	85,267	20,000	510,000	9,590,000
*Sum of Needs	175,500	1,935	674,147	16,200,000
Income	6380.09	1000	16,800	10,300
Marital Status	0.55	0.00	1.00	0.25
Age	30.11	20.00	49.00	28.80
Sex	0.70	0.00	1.00	0.18

\* The test was carried on these two.

(i) Hypothesis:-

Ho:  $U_1 - U_2 = 0$  i.e. the two means are equal

Ha:  $U_1 - U_2 \neq 0$  i.e. the 2 means are not equal.

(ii) Test Statistic

$$z = \frac{(\bar{X}_1 - \bar{X}_2) - (U_1 - U_2)}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}}$$

Because the population is normally distributed (more than 30) and

population variances are known.

(iii) Significance level; Let  $\alpha = 0.05$

(iv) Statement of decision rule: reject  $H_0$ : if computed value of  $Z$  is greater than  $+ 1.96$  or less than  $(-1.96)$ .

(v) Calculation of  $Z$  value.

$$Z = \frac{(85267 - 175,500) - 0}{\sqrt{\frac{9590,000}{75} + \frac{16,200,000}{75}}}$$

$$Z = \frac{- 90,233}{\sqrt{343866.7}}$$

$$Z = \frac{- 90,233}{586.4}$$

$$Z = - 153.9$$

$$Z = - 154.$$

(vi) Statistical Decision

Since  $- 154$  is less than  $- 1.96$ ,  $H_0$  (null hypothesis) is rejected.

Conclusion:

On the basis of the sample data it is concluded that the two population means are significantly different. This shows that the amounts people have assured for, on the average are quite different from what they ought to assure for. A quick inspection of the means

shows that on the average people have only purchased about half the amount of cover they should have purchased.

4.2.5.1 Views as to the Cover

Table 13 ( a and b ) shows the views expressed by policyholders and insurance companies respectively as to the cover they have on their lives at the moment. The table indicates that 33.3% of the policyholders think that the amount of cover on their lives is very little or inadequate, 63.5% felt that they have just enough cover on their lives, while nobody (0%) thought that they had purchased too much cover. One of the respondents (1.33%) did not know whether the cover was too little, just enough or too much because he did not understand his life policy.

In comparison to insurance companies' opinions, this was not the case because 75% of them indicated that they felt that majority of their clients had inadequate cover on their lives, and 25% of the companies felt that their clients had purchased just enough cover while none felt that their clients had purchased too much cover. These results are in agreement with the findings made through the analysis of testing for significance of differences between what people have assured for and what they ought to have assured for.



Table 13 (a) Views as to cover by policyholders

Opinion	Number of Policyholders	Proportion
Very little (inadequate) cover	25	33.3%
Just enough cover	49	65.3%
Too much cover	0	0%
Do not understand the policy	1	1.33%
Total	75	100%

Table 13 (b) Companies Opinions as to the cover their clients have purchased

Opinion	Number of Companies	Proportion
Inadequate	6	75%
Just enough	2	25%
Too much	0	0%
Total	8	100%

The interviews with insurance company executives revealed that the inadequate cover purchased by most policyholders is due to inability to pay premiums. Were it not for limited income, most people ideally

need more than what they have purchased. Some executives also noted that people have purchased very little cover on their lives due to conservatism. They prefer present to future consumption hence prefer to spend money on tangible things now than invest it for future use.

In order to cross-check the above information on opinions as to cover, companies were asked to indicate whether or not they had cases where they would say that their clients had over-insured themselves. 25% of the respondents indicated that they had cases of over-insurance while 75% indicated that they had no such cases. These respondents (75%) said that since cover given depends on the income of the client, no question of over-insurance arises. It is also detected at the time of application, because if the cover is considered excessive, they try to find out why the person needs such cover. Companies also check the financial position of the proposer to ensure that he/she can afford such cover. This helps them detect whether or not the person is a potential moral hazard. Since there is no limit as to the insurable value of a person, it is very rare that cases of over-insurance ever arise and moreover, people are not even able to assure for their economic value to their dependents.

In the cases where companies felt that there were people who had over-insured themselves, this was in connection with term assurances where for example, a single person, with no dependents purchases so much cover to the extent of a few million shillings and yet he is the sole beneficiary. Such covers are granted if the client is able to pay the premiums for them. However, the executives indicated that although

such cases exist, they are very, very few due to limited income on the part of the insuring public.

This leads to the role that insurance companies and their agents play in assisting their clients match their needs to the sums they assure for. 66.7% of the policyholders indicated that the company or agent who sold them the policy played no role in assisting them match the sum assured to their needs, while 33.3% indicated that the company did play a role. This latter category reported that they were assisted in the following manner:-

- i) The agent presented various sums assureds (amounts) with the corresponding premiums required for each and helped in calculating the sum assured for the clients according to their incomes.
- ii) The agent urged the clients to recognize the importance of taking a large sum assured on their lives. This was regardless of whether they could afford it or not.
- iii) The agent programmed the clients' needs based on assets and liabilities and recommended cover.

According to the literature, the third item above is supposed to be the role that is played by insurance agents in assisting clients purchase adequate cover. Through an inspection of the amount of cover that clients who received such assistance have on their lives, they were found to be adequately covered.

Some executives indicated that they receive most of their clients

through agents, whom they train on how to sell policies, but in most cases, they really do not know whether or not the agents really assist clients to purchase cover according to their needs.

Despite the little assistance policyholders got from their insurers in connection to the amount of cover, and the findings that a majority were inadequately covered, 66.7% indicated that they were satisfied with their present insurance plan while 33% indicated that they were not satisfied.

4.2.6. VARIOUS TYPES OF RELATIONSHIPS

The raw data that was fed into the computer, when worked on brought out various types of relationships, and the print out was as shown below.

