

***ADMINISTRATIVE TOOLS FOR  
RATIONALISING POLICY-MAKING***

*by*

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# **ADMINISTRATIVE TOOLS FOR RATIONALISING POLICY-MAKING**

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## **1. INTRODUCTION**

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*Utilising administrative tools is one of the many ways that the public manager can ensure that the process of administration becomes efficient and effective. These tools will be applied in rationalising one of the generic processes, namely, policy-making. The impact of using these tools will be explored by the meaning of administrative tools for policy-making.*

*Today the public service manager has responsibility of translating the policy of the government-of-the-day into reality. Therefore, there is a greater need for rationalisation of policy-making. Public managers need to equip themselves with skills, knowledge and expertise to meet the demands placed upon them, that is, the delivery of goods and service in an equitable manner to all the citizens.*

*Policy-making plays a major role in the public sector. Policies are designed to achieve specified goals in order to produce definite results. Types of policies, steps in policy-making and the role-players in policy-making will be discussed to highlight their impact in policy-making.*

*Planning, programming and decision-making are part and parcel of policy-making. Planning is of utmost importance to determine how societal needs and problems should be solved. The ways and means of accomplishing these needs and*

*solving particular problems are programmed. To facilitate decision-making and problem-solving, public officials make use of administrative tools to ensure a rational and systematic approach to problem-solving and decision-making. Decisions based on quantitative tools are likely to be superior to decisions based on judgement. There are two types of decisions in the public sector, namely, political and administrative decisions. Administrative tools can be used effectively to ease the exercising of a choice in decision-making.*

*Information is highly essential to develop an information system for policy-making. The creation and operation of an information system in the public sector requires the collection, processing and storing of information, which is communicated to political office-bearers for decision-making. Today the role of public managers requires of them to be highly qualified and particularly well schooled in the art of public decision-making. Different types of information systems, steps in the development of an information system together with the requirements for effective information will also be discussed.*

*Effective management is maintained by computerisation of information for easy access and retrieval in decision-making. Political office-bearers as well as public officials need information on a continuous basis because they are accountable to the public on every decision they make. Computerised information systems have been developed to handle large information from files and records in the institutions. Different types of computer-based information systems are used today to provide information to managers at all levels. The nature of public information should be such that it leads to careful planning, designing, implementation and*



*control of information systems to ensure safety of information and to maintain its value.*

*Public managers need to be trained in the use of various administrative tools, which can be utilised in every facet of their policy or programme management role. Various quantitative and qualitative administrative tools will be discussed which can be utilised in the formulation, adoption, implementation and evaluation of a policy.*

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## **2. MEANING OF ADMINISTRATIVE TOOLS FOR POLICY-MAKING**

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*The administrative tools as aids to the management in policy-making, can have impact towards improving services rendered to the community. A few aspects will be discussed briefly to highlight the influence of tools in policy-making.*

### **2.1 Identification of needs through scientific preparation**

*Identification of community needs and developing a range of ways by which these needs will be met is embarked upon through a process similar to system analysis. Thinking about ways in which the needs will be met is deciding on a plan of action to be implemented (Human 1997:10). To understand the underlying problems within a system, the system needs to be subdivided into subsystems and to study and investigate the components*

*individually (Ströh 1995:28). According to Stoner (1982:169) a problem is "(a) situation that prevents the organisation from achieving one or more of its objectives." It should be attempted as far as possible to program every stage in order to make rational decision-making possible.*

*High demands are made for sophisticated delivery of goods and services in the public sector (Ströh 1992:311). "System analysis is the multi-disciplinary problem-solving activity that has evolved to deal with the complex problems that arise in public and private enterprises and organisations" (Miser & Quade 1985:15).*

## **2.2 Collection of information from participants in policy-making**

*Information is collected from official and unofficial participants in policy-making. This implies planning and deciding with the people rather than for the people. In this process it is important to identify the clients who have the need and thus will benefit from the envisaged service. Actors are all the people who will be involved in initiating and executing the service. This helps the manager to identify the value system, which can impact positively and negatively on the planned service (Human 1997:23).*

## **2.3 Utilisation of advanced information systems for policy-making**

*The accelerating complexities of modern institutions demand new dimensions in modern management and especially in policy-making. The most profound and promising of these dimensions are the utilisation of more*

*advanced information systems. Policy-making depends greatly on access to computer-based information system as decision-making is becoming more structured and relies more and more on the flow of information. Public institutions are changing to accommodate information technology. Information systems therefore enable quick access to relevant information for effective decision-making (Murdick & Ross 1975:3-4).*

#### **2.4 Optimum quality and quantity information for policy-making**

*Information systems provide each manager at each level with the optimum quality and quantity information for his or her style of managing. They provide information to the manager when it is most timely and in a form he can understand and apply easily. Managers are enabled to make routine decisions based upon policies (Murdick & Ross 1975:5).*

*With the advent of computer-based information, policy-makers can quickly access relevant information for policy-making at the press of a button. Computers can store almost infinite amount of information because of their memory banks and feasible interrelations (Dimock & Dimock 1969:573). The availability of computers have caused a number of decisions, which were formerly judgmental in nature, to be programmed for computers and made routinely (Ross 1976:69).*

## 2.5 *Adopting a scientific approach in preparation of information*

*Adopting a scientific approach entails using a well-established pattern consisting of the following steps:*

- *Observation of the situation*
- *Identification of the problem*
- *Formulation of hypothesis*
- *Verification of conclusions*

*Using supportive techniques as in queuing and simulation can be useful in that:*

- *large numbers of choice and possibilities can be reviewed;*
- *variables which are unknown may be discovered; and*
- *relating known variable to each other in a meaningful way may be facilitated.*

*Its merits are that:*

- *it substitutes logic for more 'hit or miss' methods; and*
- *it is deliberate and more likely to fit the requirements of situation*  
*(MacRae & Page 1967:49).*

## 2.6 *Programming information in policy-making*

*Programing is a process of informing and instructing a computer. The computer has a large range of applications as in its ability to:*

- *carry out repetitive tasks as in stores control and pay roll; and*
- *store and handle information for a large client data base.*

*This helps in saving costs on personnel (MacRae & Page 1967:21).*

*With relevant information easily accessible in a computer, policy-makers can identify possible objectives to meet the identified needs. Such objectives can be quantified to make costing possible. The expected costs are then compared to expected results and the most effective alternative is chosen. The programme is implemented, monitored and evaluated at all the phases (Van Straaten 1984:16).*