Table 14: Relationships Between Various Variables: Correlation Matrix:

Variable Name	Sum assured	Sum of Needs	Income	Marital Status	Age	Sex
Sum assured	1.000					
Sum of Needs	0.283	1.000				
Income	0.617	0.425	1.000			
Marital Status	-0.069	0.373	-0.056	1.000		
Age	-0.003	0.248	0.219	0.465	1.000	
Sex	0.005	0.135	0.043	0.053	0.070	1.000



4.2.6.1 Sum Assured and Sum of Needs:

There is a weak relationship between the needs of policyholders and the sums they have insured for as shown by the correlation coefficient of 28.3%. This confirms the findings in an earlier section where the means of the present sums assured and the sum of needs were found to be significantly different.

4.2.6.2. Sum Assured and Income:

There is a strong relationship between the two as shown by the correlation coefficient of 61.7%. This agrees with the responses given by policyholders and insurers. The higher the income, the higher the amount of insurance cover one is able to purchase and vice versa. This is in line with what is expected in insurance practice.

4.2.6.3. Sums Assured and Marital Status:

There is a very weak negative relationship (-6.9%) between these two variables, implying that the marital status of a person has got no bearing on the sum assured. The negative sign means that those who are married tend to assure for smaller sums than those who are not married. This is contrary to what is expected.

4.2.6.4. Sum Assured and Age:

There is no relationship between sum assured and sex as shown by the correlation coefficient of 0.5%. The sex of an individual has got no influence on the amount he/she assures for. The relationship may have

been significant if there would have been an equal number of women and men included in the sample. The number of women (25.3% of the respondents) was not large enough to give a significant result.

#### 4.3 CONCLUSION:

The foregoing findings have brought into light a number of issues about life assurance adequacy, among policyholders and also insurers' views. In some specific areas, these findings tie in with the literature available in this particular area. In other areas however, interesting deviations from the literature were brought into light. These findings are discussed in the next chapter.

#### The Needs of Insurers

The findings showed that all insureds have their basic needs as food, shelter, clothing, personal and family health, education and house operation expenses. This is to be expected because these are their basic needs that need to be met by the insured. Other needs included expenses for medical care, which are met by their own savings and other young dependents to pay for, hospital and other bills to pay back, contributions to charity and insurance, and other expenses and the large sum of money for relatives.

A big proportion of the respondents also indicated that they

CHAPTER 5

5.

CONCLUSION

This final chapter summarizes and discusses the findings in relation to the major questions raised in the objectives of the study. Highlighted also are the limitations of the study and suggestions for further research.

5.1 SUMMARY, DISCUSSION AND IMPLICATIONS

Four major questions were raised in the problem that was investigated in this study. The questions sought to identify what the needs of insureds are, what sums they assure for, what factors influence these sums, what the adequacy of these sums is in relation to the needs, and what type of relationship exists between the sum assured and other variables, namely age, sex, needs, income, and marital status.

5.1.1. The Needs of Insureds:

The findings showed that all insureds have their basic needs as food, shelter, clothing, personal and miscellaneous expenses and house operation expenses. This is to be expected because these are basic human needs that have to be met for survival. Other needs included expenses for school fees, mainly by those who have children and other young dependents to care for, mortgage and other loans to pay back, contributions to charity and harambee, car operation expenses and bus fare as well as caring for relatives.

A big proportion of the respondents (57.7%) indicated that they

take care of their relatives. This is unlike in the west, where a family consists of parents and children. In Kenya the extended family system still exists whereby dependents include relatives such as brothers, sisters and cousins. The implication here therefore is that the breadwinner, when purchasing life cover should consider all those relatives that are dependent on him/her and who would lose in the event of his/her death.

The mortgage loans expenses may be on the increase as a result of an increase in the demand, and also desire, by people to have their own houses due to increases in rents; hence people have taken advantage of the mortgage or home purchase facilities available.

The type of policy a person purchases may have a bearing on the type (s) of need(s) that are to be catered for. The endowment type of policy was found to be the most popular policy among assureds because of its benefits. The endowment assurance contract serves as an effective way of accumulating a specific sum of money over a period of time. It serves as a systematic semi-compulsory savings method as well as a hedge against the savings period being cut short by death.

Endowment policies can therefore be applied to any need for funds, for example, funds for education, debt redemption, retirement, and other purposes such as grants to a hospital or financing a long-awaited trip abroad. All these needs were indicated by insureds to be among their other needs, hence the popularity of the endowment assurance since it can be used to meet them.



Term assurances and whole life policies were not considered popular because benefits seem so remote. These findings tally with the literature on the Kenyan experience. However, it is recommended that Kenyans should venture into buying other policies which are cheaper and provide a great deal of death protection. Since endowment provide the smallest amount of protection for each shilling of premium paid, they should not be used where there is a great need for protection. Insurers should also try to promote combinations or unusual arrangements of the basic policies to fit the special needs of the insuring public, such as family policies. It is probable that such policies are not known by the insuring public and aggressive marketing and education on the usefulness of each policy would create awareness and interest. This will ensure that people venture into purchasing policies other than endowments.

5.1.2. The Sums Assured For by Policyholders:

Findings revealed that a majority of the policyholders (90.7%) had assured themselves for amounts of less than Kshs 150,000, and 40% of these had assured themselves for less than Kshs. 50,000. Very few respondents (9.3%) had assured themselves for more than Kshs. 150,000. The lowest sum assured was Kshs. 20,000 while the highest was Kshs. 510,000. Discussions with insurance executives revealed that the figures of Kshs. 20,000 and 100,000 were popular because they just seem attractive and convenient to purchase. This implies that the insuring public actually purchases life assurance arbitrarily without first considering their needs. This would be attributed to conservatism on their part,

Prefering present to future consumption and the feeling that purchasing larger amounts would be a waste of money.

Perhaps if insurers would encourage the purchase of life cover based on an analysis of needs of their clients, this picture would change.

5.1.3. Factors Influencing Sums Assured:

The respondents, both policyholders and insurers gave two major factors as the determinants of the sum assured. These were income or ability to pay premiums and needs. Ability to pay premiums was given by a majority of of the respondents. Other factors such as influence by friends or agents were of minor importance.

Besides these, statistical analysis through the use of multiple regression revealed that income and age had significant influences on the sum assured. These findings tally with literature in this area. The higher an individual's income, the greater the amount of insurance he can afford. Age is also considered in premium determination hence has a bearing on the size of policy that can be afforded. Another possible explanation for its significance in influencing the sum assured is that it is related to other factors such as marital status and needs that have to be met daily. It is probable that the older one is, the higher the chances that he would be married and the more the needs that he would have to meet. The implication here is that disposable income for insurance would be less hence the amount of life assurance that can be purchased would be low. This then goes back to the question of income.

Needs of policyholders were not found to be a significant factor in influencing the sum assured. This could be explained by the fact that people really do not assure for amounts which are based (or are a reflection) of their needs. They however should not be blamed for this because they are limited by their incomes. Other variables such as marital status, and sex were found to be insignificant in determining the sum assured.

Other statistical tests carried out established the validity of these findings. It was found that the means of sums assured for people aged 28 years and below and those aged over 28 years were significantly different. Most of the older people had assured for very small sums (with only a few assuring for large amounts) compared to the younger ones. This reinforced the contention that age is a determinant of sum assured.

The regression equation  $Y = 20X_2 - 1460X_4$ , Y being the sum assured, depending on  $X_2$  (income) and  $X_4$  (age) when tested for significance was proved to adequately represent the relationship between the three variables. The fact that there was no constant in this equation implies that there is no fixed minimum amount of insurance that one is supposed to purchase before the other factors (income and age) are considered. The high F-ratio means that a significant proportion ( $\approx 66\%$ ) of the variation in sum assured was explained by the regression of sum assured on age and income.

Partial regressions for income and age when tested were found to be linearly related to sum assured.

Ideally, there should be a multi-dimensional consideration of all factors, and a decision as to the amount to assure for made in the light of these factors. However, this approach may be limited by such constraints as limited income coupled with demands of everyday life. This leaves very little money to be used for insurance, despite the fact that an analysis of future needs to be met dictates that a larger sum assured be purchased.

5.1.4. The Adequacy of the Cover in Relation to Needs:

Findings showed that 24% of the respondents have assured for 100% and more of their needs while 76% have assured for less than 100% of their needs. It was also found that the mean of the present sums assured of policyholders was significantly different from the mean of the sums they ought to have assured for. A quick inspection of the means showed that the latter (175,500) was about twice the former (85,267). This implied that generally, people are under-insured in the area of life assurance.

These findings also imply that people buy life assurance arbitrarily and not necessarily based on an analysis of their needs or on the economic value to their dependents.

The fact that people have mostly purchased endowment assurances could contribute to this under-insurance. Due to its heavy saving element, the premiums are larger than those for any other comparable life assurance plan, hence inability to buy more cover. This could be



especially true for younger people with fewer responsibilities. When responsibility increases later in life they find that they are not able to purchase additional protection since their limited funds are already committed to high premium endowments. Endowment policies therefore should not be recommended to cover needs which are permanent or could run beyond the term of the endowment.

5.1.4. Views Concerning the Cover:

Most policyholders (63.5%) were of the view that the cover on their lives was just enough while 33.3% felt it was inadequate. On the other hand most insurance companies (75%) were of the view that most of their clients were inadequately covered, with 25% of them being of the opinion that they were covered adequately. No case of over-insurance surfaced.

Inadequate cover was due to limited income. Were it not for limited income, most people would purchase more cover than they presently have. In this respect the insuring public would therefore not be blamed for purchasing inadequate cover, because even if their needs dictate larger sums assured to be purchased, they would not afford it as they have to cater for daily needs with their present income.

On the other hand, insurance companies may be the ones that may not be using the scientific methods (needs and income approaches in evaluating adequacy. They mainly get their clients through agents, who due to their desire to earn a target commission may not do a simple

needs-income analysis in order to recommend suitable cover. This ends up in purchase of arbitrary amounts of cover by the public and in most cases, the cover is inadequate. The extent of coverage could actually improve if insurance companies played an active role in assisting clients purchase cover using the scientific approaches that are generally accepted.

The agent can best serve the interests of his clients by having a clear understanding of his client's present and probable future needs and components of any special policies that are available, so that he may recommend an insurance programme that is most likely to prove satisfactory over the years. Companies should therefore train their agents to have these qualities and ensure that they have clients' interests at heart. The agents need to be motivated to do this. Paying them a fixed salary and in addition give them commission according to their performance would help.

Companies also indicated that they provide for the changing needs and incomes of their clients by availing to them options of increasing or decreasing their cover as the situation demands. This tallies with literature. The typical breadwinner has insurance needs which change over time and policies designed to anticipate changes in needs and ability to pay or provide options which can be exercised by the insured from time to time to reflect his changing situation should be emphasized on.

5.2.5. The Relationships Between Various Variables:

Five variables had been expected to have an influence on the sum assured. Income was found to have a strong relationship (61.7%) with sum assured. The relationship of needs to sum assured was weak (28.3%). This could be explained by the fact that people do not purchase cover according to their needs, and implies that life assurance is purchased arbitrarily regardless of the magnitude of needs that would have to be met after the policyholder dies.

The negative signs in the variables age(-0.003) and marital status (-0.069) implied that those who are older and those who are married tend to assure for less than those who are younger and those not married respectively. These findings were contrary to what is expected. Sex was found to have no relationship with sum assured.

The possible explanation for this is that those who are older are probably the ones who are married and hence have more obligations and current demands to meet, than the younger and single people. This leaves very little money to be used for insurance purposes.

It is therefore recommended that insurers carry out a campaign to encourage people to purchase life assurance when they are younger and unmarried, that is, at a time when they do not have many obligations and demands. They could increase it with time according to prevailing needs. It is also true that premiums charged for older people are higher than for the younger for the same cover. These premiums are probably too high since these people have to use their funds to meet the

many daily needs of their families. This implies that they can only buy very little life cover.

It would be very commendable if insurance companies found a way of reducing these premiums. The best way probably would be to encourage people to purchase life policies when they are younger so that they are charged a level premium throughout the currency of the policy, than buying insurance later in life when it is so expensive.