## **2.7 Policy-making for creation of job opportunities**

*The introduction of computers for example has created job opportunities. This state of affairs is related to the Reconstruction and Development Programme by the African National Congress to generate programmes for job creation. The responsiveness of government information systems has improved and the public sector can therefore provide a more efficient service to the public (Fox et al. 1991:259).*

## **2.8 Performing complicated calculations for policy-making**

*The ability of the computer to perform complicated calculations very rapidly offers public institutions the benefit of identifying problems before they reach serious proportions. Early identification of such problems by the use*

*of a computer makes it possible for policy-makers to make decisions on these issues in good time (Brandy 1971:299).*

## **2.9 Optimum use of human and material resources in implementation of a policy**

*Work study assists management to obtain the optimum use of the human and material resources available to an organisation for the accomplishment of the work upon which it is engaged. Fundamentally, this objective has three aspects, that is, the most effective use of plant and equipment, the most effective use of human effort and finally the evaluation of human work. Its ultimate objective is to enable management to create a prescribed output with a reducing input of the three real resources, namely, manpower, materials and capital (Currie 1978:47).*

*International Labour Office (1979:30) summarises the influence of work study as follows:*

- it assists in defining duties and in establishing fair work loads for workers and thus assist co-ordination by establishing a sound organisation structure so that every function is properly manned and in balance with the other;*
- by using its graphical methods of recording information, it becomes easier to question the necessity, sequence, combination and simplification of each item in an operation according to its class;*

- *it enables the management to plan, co-ordinate work and establish safe working practice by providing management with factual data such as time standards and method specification; and*
- *it enables management to take remedial action by exploring what actually takes place in an institution and comparing this information against standards expressing what should have happened.*

### **2.10 Rationalising decision-making in policy-making**

*Cost benefit analysis is for example a rational decision-making tool. It assists in decision-making by bringing a more rational approach to resource allocation based on consideration of all relevant costs and benefits. Cost benefit analysis determines the projected costs and benefits of different alternatives to the achievement of an objective or sub-objective (Golembiewski & Rabin 1975:440).*

### **2.11 Contribution to developing alternatives in policy implementation**

*Cost benefit analysis allows public managers to compare the various decision alternatives on the basis of the cost/benefit ratio that is assessed in monetary value. The lowest ratio alternative should be recommended as the most optimal economic solution. Cost benefit analysis measures both costs and benefits in a common monetary value (Fox et al. 1991:288).*

*Van Straaten (1984:158) mentions the following reasons amongst others that have impact on policy-making:*

- decision-makers have a broad choice to decide on the best solution to achieve a particular objective;*
- short, medium and long term costs and benefits are reflected during analysis thus enabling decision-makers to view the project entirely and to justify their decision;*
- in terms of tangible costs and benefits the decisions are more facilitated;*
- weighing of costs incurred against benefits of the projects can be determined;*
- objectivity is maintained as choices are done;*
- relevant data collection is facilitated for the attainment of set objectives;*
- it can be used as a control measure because steps to avoid mistakes are followed; and*
- the needs of the people are optimally met and the greatest number of needs and population are catered for.*



*According to Anderson & Settle (1977:10-11) cost benefit analysis enables decision-makers for example to distinguish between those activities, programs or projects that would make society better off and those that would make it worse off. Any cost benefit analysis of a government program figures out if the benefits of a program outweigh its costs (Gramlich 1981:4). Cost benefit analysis is about choice, or to be more correct, economic choice. For example, as individuals, we are all faced every day with situations that force us to select one course of action rather than another. It secures 'value for money' in economic life and this is achieved by simply adding up costs and benefits of alternative economic choices and selecting the alternative which offers the largest net benefit, that is, the highest margin of benefit over cost (Newton 1972:15-16).*

## **2.12 Integration of needs and achievement of goals in policy-making**

*Management by objectives (MBO) is a dynamic system which seeks to integrate the organisation's need to clarify and achieve its goals. MBO maximises the long-term return on resources which it employs (Humble 1970:3). It provides for the maintenance and orderly growth of the organisation by means of statements of what is expected from everyone involved and measurement of what is actually achieved. Within an organisational structure, more vitality and personal involvement is brought about. It enhances the possibility of obtaining co-ordinated effort and teamwork without eliminating personal risk taking. Its processes are geared to achieving the results desired (Odiorne 1965:54-55). MBO strengthens the*

*superior-subordinate relationship. It assists the organisation to achieve its image of potential (Reddin 1971:195).*

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### **3. NEED FOR RATIONALISATION OF POLICY- MAKING**

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*As a concept, rationality has something to do with thinking, reason and reasoning processes. An action seems rational if it is agreeable to reason, intelligent, sensible, self-conscious, deliberate and calculated (Marini 1972:287). Miewald (1978:6) describes rationality as the key to all human action, inside or outside the organisation.*

*Rationalisation is a process or act of organising the most favourable form of rendering service that gives maximum benefits and uses the minimum effort, time and money. It involves:*

- *the creation of the most efficient working arrangements;*
- *the classification of functions within the government institutions;*
- *internal organisation of government department; and*
- *the elimination of overlapping between the activities of government institutions (Botes et al. 1992:413).*

*From the above, it is evident that the need for rationalisation of policy-making, aims at improving the efficiency and effectiveness of the public service in rendering goods and services for the welfare of the community.*

*According to Hood (1983:134-135) a rational choice entails:*

- (a) specifying the goal(s) to be reached;*
- (b) identifying all the possible ways or means by which the goal might be reached;*
- (c) ascertaining the likely consequences of each alternative; and*
- (d) choosing the alternative that is likely to reach the goal(s) with the greatest certainty, to the greatest extent, or with the minimum of effort.*

*Total rationality requires total information. Knowledge required to make a totally rational decision can fill all the world's libraries and overwhelm all the world's computers. It involves total analysis of every other possible course of action, time of action, manner of action and place of action (Lorch 1978:275).*

*In public policy-making, rationality requires making hard choices among alternatives to achieve predetermined goals. This is not easily achieved and requires at least a clear identification of goals, alternatives, costs and benefits (Hanekom 1987:15).*

*Governmental activities should always be purposeful. For the realisation of specific goal(s) an action program should be constructed. A policy should be formulated, legitimated, made known, implemented and ultimately evaluated to determine its effectiveness as far as the achievement of its goals and cost effectiveness are concerned. Public office-bearers and appointed public officials should have clarity as to what, how, who, which, where and*

when aspects of governmental activities. In order to understand public policy and policy-making, cognisance of the following aspects should be taken: the composite parts of the field of public administration (administrative activities, functional activities and auxiliary activities), the role of public office-bearers and public officials, values and facts in policy-making and eventually the analysis of policies to determine their effectiveness and efficiency (Cloete & Hanekom 1985:92).