## 5.2. LIMITATIONS

The findings and conclusions of this study are subject to several limitations:

The study was severely constrained by lack of research studies and current literature on the Kenyan situation. It would have helped if something similar was available, especially in Africa. Virtually, all literature available had either an Indian, American or British setting.

The 40% response rate was a little bit on the lower side. This may have been due to refusal to cooperate and laxity in mailing back the questionnaires. The questions asked were of personal nature hence the reluctance to complete them. Time was another limitation which contributed to the low response rate. If for instance the research period was four months instead of three weeks the response rate would have been better. There are very many people with life policies in Kenya and a larger response rate is called for to make conclusive generalizations hence the findings and conclusions made here should therefore be taken as tentative.

The sampling method used also had limitations in that it was not likely to include all life policyholders in Kenya. Since the study



was conducted in Nairobi, it was unlikely that all categories of policyholders, for example those who reside in the countryside would come for service over the survey period. An ideal method of sampling would have been to get a list of all life policyholders in Kenya and use a probability sampling method to pick them. It was not possible to get such a list hence the method used was the most feasible one. This therefore makes generalizations from this study somewhat constrained.

Finally, the study was also constrained by limitations inherent in the method that was used to get the insurable<sup>0</sup> value, that is the income approach. The approach used present income rather than a projected average because it was difficult to estimate an individual's average annual change in income.

The use of present income may therefore have understated the life value of the individuals. The method relied on a static analysis and determined the amount<sup>of</sup> insurance at a specific point in time (the present). The results may be different if the same study is carried out in future. The interest rate of 11% that was used may also change in future hence these results should be viewed as tentative.

Despite these limitations, the study throws considerable light on the situation in Kenya as concerns the adequacy of life assurance cover at present.

### 5.3. SUGGESTIONS FOR FURTHER RESEARCH:

The following are possible areas for future research.

1. Due to time and resource constraints, it was not possible to

Survey a larger number of policyholders. It is therefore suggested that future research be directed towards surveying a bigger sample, using other sampling procedures to cover a wider range of policyholders. The insurable value should be determined using the needs approach to see if the findings tally.

2. This study could not exhaustively explore the role played by insurers in assisting clients plan for their life assurance and reasons why people have inadequate cover on their lives. Each of these areas could be a topic of future research.
3. This study revealed that most people have purchased endowment policies while the literature showed that there are many other combinations of the three basic types of policies. Research should be carried out to see whether Kenyan Companies offer these combinations, whether the insuring public is aware of them and what the companies are doing to promote them.
4. This research study also revealed that the generally accepted scientific approaches used in determining the amount of life cover to purchase are not used in Kenya. Future research could uncover reasons for this and also try to find out whether it is practicable to use these methods in Kenya.

APPENDIX 1A

COVERING LETTER TO RESPONDENTS

Dear Policyholder,

We appreciate the fact that you have purchased a life policy with us. That shows that you appreciate the social and economic importance of life assurance. Presently, we are conducting a survey to try and find out whether what we are offering our clients in terms of life assurance actually covers the needs and obligations that have to be met in case of any misfortune. The findings of this survey will greatly help us in improving our service to you and in developing better programmes to serve our clients.

It is with this objective that this attached questionnaire calls for your assistance in providing the necessary information. Please complete the questionnaire here, or if you are not able, take it with you and we shall greatly appreciate if you mail it back to the life manager as soon as possible using the self-addressed, stamped return envelope provided. Your name need not appear anywhere in the answers you provide. You are also assured that whatever information you provide will be treated in the strictest confidence.

Thank you for your cooperation.

Sincerely,

Life Manager.

...../93.

APPENDIX IB

QUESTIONNAIRE

Please fill in the place provided by placing a tick (✓) where applicable and please answer the questions as truthfully as possible.

1. What type of life policy do you have? \_\_\_\_\_  
Is it a participating (with profits) policy? ( )  
or a non participating (without profits) policy? ( )

Could you please indicate the amount of the sum assured kshs. \_\_\_\_\_

2. Does your spouse (where applicable) have some insurance on his/her life?  
No ( )  
Yes ( ) Kindly indicate the amount Kshs \_\_\_\_\_  
and the type of policy \_\_\_\_\_

3. Apart from the life policy that you have purchased, which other sources among the following would provide a guaranteed income to you or your dependents incase of premature death or any form of disability? Kindly indicate an approximate amount they would provide in total.

- a) Personal savings: amount: ksh \_\_\_\_\_
- b) Social Security: amount: ksh \_\_\_\_\_
- c) Pension: amount: ksh \_\_\_\_\_
- d) Group Life Insurance: amount: ksh \_\_\_\_\_
- e) Rental Income (per month) amount: ksh \_\_\_\_\_
- f) Farming: (income per month) amount: ksh \_\_\_\_\_
- g) Others (please specify): \_\_\_\_\_

4. Could you please indicate an approximate amount of money that you spend on each of the following items per month.

- a) Shelter kshs \_\_\_\_\_



- b) Food ksh \_\_\_\_\_
- c) Clothing (per year) kshs. \_\_\_\_\_
- d) Personal and miscellaneous ksh. \_\_\_\_\_
- e) School fees (where applicable). Please indicate an average amount for one child per year kshs \_\_\_\_\_
- f) House operations (heat, gas, water etc) kshs. \_\_\_\_\_
- g) Others (please specify) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Could you please indicate the amount of income that you spend each month on:

- a) yourself kshs. \_\_\_\_\_
- b) Your dependents (children and/or others) kshs. \_\_\_\_\_

6. Do you have a mortgage loan or any other loan which you are presently paying back?

No ( )

Yes ( ) Is it insured No ( )  
yes ( )

Please indicate its original amount ksh. \_\_\_\_\_  
and its unpaid balance ksh. \_\_\_\_\_

7. Please indicate any other needs, obligations or expenses that you generally have to meet in your daily life. Also indicate the amount of money that goes to such expenses (per month or per year) against each item you list \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. Could you please give the number of persons who are dependent on you? \_\_\_\_\_