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## **4. POLICY-MAKING IN THE PUBLIC SECTOR**

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*Policy-making is vital in the public sector to enable effective delivery of goods and services for the welfare of society. For better contextual understanding of policy-making, a variety of authors will explain its meaning.*

### **4.1 Explanation of policy-making**

*Starling (1979:4) defines policy as a kind of guide that delimits action. Kaplan & Lasswell (1970:71) describe policy as a projected program of goals, values and practices. According to Friedrich (1963:70), policy is a proposed course of action of a person, group or government within a given environment providing obstacles and opportunities which the policy was proposed to utilize and overcome. Dye (1987:3) explains policy as whatever governments choose to do or not to do. Easton (1953:129) regards policy as the authoritative allocation of values through the political process to*

*groups or individuals in society; and Anderson (1994:5) maintains that policy is a purposive course of action followed by an actor or set of actors in dealing with a problem or matter of concern.*

*The foregoing definitions link policy to a purposive or goal-oriented action rather than to random behaviour or chance occurrences. Public policies are designed to accomplish specified goals or to produce definite results, although these are not always achieved (Anderson 1994:6). Public policies are those developed by governmental bodies and officials to meet the needs of community.*

*Policies consist of courses or patterns of action taken over time by governmental officials rather than their separate discrete decisions. Not only the enactment of a law but the decisions relating to its implementation and enforcement and the feedback, form part of the policy (Fox et al. 1996:27).*

*Public policies are based upon demands made by large numbers of individuals experiencing a common problem or need that is beyond their ability to resolve. Such problems or needs may begin as a private problem or need experienced by a single individual or a few individuals, but when the problem or need confronts a large number of people, it becomes a public problem or need, particularly if the problem or need cannot be resolved by the group (Barton & Chappell 1985:60).*

*Some demands simply call for action and others specify the action desired. In response to policy demands, public officials make decisions after policy was approved by the legislative body that give content and direction to public policy (Anderson 1994:6-7).*

*Policy involves what governments actually do, not just what they intend to do or what they say they are going to do. For example, the policy of Reconstruction and Development (RDP) by the African National Congress is indicative of what government(s) should do to supply services in general (Fox et al. 1996:28).*

*Those who, like David Easton (1953:129) perceive public policy as "...the authoritative allocation of values for the whole society ..." emphasize the body of authoritative rules governing future decision-making. At least in its positive form, public policy is based on law and is authoritative. Members of a society usually accept as legitimate that governments can legally incarcerate people who disobey the laws of the country (Richardson & Baldwin 1976:121-122).*

*According to Hanekom (1987:8), public policy can also be related to the opinions of individuals or groups. Public policies can be government action that is good or bad, adequate or inadequate, effective or ineffective, responsive or unresponsive. Hence, public policies are also seen as being future-orientated, usually aimed at the promotion of the general welfare of the community.*

*Policy-making is essential to provide goods and services in order to make living together in closer settlements possible and to reconcile conflicting interests of individuals and groups. The above-mentioned state of affairs will create peace and prosperity and secure the well-being of communities (Cloete 1994:91).*

*Policy-making is part of administrative processes. "Public administration is not an end in itself, but is merely a tool of government and the servant of the community, as such it may be expected to grow and to change" (Caiden 1985:65). Policy-making "... is the activity preceding the publication of the goal ..." (Thornhill & Hanekom 1985:82). The result thereof is a policy that is made public.*

*Van der Merwe (1988:99), stressed that policy-making is the commencing and dominating administrative process in that firstly, the community is in a constant state of flux, therefore, policy should be adapted perennially to accommodate divergent conceptions of needs and values. Secondly, the resources will always be insufficient to satisfy all needs of the community. Thirdly, the community is a living entity which cannot be dealt with experimentally. Fourthly, the affairs of states are so interwoven that a government should always take into account international implications of its policy declarations.*

*From the foregoing it is apparent that no comprehensive definition of public policy exists. Hanekom (1987:7-8) states that public policy is a desired course of action and interaction which is to serve as a guideline in the*

*allocation of resources necessary to realise societal goals and objectives, decided upon and made publicly known by the legislators. However defined, public-policy involves a type of decision-making with more general and future-oriented issues.*

*According to Dimock et al. (1983:40) public policy is a decision made at any time or place what objectives and substantive measures should be chosen in order to deal with a particular problem, issue, or innovation. As such, public policy deals with objectives, decisions, and implementation in specific areas such as land, water, cities, economics, foreign affairs, defence, poverty, housing, transportation, education, and all the rest.*

*A state is created as a result of policy-making which culminates in a constitution for that state. The constitution is the first, and most important statement of the state. It declares the action to be taken by specified institutions and office-bearers who follow stated procedures and respect prescribed conduct guidelines and values for the creation of the state (Cloete 1994:91-92). Policy statement is the formal expression of public policy, which includes specific statutes, executive orders, regulations or decrees and court precedents as well as speeches and/or statements by public officials or political office-bearers indicating the intentions or decisions of government (Fox et al. 1991:30).*

*Four phases of policy-making can be identified, namely, the policy-making phase, approving phase, the execution phase and the evaluation phase. The four phases are interwoven such that a line of demarcation cannot be easily*



identified (Cloete 1984:72). The process of policy-making is extremely complex and disorderly with no apparent beginning or end, and traverses boundaries which are most uncertain (Lynn 1980:9). Policy-making is a changing and continuous process, and analysis can break into the process at any point for the purpose of investigating the particular activity or phase of the policy process (Fox *et al.* 1997:31).

## 4.2 Types of policies

Different types of policies can be identified. They are: political, governmental, departmental or institutional and administrative policy.

### 4.2.1 Political policy

Political policy is the policy of the ruling party/parties. It is a policy advocated by a particular political party regarding a specific issue. It is usually of general nature and is often idealistic. When a political party comes into power, its views and programme of action are implemented through new or perhaps amended legislation, as well as through the budget. The official policy of the country is like the Reconstruction and Development Policy of the ANC in South Africa which was started in 1994 (Hanekom 1987:10).