11. Children: Number \_\_\_\_\_  
 Their ages: \_\_\_\_\_  
 Others: Number \_\_\_\_\_  
 Their ages \_\_\_\_\_  
 \_\_\_\_\_

9. When you bought your policy, what did you intend it for?  
 Put a tick where applicable.

- a) To use it for some form of investment later in life ( )
- b) To benefit my family (dependents) ( )
- c) To pay back a loan I had taken incase I did not live to finish paying it ( )
- d) Others (please specify) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

10. How did you arrive at the amount to be insured for (the sum assured). Tick where applicable.

- a) I considered the needs that have to be met incase I died prematurely or became disabled ( )
- b) I considered my ability to pay premiums that were required in relation to my income ( )
- c) I just picked on a figure that seemed reasonable ( )
- d) I was influenced by my friends who had purchased similar cover ( )
- e) I did not consider anything in particular ( )
- f) The agent who sold me the policy convinced me that the cover was reasonable ( )
- g) Others (please specify) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

11. Did the insurance company or agent who sold you the policy play any role in assisting you match the sum assured to your needs?

Yes ( )

No ( )

Please comment briefly on the role \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. In your opinion do you think you have purchased

a) Too much cover ( )

b) Just enough cover ( )

c) Very little (inadequate) cover ( )

d) Others (specify) \_\_\_\_\_  
\_\_\_\_\_

In relation to your needs?

13. Are you satisfied with the present plan?

Yes ( )

No ( )

14. Kindly indicate your

Sex: Male ( ) Female: ( )

Marital status Married ( ) Single ( )

Others (specify) \_\_\_\_\_

15. Under which of the following categories does your net monthly income fall? (You can give the exact figure if you do not mind)

- a) kshs. 1000 and Below ( <sup>0</sup> )
- b) kshs. 1001 - 2,000 ( )
- c) kshs 2001 - 3,000 ( )
- d) kshs 3,001 - 4,000 ( )
- e) kshs 4,001 - 5,000 ( )
- f) kshs 5,001 - 6,000 ( )
- g) kshs 6,001 - 7,000 ( )
- h) kshs 7,001 - 8,000 ( )
- i) over shs. 8,000 ( )

16. Please indicate your age: \_\_\_\_\_ years.

Thank you very much for your cooperation  
in completing this questionnaire.



APPENDIX 2A

NOTE TO RESPONDENTS

Dear Respondent,

I am an MBA Second Year student at the Faculty of Commerce, University of Nairobi. I am conducting a survey to investigate into the adequacy of life assurance purchased by individuals in relation to their needs. This is in partial fulfilment for the degree of Masters of Business and Administration.

For this purpose, I would like to get your views as to the factors you consider in determining the sum for which an individual will assure for, and hence I would very much appreciate if you would kindly assist me in filling the attached questionnaire.

Your company's name need not appear anywhere in the answers you provide unless you so wish. You are also assured that the information you will provide will be treated in the strictest confidence.

The completed questionnaire shall be picked from your office by me before \_\_\_\_\_ April, 1987.

Thank you for your cooperation.

Yours sincerely,

*Caren Angima*

Caren Angima.

.... /99

APPENDIX 2B

QUESTIONNAIRE

Please answer the following questions by placing a tick (✓) in the spaces provided and/or giving details as may be required.

1. What type of life assurance policies does your company deal in? Please list them. \_\_\_\_\_

Which type of these policies is the most popular in terms of the number of people who buy it? \_\_\_\_\_

Could you please give reasons for its popularity. \_\_\_\_\_

2. When a client comes to you to purchase individual life assurance (such as endowment, whole life or term policy) how do you determine the sum for which he is to be assured for? Please tick the relevant ones only.

- a) ( ) The amount is based on a certain multiple of their annual income.
- ( ) The amount is based on an analysis of their needs.
- ( ) The sum assured will depend on whether they can afford the premiums for the amount of insurance cover desired.
- ( ) The client assures for whatever he desires. The company does not have any limiting factors as to the sum.
- ( ) Others (Please specify) \_\_\_\_\_

Please give any other details as to determination of the sum one is to assure for related to any of the answers you have given above.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. From your own experience, do you have cases where you would say clients have over-insured themselves?

( ) Yes

( ) No

if no such cases exist how to you ensure that one does not over-insure himself and hence check the moral hazard? \_\_\_\_\_

---

---

---

4. In your opinion would you say that generally your clients have purchased

( ) Too much cover

( ) Just enough cover

( ) Inadequate cover

( ) others (please specify) \_\_\_\_\_

in relation to their needs.

5. Do you have any provisions for taking into account the changing needs of your clients so that the insurance they have on their lives is adequate enough to cater for the changing needs?

No ( )

Yes ( ) comment briefly \_\_\_\_\_

---

---

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---

Thank you very much for your assistance in filling this questionnaire.

APPENDIX 3

INSURANCE COMPANIES WRITING LIFE ASSURANCE IN KENYA AS  
AT JANUARY 1 1987

1. American Life Insurance Company (K) Limited (ALICO)\*
2. Apollo Insurance Company.\*
3. Blue Sheild Insurance Company Limited.\*
4. British American Insurance Company Limited (BRITAK)\*
5. Cannon Assurance (K) Limited
6. Cooperative Insurance Services Limited.
7. Crusader Insurance Company Limited.
8. Insurance Company of East Africa (ICEA)\*
9. Jubilee Insurance Company Limited.\*
10. Kepindia Assurance Company Limited.\*
11. Kenya National Assurance Company Limited.\*
12. Kenya Reinsurance Corporation (Kenya Re)
13. Panafrica Insurance Company Limited.\*
14. Pioneer General Assurance Society Limited.
15. Trident Insurance Company Limited.\*

Source: Kenya Reinsurance Corporation.

\* These are the companies that were included in the sample.



APPENDIX 4A

PROCEDURE USED TO ARRIVE AT INSURABLE<sup>D</sup> VALUE USING

THE INCOME APPROACH:

Monthly income of respondent:

	Salary	xx	
	Rental Income	xx	
	Income from farming	xx	
	other incomes	xx	xx
	Less: Personal Expenditures		xx
	Income spent on dependents (per month)		xx (a)
	Total annual income ( a x 12)		xx
	Multiply by annuity factor		xx
	discounted value		xx
	Less: other sources of guaranteed income		
	personal savings	xx	
	pension	xx	
	social security	xx	
	Group life Insurance	xx	
	other sources	xx	xx
	Insurable value		xx
	add. Loan (if uninsured)		xx
	Total insurable value		xx

\* The present sum assured was compared to this insurable value to get the extent to which a respondent was covered.

APPENDIX 4 B

PRESENT VALUE OF AN ANNUITY OF SHS 1 PER PERIOD FOR N PERIODS AT 11% COMPOUND INTEREST

(N = 40)

<u>PERIOD</u>	<u>PVIFA</u>	<u>PERIOD</u>	<u>PVIFA</u>
1	0.9009	21	8.0751
2	1.7125	22	8.1757
3	2.4437	23	8.2664
4	3.1024	24	8.3481
5	3.6959	25	8.4217
6	4.2305	26	8.4881
7	4.7122	27	8.5478
8	5.1461	28	8.6016
9	5.5370	29	8.6501
10	5.8892	30	8.6938
11	6.2065	31	8.7331
12	6.4924	32	8.7686
13	6.7499	33	8.8005
14	6.9819	34	8.8293
15	7.1909	35	8.8552
16	7.3792	36	8.8786
17	7.5488	37	8.8996
18	7.7016	38	8.9186
19	7.8393	39	8.9357
20	7.9633	40	8.9510

Source:

Tables for the analysis of capital expenditures by Jerome Brackern and Charles Christenson. Harvard Business School, 1961

APPENDIX 5

DATA SHOWING SUMS ASSURED, SUMS THAT OUGHT TO BE ASSURED FOR AND EXTENT OF COVER:

INDIVIDUAL	PRESENT SUM ASSURED (SHS)	SUM OUGHT TO BE INSURED FOR (INCOME APPROACH) (SHS)	EXTENT OF COVER (%)
1	50,000	241,440	20.7
2	150,000	158,140	95.0
3	70,000	435,000	16.09
4	400,000	343,380	116.5
5	200,000	674,147	29.6
6	100,000	354,154	28.2
7	100,000	70,380	142.0
8	100,000	81,703	122.4
9	100,000	205.150	48.7
10	100,000	270,450	37.0
11	100,000	81.500	122.7
12	100,000	101.591	98.4
13	100,000	510,355	19.6
14	100,000	221,800	45.0
15	20,000	134,033	15.0
16	20,000	292.850	7.0
17	30,000	51,900	57.8
18	40,000	1,935	2067.0
19	30,000	195,180	15.4
20	40,000	47,444	84.3
21	20,000	73,200	27.3
22	40,000	44,270	90.4
23	240,000	93,732	156.0
24	100,000	339,435	29.4

25	100,000	245,400	40.8
26	80,000	94,275	84.9
27	100,000	104,235	96.0
28	100,000	281,230	35.5
29	50,000	222,120	22.5
30	100,000	298,700	33.5
31	50,000	178,715	28.0
32	100,000	138,650	72.2
33	500,000	358,025	139.6
34	50,000	34,120	146.5
35	400,000	176,970	226.0
36	40,000	300,885	13.3
37	100,000	342,190	29.2
38	20,000	134,855	14.8
39	30,000	29,290	102.4
40	20,000	130,112	15.4
41	30,000	253,880	11.8
42	20,000	133,493	15.0
43	40,000	248,868	16.0
44	70,000	47,160	148.4
45	20,000	110,515	18.0
46	20,000	187,260	10.7
47	50,000	163,570	30.6
48	100,000	74,250	134.7
49	20,000	20,300	98.5
50	20,000	200,322	10.0
51	20,000	166,527	12.0
52	100,000	138,875	72.0
53	100,000	207,430	48.2
54	50,000	161,082	31.0
55	20,000	52,163	38.3
56	50,000	155,795	32.0
57	40,000	410,900	9.7
58	40,000	19,890	201.1
59	50,000	233,730	21.4



	ACT 2011			
60		30,000	113,563	26.4.
61	DATA ON VA	30,000	161,880	18.5
62	INDIVIDUAL DEPENDENT	50,000	11,610	430.5
63	VARIABLE SUR	40,000	8,476	471.9
64	ASSURED	30,000	157,880	19.0
65		50,000	324,;30	15.4
66	150,000	100,000	183,395	54.4
67	150,000	100,000	22,376	446.9
68	70,000	20,000	92,340	21.7
69	400,000	510,000	167,853	303.8
70	200,000	65,000	181,400	35.8
71	100,000	100,000	335,000	29.8
72	100,000	30,000	14,440	207.7
73	100,000	100,000	149,285	67.0
74	100,000	40,000	81,720	49.0
75	100,000	50,000	61,460	81.4

## APPENDIX 6

## DATA ON VARIABLES THAT WERE INPUT INTO THE COMPUTER

INDIVIDUAL	DEPENDENT VARIABLE: SUM ASSURED	SUM OF NEEDS: X.1	INCOME: X.2	MARITAL STATUS: X.3	AGE: X.4	SEX: X.5
1	150,000	241,440	10,800	0	27	1
2	150,000	158,140	10,800	0	27	1
3	70,000	435,000	6,500	1	35	1
4	400,000	343,380	10,800	0	33	1
5	200,000	674,147	12,000	1	43	1
6	100,000	70,380	5,500	0	25	1
7	100,000	354,154	5,000	1	30	1
8	100,000	81,703	6,330	0	28	1
9	1000,000	205,150	4,980	1	28	1
10	100,000	270,450	14,000	0	23	1
11	100,000	81,500	4,500	0	20	1
12	100,000	101,591	3,500	1	30	1
13	100,000	510,355	10,560	1	35	1
14	100,000	221,580	4,500	1	37	1
*15	20,000	134,033	2,600	1	28	1
16	20,000	292,850	3,175	1	28	1
17	30,000	51,900	4,612	0	26	0
18	40,000	1,935	3,820	1	27	0
19	30,000	195,180	4,500	1	31	0
20	40,000	47,444	3,500	0	25	1
21	20,000	73,200	4,500	1	26	0
22	40,000	44,270	5,000	0	29	1
23	240,000	93,732	7,500	0	27	1
24	100,000	339,435	6,500	0	28	1
25	100,000	245,400	3,500	1	28	1
26	80,000	94,275	7,500	0	25	1
27	100,000	104,325	6,500	0	25	0
28	100,000	281,830	7,500	1	28	1