The initial declaration is known as party policy which is decided upon by examining community life and, on the basis of political party's findings. Together with political beliefs of party members a stand is maintained on

*various policy issues. If the party comes into power its leaders as ministers become heads of the various public institutions. These executive institutions assist in transforming party policy into government policy. Political policy has to be in order to give effect to the legislation and other relevant instructions embodying such policy. The policy should be based on facts and knowledge. Political office-bearers such as ministers and premiers of provinces should participate in the formulation of political policy which on approval will become government policy. Policy needs should be reviewed frequently to ensure that it keeps abreast with the changing circumstances. The budget plays a vital role at this stage regarding the programme of work to be done to implement the political policy (Cloete 1994:94-95).*

#### **4.2.2 Governmental policy**

*Governmental policy or national policy is the policy of the political party in power. It is a translation into practical objectives of the ideas or the party on how to govern the country and in which direction society is to be steered. Government policy is more specific than political party policy (Hanekom 1987:10).*

*According to Roux et al. (1997:145), government policy is the policy of the cabinet and the individual ministers regarding the functioning of the executive authority. It is the task of the executive civil servants to create practical policy programmes to carry out the approved policy of the government-of-the-day (or cabinet). The government specifies fixed policy principles, for example, regarding agriculture, health, urbanisation,*

*population growth and pollution. These policy programmes serve as policy frameworks for subordinate authorities.*

#### **4.2.3 Departmental or institutional policy**

*The head of department and his chief officials play a leading role in the determination of departmental policy. All the factors already mentioned must be taken into account when determining this policy. For example, the head of the Department of Agriculture would formulate an agricultural policy which is capable of execution both functionally and administratively, and embody this in the budget. The departmental policy should be a proper reflection of the aims of the department (Botes et al. 1992:311).*

#### **4.2.4 Administrative policy**

*A public institution which has prescribed meaningful government and departmental policies, should also plan a meaningful and logical administrative policy. For the efficient and effective execution of the policy of a department, it is essential to obtain rulings in the following areas:*

- + Personnel policy: Notwithstanding the clear policy directives from the Commission for Administration and explicit general staff policy in the **Public Service Act, 103/1994**, as well as the personnel regulations and codes, it is still necessary for every head of department to set up a staff policy, to satisfy the managerial independence granted to him.*

- + *Financial policy: It is necessary that departments adopt policy directions on action to be taken in terms of the Exchequer Act, 66/1975. The financial guide contains various treasury instructions and regulations according to which departmental policy should be formulated.*
  
- + *Organisational policy: The organisational structure of a public institution such as a government department is usually prescribed by the Public Service Commission, but the internal functioning must be investigated continuously and maintained by departmental organisation and work-study officials.*
  
- + *Procedural policy: All government institutions function according to specific procedures and methods.*
  
- + *Control policy: It is one of the main tasks of the head of department to be in constant control of the affairs of his department, it is important to formulate logical and meaningful control policies. The necessary steps must be taken to implement means of control such as auditing, supervision and reporting in order to manage control duties successfully (Roux et al. 1997:145).*

### 4.3 *Steps in policy-making*

*The steps taken in policy-making are the following: policy formulation, policy analysis, policy approval and policy/program evaluation.*

### 4.3.1 Policy formulation

*Policy formulation encompasses the creation, identification, or borrowing of proposed courses of actions, often called alternatives or options, for resolving or ameliorating public problems. It involves developing pertinent and acceptable proposed courses of action for dealing with public problems (Anderson 1994:37-38). The formulation of public policy involves establishing the objectives to be attained and at least sketchily outlining the general means to be used in seeking to achieve these (Rosenbloom & Goldman 1986:314).*

*In Charles Jones (1970:3) view, public policies proceed through a complex process that begins with perception and definition of a public problem requiring governmental action or response. Then follows the organization of individuals and groups who have interest in the policy being formulated. Formulation is essentially the preparation of a plan of action. After formulation, a policy proposal passes through legitimation which confers an official status on the policy as public policy, usually through legislative enactment (Richardson & Baldwin 1976:125).*

*Of major importance is gathering information which should be correct and sufficient for quantification and qualification of the particular public problem. The institutions, political office-bearers and officials who have to take policy decisions must be served by adequate information. Such information is derived from interaction between the population (public) and the institutions and functionaries (e.g. political executive office-bearer,*

*legislatures and officials) who have to perform policy-making functions (Cloete 1994:103).*

*Public policy decisions are usually to some extent based on values about which consensus can be reached. The process for rational policy-making is more or less based upon what is proper, necessary, or morally correct public policy (Cloete 1994:106).*

*According to Gilbert (1968:5) "... policy formulation helps public administrators better understand the nature, intention, and content of public policy, policy analysis and program evaluation help them manage public programs and project."*

#### **4.3.2 Policy analysis**

*Dye (1987:35) explains policy analysis as "... the description and explanation of the causes and consequences of government activity." Hanekom (1992:65) describes policy analysis as "... to produce and transform information relevant to particular policies into a form that could be used to resolve problems pertaining to those policies ... concerned with an explanation of the causes and consequences of why governments do what they do." Policy analysis can help by showing whether a program is having the intended impact with a favourable cost-benefit ratio. It can also be used to assess the process through which a policy is being implemented (Rosenbloom & Goldman 1986:320).*

*Policy analysis is prospective in terms of program action and it is used to aid managers plan and design programs or projects (Gilbert 1968:6). A central purpose of policy analysis is the assessment of policy outcomes and impacts, evaluation of successes and failures in coping with the problem toward which the policy is addressed, and the application of the findings to policy reform and improvement (Richardson & Baldwin 1976:128). It includes the examination and improvement of the policy-making process itself, as well as the evaluation of policy choices and outcomes (Nigro & Nigro 1984:18).*

*As the size and complexity of government and its problems grow, the tasks of policy analysis become more difficult. Policy analysis requires knowledge about the various analytical and administrative tools such as information systems, systems analysis and cost-benefit analysis, employed in efforts to solve public problems; the processes by which policy is made, administered and evaluated; optimizing strategies; and specialized knowledge of substantive policy areas, such as health and transportation (Richardson & Baldwin 1976:129). Policy analysis is defined to require knowledge of the following: "... (the) processes by which policy is formulated, implemented, and evaluated; (and) strategies for optimization and selection of alternatives" (Nigro & Nigro 1984:19).*