29	50,000	222,120	7,500	1	30	0
30	100,000	298,700	5,500	1	26	1
31	50,000	178,715	8,000	0	29	1
32	100,000	138,650	6,500	0	25	1
33	500,000	358,025	16,800	1	30	0
34	50,000	34,120	7,500	0	27	1
35	400,000	176,970	7,650	0	28	0
36	40,000	300,855	14,150	1	30	0
37	100,000	342,190	6,500	1	26	1
38	20,000	134,855	3,500	1	30	1
39	30,000	29,290	3,900	0	34	1
40	20,000	130,112	3,500	1	34	0
41	30,000	253,880	5,250	1	28	1
42	20,000	133,493	3,500	1	34	1
43	40,000	248,868	4,400	1	32	1
44	70,000	47,160	4,500	0	24	1
45	20,000	110,515	4,500	0	29	0
46	20,000	187,260	4,500	1	37	1
47	50,000	163,570	5,900	0	27	1
48	100,000	74,250	5,900	0	27	0
49	20,000	20,300	10,500	1	49	1
50	20,000	200,322	7,500	1	48	1
51	20,000	166,527	7,500	0	40	0
52	100,000	138,875	10,400	0	32	1
53	100,000	207,430	7,600	1	29	1
54	50,000	161,082	7,500	0	26	1
55	20,000	52,163	2,500	0	25	0
56	50,000	155,795	4,550	0	27	1
57	40,000	410,900	6,500	1	35	1
58	40,000	19,890	1,000	1	35	1
59	50,000	233,730	8,000	1	36	1
60	30,000	113,563	2,000	1	27	1

61	30,000	161,880	3,530	1	33	1
62	50,000	11,610	2,500	0	27	1
63	40,000	8,476	6,000	1	39	1
64	30,000	157,880	3,000	0	29	0
65	50,000	324,130	4,500	1	28	0
66	100,000	183,395	6,500	0	24	1
67	100,000	22,376	8,500	0	27	1
68	20,000	92,340	5,500	1	38	0
69	510,000	167,853	16,200	1	36	1
70	65,000	181,400	3,500	1	27	1
71	100,000	335,000	10,800	1	38	1
72	30,000	14,440	4,500	0	27	0
73	100,000	149,285	8,000	0	29	1
74	40,000	81,720	5,500	1	31	1
75	50,000	61,460	5,500	1	27	1

KEY: Marital Status: Male = 1  
 Female = 0  
 Sex : Male = 1  
 Female = 0



APPENDIX 7

PART A

RAW DATA ON SUM ASSURED IF RESPONDENTS  
AGED 28 YEARS AND BELOW, AND ABOVE 28 YEARS

<u>28 and below</u>			<u>above 28 years</u>		
<u>AGE</u>	<u>SUM ASSURED</u>		<u>AGE</u>	<u>SUM ASSURED</u>	
1	27	50,000	1	35	70,000
2	27	150,000	2	33	400,000
3	25	100,000	3	43	200,000
4	28	100,000	4	30	100,000
5	28	100,000	5	30	100,000
6	23	100,000	6	35	100,000
7	20	100,000	7	37	100,000
8	28	20,000	8	31	30,000
9	28	20,000	9	29	40,000
10	26	30,000	10	30	50,000
11	27	40,000	11	29	50,000
12	25	40,000	12	30	500,000
13	26	20,000	13	30	40,000
14	27	240,000	14	30	20,000
15	28	100,000	15	34	30,000
16	28	100,000	16	34	20,000
17	25	80,000	17	34	20,000
18	25	100,000	18	32	40,000
19	28	100,000	19	29	20,000
20	26	100,000	20	37	20,000
21	25	100,000	21	49	20,000
22	27	50,000	22	48	20,000
23	28	400,000	23	40	20,000
24	26	100,000	24	32	100,000
25	28	30,000	25	29	100,000

26	24	70,000	26	35	40,000
27	27	50,000	27	35	40,000
28	27	100,000	28	36	50,000
29	26	50,000	29	33	30,000
30	25	20,000	30	39	40,000
31	27	50,000	31	29	30,000
32	27	30,000	32	30	20,000
33	27	50,000	33	36	510,000
34	28	50,000	34	38	100,000
35	24	100,000	35	29	100,000
36	27	100,000	36	31	40,000
37	27	65,000			
38	27	30,000			
39	27	50,000			
Total		3,185,000	Total		3,210,000

Mean = 81'666.66

Mean = 89'166.66

APPENDIX 7PART BCalculations: Respondents aged 28 years and below

D

Sum Assured (Thousands)	Class Mark	U-Scale $U_1$	Frequency $f_1$	$U_1 f_1$	$U_1^2 f_1$
0-49	24.5	-5	10	-50	250
50-99	74.5	-4	11	-44	176
100-149	124.5	-3	15	-45	135
150-199	174.5	-2	1	-2	4
200-249	224.5	-1	1	-1	1
*250-299	274.5	0	0	0	0
300-349	324.5	1	0	0	0
350-399	374.5	2	0	0	0
400-449	424.5	3	1	3	9

450-499	474.5	4	0	0	0
500-549	524.5	5	0	0	0
Total			39	-139	575

Note:

The X values in the original scale were transferred to their corresponding values in the U-scale by the formula

$$U_1 = \frac{X_i - X_u}{W}$$

Where  $X_i$  = The value of X for which a u value is desired

$X_u$  = The class mark selected to be zero in U-scale

$W$  = The class interval width (which is 50).