*Every policy will be found to have advantages and disadvantages. Therefore, every policy must remain subject to continual analysis and evaluation. A central purpose of policy analysis is the assessment of policy outcomes and impacts, evaluation of successes in coping with the problem*

*toward which the policy is addressed, and the application of the findings to policy reform and improvement (Richardson & Baldwin 1976:128).*

*Policy analysis is an essential part of policy-making. It can therefore make it possible for political institutions and office-bearers to show the population that some of their needs and expectations cannot be met because of inadequate resources or because there is no speedy solution for an intractable situation (Cloete 1994:109-110). Policy evaluation depends upon policy analysis.*

#### **4.3.3 Policy approval**

*Policy approval is done by the legislature to meet a specific need. After the formulation of a plan, a policy proposal is legitimised. This confers a policy as public policy (Anderson 1984:120-121).*

#### **4.3.4 Policy/program evaluation**

*Program evaluation is retrospective in terms of program action and is used to compare performance to standards and make realistic programmatic adjustments as well as identify intended and unintended results of policy efforts. Public administrators use program evaluation to manage public programs and projects (Gilbert 1968:5-6).*

*The most useful form of policy evaluation for policy makers and administrators is "... a systematic evaluation that tries to determine cause-*



*and-effect relationships and rigorously measure the results of policy” (Anderson 1994:244). Evaluation results are used to build a body of objective information that is essential to the effective operation of a formalized policy process. It can produce information and provide analytical perspective that are essential to breaking policy deadlocks, to the emergence of policy issues that have been long suppressed, and to a general opening-up of the policy process that broadens participation and facilitates debate concerning questions of value. Program evaluation can also be a means of advancing politics by illuminating what is, defining alternatives, and providing part of the framework for a greatly expanded discussion of policy choices (Polivka & Styker 1983:258-259).*

*Policy evaluation are efforts by the government to determine whether the policy was effective and why or why not did the policy work (Anderson 1994:37). Program evaluation puts emphasis on:*

- “1. ... taking policies as givens and discussing their effects;*
- 2. evaluating decisions after they are reached; and*
- 3. evaluating decisions as of a given place and time” (Inagel 1981:89).*

*Therefore, every policy must remain subject to continual evaluation. Two groups of policy-makers, namely, the official and the unofficial participants are involved in the process of public policy-making.*

#### **4.4 Role-players in public policy-making**

*Different role-players can be identified in public policy-making. They are: official and unofficial policy-makers.*

##### **4.4.1 Official policy-makers**

*Official policy-makers are those who have legal authority to engage in the formulation of public policy (Anderson 1994:54). Usually the formulation of policy decisions takes place where information is available on the matter concerned. Institutions which are involved in some way with the determination of a policy, or which deliberately gather information or act in an advisory way before policy decisions are made are the following, the legislative institutions, executive authority, and commissions and committees of inquiry (Botes et al. 1992:310).*

###### **(a) Legislative institutions**

*The legislators are highest policy-makers on each level of government. Members of the legislature have a duty to notify the legislatures about the dysfunctional situations identified by them in the government and administration of the country as well as in community life. They have the final say in the legislation and budgetary proposals submitted to them. The budgetary aspects are always significant because nothing can be done to implement a law if money is not provided (Cloete 1994:113-114).*

*On central level, policy-making is the task of Parliament, and on provincial level, the provincial legislature have the authority to determine policy. On municipal level the municipal council as the legal authority determine policy and enact legislation in accordance with the ordinances (Botes et al. 1992:310).*

*(b) Executive authority*

*The efficiency of the government is determined to a large extent by the efficiency of the executive authority in respect of formulation of policy and its execution. Even if the legislative authority may determine the best policy, it will have no effect if the executive authority does not execute it. Naturally, the opposite is also true (Roux et al. 1997:146).*

*(c) Commissions and committees of inquiry*

*These commissions are often used to obtain information on various matters, as well as to make assessments thereof. They are usually appointed by the head of state (president) on the advise of the cabinet and possibly ministers, or the premier of a province acting on the advice of the provincial executive council (Cloete 1994:119).*

*Political office-bearers sometimes appoint commissions and committees of inquiry to advise them on policy issues. Commissions of inquiry are sometimes also appointed to investigate a specific event in order to identify possible shortcomings in the policy structure, for example, the Harms Commission of Inquiry into police action. In most cases these commissions and committees of inquiry provide*

*significant contributions to the determination of government policy (Botes et al. 1992:310).*

#### **4.4.2 Unofficial participants**

*The unofficial participants are those who do not possess legal authority to make binding policy decisions such as individuals and interest/pressure groups (Anderson 1994:63). Individuals or groups can appeal to the public institutions, political office-bearers and officials after they have exhausted all other avenues to meet their needs and expectations. They are justified to act in this manner because the **Constitution of the Republic of South Africa, 108/1996**, provides for Fundamental Rights in Chapter 3 to be respected by all legislature and executive organs of state. Therefore, the population can approach the authorities to obtain action in policy-making (Cloete 1994:110).*

##### **(a) Individuals**

*The individual citizen can participate in the policy-making process. Although the individual probably has little say in respect of policy-making, he is nevertheless an important factor in the policy-making process. The interests of the legislators, interest groups or more prominent participants often take precedence to the interests of the individual citizen. This is unfortunate, as the individual often does seem to make a difference (Roux et al. 1997).*

(b) *Interest/pressure groups*

*Interest groups appear to play an important part in policy-making in practically all countries. Depending upon whether they are democratic or dictatorial, modern or developing, countries may differ in how groups are constituted and how legitimate they are. Groups express demands and present alternatives for policy action. They may also supply public officials with relevant information, often technical, about the nature and possible consequences of policy proposals. In doing so they contribute to the rationality of policy-making (Anderson 1994:64).*

*For the purposes of policy-making, the institution, political office-bearer or public official should seek co-operation with interest groups (Cloete 1994:112-113). Because several groups have conflicting desires on a policy issue, public officials confront the need to choose from among, or reconcile, conflicting demands. Groups which are well organized and active are likely to fare better than those whose potential membership is poorly organized and inarticulate. The influence of interest groups upon decisions depends on a number of factors, namely, the size of the membership, its monetary and other resources, its cohesiveness, the skill of its leadership, its social status, the presence or absence of competing organizations, the attitudes of public officials and the site of decision-making in the political system. A union with a large membership will have more influence than one with few members, for example, the Congress of South Africa Trade Unions (Cosatu) (Anderson 1994:64-66).*