The mean in units of U-scale is

$$\bar{U} = \frac{\sum U_1 f_1}{n}$$

$$\bar{U} = \frac{-139}{39} = -3.564$$

The mean expressed in original units is obtained by the following equation

$$\bar{X} = \bar{U}W + X_o$$

$$\bar{X} = -3.564 (50) + 274.5$$

$$\bar{X} = -178.2 + 274.5$$

$$\bar{X} = 96.3$$

Expressed in thousands, the mean of the sums assured for people aged 28 years and below is  $(96.3 \times 1000) = 96,300$ .

The true mean, calculated by adding all the sums and dividing by the number of respondents is

$$\frac{3185,000}{39}$$

$$X = 81,667$$

The variance:

$$S_u^2 = \frac{n \sum u^2 f_1 - ( \sum u f_1 )^2}{n(n-1)}$$

$$S_u^2 = \frac{39 (575) - (-139)^2}{39(38)}$$

$$S_u^2 = \frac{22425 - 1521}{1482}$$

$$S_u^2 = \frac{20904}{1482}$$

$$S_u^2 = 14.105$$

The variance in terms of the original scale is

$$S^2 = S_u^2 \cdot W^2$$

$$S^2 = 14.105 (50)^2$$

$$S^2 = 35,263.157$$

and in thousands

$$S^2 = 35,263,157$$



The calculations for those aged above 28 years.

Sum Assured ( '000)	Class Mark	U-scale $U_1$	Frequency $F_1$	$U_1 f_1$	$U_1^2 f_1$
0-49	24.5	-5	20	-100	500
50-99	74.5	-4	4	-16	64
100-149	124.5	-3	8	-24	72
150-199	174.5	-2	1	-2	4
200-249	224.5	-1	0	0	0
*250-299	274.5	0	0	0	0
300-349	324.5	1	0	0	0
350-399	374.5	2	0	0	0
400-449	424.5	3	1	3	9
450-499	474.5	4	0	0	0
500-549	524.5	5	2	10	50
Total			36	-129	699

Mean

$$\bar{U} = -\frac{129}{36} = -3.583$$

$$\bar{X} = -3.583 (50) + 274.5$$

$$\bar{X} = 95.3334$$

in thousands

$$\bar{X} = 95.334$$

The true mean is

$$3210,00 \div 36$$

$$X_2 = 89,167$$

The variance

$$S_u^2 = \frac{36(699) - (-129)^2}{36(35)}$$

$$S_u^2 = \frac{25164 - 16,641}{1260}$$

$$S_u^2 = \frac{8523}{1260}$$

$$S_u^2 = 6.764$$

The variance in terms of the original scale

$$S^2 = S_u^2 \cdot W^2$$

$$S^2 = 6.764 (50)^2$$

$$S^2 = 16,910.714$$

and in thousands

$$S^2 = 16,910.714.$$

APPENDIX 7

PART C

The test involving the difference between the two population means.

	28 years and below	above 28 years
Mean	81,667	89,167
Variance	35,263,157	16,910,714

The appropriate test statistic is Z - test because the populations are normally distributed and the population variances are known.

$$(i) \quad Z = \frac{(X_1 - X_2) - (U_1 - U_2)}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}}$$

(ii) Statement of hypothesis

$$H_0: U_1 - U_2 = 0$$

$$H_a: U_1 - U_2 \neq 0$$

(iii) Significance level: Let  $\alpha = 0.05$

(iv) Statement of decision rule: Reject  $H_0$ : if computed value of the test statistic is greater than + 1.96 or elss than - 1.96.

(v) Calculations

$$Z = \frac{81,667 - 89,167}{\sqrt{\frac{35,263,157}{39} + \frac{16,910,714}{36}}}$$

$$Z = \frac{-7.500}{\sqrt{904183.5 + 469,742.05}} \cdot 0$$

$$z = - \frac{7500}{1172.15}$$

$$z = - 6.398$$

(vi) Statistical decision

Since - 6.398 is less than - 1.96,  $H_0$  is rejected.

### Conclusion

On the basis of the sample data, it is concluded that the two population means are different. This therefore reinforces the contention that age has a significant influence on the sum assured.



APPENDIX 8

CALCULATIONS TO TEST FOR SIGNIFICANCE OF  
THE MULTIPLE REGRESSION EQUATION:

(F - TEST )

$$F = \left( \frac{R^2}{1 - R^2} \right) \cdot \left( \frac{n - K - 1}{K} \right)^D$$

Where

F = Calculated value of F (that is, the variance ratio )

$R^2$  = Coefficient of multiple determination.

n = Sample Size.

K = Number of independent variables.

The multiple correlation coefficient (R) as given in the computer printout was 0.811.

(i) 
$$F = \left( \frac{R^2}{1 - R^2} \right) \cdot \left( \frac{n - k - 1}{K} \right)$$

(ii) Statement of hypothesis

H<sub>0</sub>: There is no linear relationship between sum assured and the two variables (income and age).

H<sub>a</sub>: There is a linear relationship between the sum assured and the two variables.

(iii) Level of significance: Let  $\alpha = 0.05$ .

(iv) Decision rule: reject H<sub>0</sub>. if computed value of F is greater than the critical value of F.

(v) Calculation

$$F = \frac{(0.811)^2}{1 - (0.811)^2} \cdot \left( \frac{75 - 2 - 1}{2} \right)$$

$$F = \frac{0.657721}{0.342279} \cdot \frac{72}{2}$$

$$F = 69.177$$

### Conclusion

Since the computed value of F (69.177) is greater than the critical value of F ( $\approx 3.10$ ) (at 0.05 level of significance, with 2 and 72 degrees of freedom) the null hypothesis of no regression is rejected.

The data at hand provides evidence to support the contention that there is a linear regression between sum assured and the two independent variables (income and age).

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