#### 4.5 *Planning, programming and decision-making for policy-making*

*To achieve a particular goal, the starting point is planning followed by programming. Decision-making activates the process of policy-making. Further explanation of these concepts follows.*

##### 4.5.1 *Planning*

*A plan is a predetermined course of action and as such may deal with large-scale social policy, for example, the government-of-the-day may in response to housing need, embark on the task of slum clearance, which will manifestly be a policy decision from which certain administrative action will follow (MacRae & Page 1967:25).*

*According to Dror (1964:106) planning is "... the process of preparing a set of decisions for action in the future, directed at achieving goals by preferable means." Simon et al. (1954:423-424) define planning as "... that activity that concerns itself with proposals, and with methods by which these proposals may be achieved. Planning is rational, adaptive thought applied to the future and to matters over which the planners ... have some degree of control." McCamy (1960:85) describes planning as the systematic study of what social needs will have to be satisfied in the future, what arrangements can be made now to make the future easier to meet. In the most simple sense planning is "deciding in advance what to do, when to do it and who to do it. Planning bridges the gap from where we are to where we want to go" (Fox et al. 1991:47).*

*The foregoing definitions as well as others that define planning, have mostly in common the following:*

- “1. emphasis upon rationality in choice selection;*
- 2. attention to goals and objectives of society and/or organizations;*
- 3. focus upon deriving means for the attainment of these goals and objectives; and*
- 4. orientation toward the future” (Lee & Johnson 1975:150).*

*A plan should ideally be well devised and prepared with such foresight, that it covers all eventualities and, when executed produces exactly the results envisaged by the planners. The two essentials for planning are information and sound decisions based on this information. The more complete the information can be, the more likely it will be to succeed with the plan. Plans are blueprints for action. They are guides to the future which may be short-term or long-term. Even if public-policies are planned for either long-term or short-term periods, they have in common the achievement of clearly defined objectives (MacRae & Page 1967:25-27).*

*The main purposes of planning may be summarised as follows:*

- “(a) clarity of purpose;*
- (b) unity of purpose;*
- (c) achievement of purpose; and*
- (d) framework for day-to-day decision-making” (Smith 1994:2).*

*Planning also involves two stages, namely, an analytic or problem-solving stage and scheduling stage. The first, to solve the planning problem, requires two steps, namely:*

- "1. A specification of objectives of operations ...*
- 2. Finding satisfactory or acceptable programs for achieving these objectives or goals" (Quade 1976:48).*

*The second is to prepare a plan of operations. Three sorts of inquiry must be carried out during the analytic process. They involve (1) values and determination of goals and criteria, research and the identification of alternatives, and (3) evaluation and the comparison of alternatives (Quade 1976:48).*

*Planning is perpetual in every public organisation. It involves decisions about the future activities of an organization, group or individual who will carry out a project, when it will be done, and how it will be accomplished (Stillman 1980:344). Through planning programmes are developed to solve problems.*

#### **4.5.2 Programming**

*A programme comprises a number of complex steps for the achievement of an objective or aim. For example, institutions that deliver social service, devise programmes which deal with flooding and similar natural disasters. A programme must comprise all the activities needed for the realisation of*



*the objective and specify who must do what, when and by what means (Roux et al. 1997:125).*

*Van Straaten (1984:8) quotes Novick (1969:39) defining a program as "... the sum of the steps or interdependent activities which enter into the attainment of a specified objective." The program therefore, is the end objective and is developed or budgeted in terms of all the elements necessary to its execution.*

*All forms of planning are involved in program budgeting, but program planning is the predominant orientation. The purpose is to plan and budget in such a way that desired program consequences will be achieved (Van Straaten 1984:10). Programming is a tool for decision-making in policy-making.*

#### **4.5.3 Decision-making**

*Rabin et al. (1989:253) define decision as "... the existence of judgement in any particular situation." According to Hanekom & Thornhill (1983:58) a decision is "... nothing but a moment in a continuous process of evaluating alternative strategies related to a problem or goal, at which the decision-maker is impelled to make a deliberate choice, a choice in which factual and value propositions are inherent, and that is aimed at a desired state of affairs."*

*Therefore, the process for decision-making involves the choice of an alternative from among a series of competing alternatives. Theories of decision-making are concerned with how such choices are made. A policy is a purposive course of action followed by an actor or set of actors in dealing with a problem or a matter of concern. Policy-making typically involves a pattern of action, extending over time and involving many decisions, some routine and some not so routine. Rarely will a policy be synonymous with a single decision (Anderson 1994:8).*

*According to Cloete (1981:58-64) the most common factors which can influence policy decisions are technological development, population increase, international relations, natural disasters, public needs, policy trends and results of research and investigations. Other factors include aspects such as money already spent on a specific programme, making decisions on personal ideas rather than known facts.*

*Policy decisions depend on values, that is, political, religious, cultural, economic, historical or other values. The legislature who mostly comprise of professionals need to take cognisance of the factors influencing policy decisions to ensure rationality in policy-making. Policy decisions based on*

*qualitative facts or assumptions will result in good decision-making of policies (Hanekom et al. 1990:12).*

*With decision-making specific functions have to be performed before a decision can be taken, for example, to gather information and to tabulate that information. Such functions will help to arrive a rational decisions. At a given moment decision-making gives finality to the choice between alternative policy proposals. Choice involves numerous related tasks such as evaluating information and values objectively, relating values to factors and vice-versa (Cloete 1994:248-249).*

*Hanekom & Thornhill (1983:58) summarize the function of decision-making as to:*

- + Solve problems;*
- + simplify the achievement of goals;*
- + reach a desired future state of affairs;*
- + improve the welfare of a person or a community;*
- + improve efficiency;*
- + expedite work; and*
- + to consider the consequences of an activity before undertaking it.*

*The process of decision-making can be depicted by one of the well-known theory with the greatest followers, namely, the rational comprehensive theory. The following stages can generally be distinguished:*

- (a) *The decision-maker is confronted with a specific problem which is separately identified from other problems or can be meaningfully compared with them;*
- (b) *values, goals or objectives which serve as norms for the decision-taker are identified and arranged according to their importance;*
- (c) *the various alternative possibilities are investigated in order to solve the problems;*
- (d) *the consequences regarding the costs and benefits which may be derived from the choice of each and every possible alternative should be examined;*
- (e) *every possible alternative with its advantages and/or disadvantages can be compared with those of other possibilities; and*
- (f) *the decision-taker will choose that possibility holding the greatest advantage to achieve the goal with consideration of community values (Dror 1964:132).*

#### **4.5.3.1 *Types of decisions in the public sector***

*There are two broad types of decisions in the public sector, namely, political decisions and administrative decisions.*

##### **(a) *Political decisions***

*Political decisions are those decisions taken by political office-bearers and legislative bodies such as Parliament. The representatives in the legislative bodies are elected to office or appointed for political reasons. They have definite political*

*aims such as remaining in the favour of the electorate or appointing body. Where there is a democratic or competitive political system, these decision-makers may even have highly conflicting views on the mission, objectives and functioning of public organisations. To make a decision on political level, the legislative body needs information to formulate a policy or to approve a proposal. For this purpose the functionaries are responsible to collect the information at grass root level and to process it in a qualified manner, in order to help the politicians to make sound decisions. Political office-bearers will then consider the proposals made by functionaries, taking into account certain values that will influence their choice (Cloete 1994:101-104).*

**(b) *Administrative decisions***

*Career officials are subject to numerous legal and organisational constraints affecting their ability to make autonomous decisions. They are usually permitted to decide within the constraints of policy legal guidelines under the auspices of controlling authorities. Every individual within every institution regularly makes decisions. In this respect a simple definition of decision-making can be a choice from two or more alternatives (Robbins 1984:57). When an official is confronted with new or important decisions, he may be expected to reason it out attentively. Alternatives will have to be developed, and pros and cons weighed. To be able to do*

*this, they need relevant information. Officials must carry out approved programs, and in the execution of their work make decisions of how to execute these programs in the most effective and efficient way (Cloete 1994:101-104).*

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## **5. ADMINISTRATIVE TOOLS TO DEVELOP AN INFORMATION SYSTEM FOR POLICY-MAKING**

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*According to Fox & Meyer (1996:40), information refers to data which has been processed and presented in such a way as to be relevant in decision-making.*

*Fox et al. (1991:261) define an information system as "... a structured set of procedures for processing, storing and distributing information, designed in such a way as to best serve the goals of the organisation."*

*Bisschoff & Jansen (1995:127) describe an information system as a collection of hardware, software, people, procedures and data working together to provide the necessary information in an organisation.*

*MacRae & Page (1967:9) discuss three essential purposes in public administration to rationalise policy-making process as:*

- (a) *To collect information and store it so that it can be conveniently and easily retrieved when needed;*
- (b) *to sort, collate or classify collected information and to make its analysis possible; and*
- (c) *to facilitate the flow of communication in and out and within government institutions. Information systems vary according to their functions.*

## **5.1 Types of information systems**

*The types of information systems utilized are different in accordance to their structure and needs of an institution or organisation. The most common classification of information systems is with regard to personnel needs and are computer-based systems.*

### **5.1.1 Management Information Systems (MIS)**

*A Management Information System is an operational system performing a variety of functions to produce outputs which are useful to the operations personnel and management of an organisation (Davis 1974:189). It generates timely and accurate information for all levels of management. Its focus is on the information that the management needs to do the job. Information for management pertains to the duties of policy-making, planning, organising, controlling resources and personnel (Bayat & Meyer 1994:340-341).*

### **5.1.2 Decision Support System (DSS)**

*The Decision Support System is designed to help managers reach a decision by summarising or comparing data from either or both internal and external sources. Internal sources refer to data in the organisation's files. External sources refer to data such as population growth and interest rates. Decision Support Systems are designed to aid managers who must make decisions when only, some of the pertinent details of the situations are known, normally under structured or partially structured conditions. With this system, the end user creates a model of the factors affecting a decision and can ask what-if questions by changing one or more of the factors and seeing what the projected results would be (Shelly et al. 1995:10).*

### **5.1.3 Transaction Processing Systems**

*These are systems supporting the normal day-to-day activities of an organisation. They provide managers with a framework in which routine data processing operations are performed (Bayat & Meyer 1994:341).*

### **5.1.4 Expert Information Systems**

*An Expert Information System combines the knowledge on a given subject, of one or more human experts into a computerized system. This type of system is designed to simulate the human experts reasoning and decision-making process. Unfortunately this system cannot make decisions based on*



*common sense or on information outside their knowledge base (Shelly et al. 1995:10).*

### **5.1.5 Office Information Systems**

*Office Information Systems are automated systems aimed at making information for workers such as secretaries and clerical staff members more productive by changing the structure and the nature of information systems in their environment (Bayat & Meyer 1994:342).*

*These systems meet the need for integrated and efficient information exchange among all the employees in an organisation. The systems include amongst others, electronic mail, fax, video conferencing, word processing with spell check and grammar checking (Shelly et al. 1995:10).*

## **5.2 Steps in developing an information system for policy-making**

*Information requirements of an organisation constantly change as the organisation grows and reacts to internal and external forces. The information system development consists of the following steps in developing an information system for policy-making.*

### **5.2.1 Preliminary investigation**

*Systems investigation falls within the early stages of systems work and is part of what is commonly termed system life-cycle or systems development*

cycle. The end user or manager identifies the information system and the nature of work that must be done for the information system. Deficiencies are defined in the information system or the improvement desired to meet newly identified organisation requirements. The preliminary investigation is generally undertaken to get some idea of whether it would be worthwhile investing additional resources in more detailed studies or not. The objective of this phase is to report to management specifying the identified problems within the system and what further action is recommended by the end-user. It is vitally important that this work is thoroughly done to the satisfaction of management and the end-user (Daniel & Yeates 1982:11-12).

### **5.2.2 System analysis**

The purpose of system analysis is to learn exactly what takes place in the current system, to determine and fully document in detail what should take place and to recommend to management on the alternative solutions and their costs. After all the facts have been obtained, they are then analysed and systematically evaluated to develop alternative plans to solve the problems found in the current information system (Shelly et al. 1995:15).

### **5.2.3 Systems design**

Systems design is a formal procedure for combining human resources, equipment, techniques, information, data and work procedures into an integrated construct or network in order to facilitate organization performance (Samuelson et al. 1997:3).

#### **5.2.4 System development**

*The information system is actually constructed, application programs are written, tested and documented, operational documentation and procedures are completed and end-user and management review and approval is obtained (Shelly et al. 1995:16).*

#### **5.2.5 Systems implementation and evaluation**

*The last step is to convert data to the new system's files, final training of the end-users and the transition from the old system to the new system takes place. As part of a complete system development, provision is made to allow for post-implementation system evaluation at regular intervals. The purpose is to determine whether the information system operates as proposed to supply information for policy-making, and whether the costs and benefits are as anticipated (Shelly et al. 1995:16).*

### **5.3 Requirements for effective information**

*It is necessary that effective information must meet the following requirements:*

#### **5.3.1 Accuracy**

*Accuracy refers to the extent to which information for policy-making is exact or approximate. The degree of accuracy should be matched to the specific*

*need. (Fox et al. 1991:261). Decision-making is always influenced by the type of information at hand for rational policy-making, for example, if the information is inaccurate, the decision taken will also be inaccurate and therefore resulting into a wrong policy. Oxenfeldt (1979:7) confirms that "... the information relevant to a decision should describe the existing situation accurately so that the executive at least knows what problem he is trying to solve."*

### **5.3.2 Timeousness**

*To make a quick and accurate decision the information needed for policy-making should be on time so that the information can be carefully analysed by the designer of an information system for short, medium and long-term planning. According to Van Straaten (1984:48) the processing of information must be timeous and reliable for policy-making, but attention should simultaneously be given to methods for the most effective and inexpensive manner of information storage such that information can easily be retrieved. Taggart (1980:51-53) describes timeousness as to what extent information which is generated reaches its destination on time, or the time lapse between transformation and transmission. Information should not always be transmitted if no needs exists.*

### **5.3.3 Completeness**

*For information to be of value and effective for policy-making, it should be complete. In the process of decision-making, managers are faced with the*

*information that is accurate, timely but unfortunately incomplete which situation causes frustration. Complete information can, however, often be provided through the design of systems that do a better job of integrating and consolidating available facts (Van Straaten 1984:48).*

#### **5.3.4 Conciseness**

*Information made available to decision makers on which decisions are eventually based upon for policy-making, must be concise. Frequently, decision makers are provided with large amounts of information, which on account of the quantity thereof cannot be utilised effectively. It is necessary therefore, that information for policy-making should be a summary, the heart of the matter and it should be presented in a proper way. If necessary an explicatory memorandum may be made available, with the task to make the more difficult parts of policy-making more interpretable. Concise information that summarizes the relevant data perhaps through the use of tables and charts and that points out areas of exception to normal or planned activities is what is often needed for managers (Sanders 1972:17).*

#### **5.3.5 Confidentiality**

*Confidentiality should also be built in the information system if necessary for policy-making. It is essential that adequate precautions are taken to ensure that unauthorized people do not gain access to particular information. The information system should be designed such that specific*

*information is strictly accessible to authorised people who would need that information for important confidential decisions (Van Straaten 1984:49).*

### **5.3.6 Relevancy**

*Relevant information is information that leads to action. Information is relevant and is worth producing for policy-making only if it will identify and support the necessary action by responsible individuals within the organisation (Sanders 1972:18).*

### **5.3.7 Multifaceted**

*To ensure that decision-makers make rational decisions for policy-making with the help of complete, timeous, relevant and accurate information, the information system should be so designed that the information which is received, processed, and retrieved is from different aspects and that it is distinctly identifiable. Multifaceted information is essential to enable decision-makers to use approaches from different view points before they make final decisions on the basis of timeous and multifaceted information (Van Straaten 1984:49).*

## **5.4 Computerising information for effective management**

*Information flow, in any public institution (and private institution) is the most important cornerstone that facilitates either an effective and efficient or ineffective or inefficient decision-making process for policy-making*

*depending on the accuracy of information gathered and processed. One of the major revolutions or waves of change the world has experienced, is transformation from industrialisation to informatisation made possible by the technological revolution of electronic data processing/computerising. Use of computers has increasingly become a management tool, in particular, they have improved the quality, effectiveness and efficiency of management activities (Bayat & Meyer 1994:328).*

*More efficient information transmission can now be achieved with this unified data system than with multiple unrelated systems. The purpose of unified information is to decrease errors and reduce costs. Computers can be used effectively to make information needed available. Many managers have realised that information is a resource just like people, money and equipment for manufacturing goods. As this information has to be timely, the computer is the most appropriate tool to use. There is improved efficiency, time spent on specific tasks can be measured and improvements in the way people conduct their various jobs can be done. Computerised information can be shared with other functions in an organisation and the value of information increases once its shared and disseminated (Capron 1990:496).*

*The computer is one of the most important technological tools available to leading officials for processing, storing and retrieving information for policy-making. Computers allow information to flow more efficiently through the organisation. The processing of data is faster and require fewer people to manage or to complete the process. The computer and its*

*contributions to public service management cannot be underestimated. The introduction of specific computer programmes (software) in government has brought about significant changes in the productivity of certain functions. For instance word processing, spread sheets and graphic design software have enabled typists and public officials to produce reports of a high quality and to edit or reproduce these reports at the press of a button. Computers help to improve the effectiveness of managers because of easy access to information needed for better planning, consultation and personal attention. Government officials who perform planning in the execution of an approved policy can simulate tasks and schedules to provide information on the status of a project or programme at any particular stage of its development (Schwella et al. 1991:259-260).*

*According to Danziger (1977:29) the computer contributes to the information system by providing data for policy-making that is stored more efficiently and economically; more accurate; more comprehensive; more easily retrieved and transferred. Moreover the computer facilitates manipulation and analysis of data for policy-making at a level of sophistication, speed and magnitude that was not possible prior to electronic data processing (EDP).*

*Sanders (1972:19-20) points out that a computer may be utilised effectively in processing data when the following characteristics are present:*

- large quantities of data to be processed;*
- a fair amount of repetition of data;*
- rapid processing is required;*



- *complicated tasks which require electronic tools; and*
- *accurate processing is required.*

*In view of the foregoing, it can be concluded that computer is an information storage and retrieval system. A computer is not a decision-making instrument for policy-making, because it is not capable of independent thought or taking value judgements into account when making decisions (Dimock & Dimock 1969:571). In order to process data into information and make information available to managers for policy-making, the necessary instructions and data must be entered into the computer. It is then up to managers to apply value judgements to such information in order to arrive at rational decision-making. It can therefore be said that the computer "... only provides an intermediate level of making a choice among alternative courses of action" (Brynard 1986:196).*

*Computer-based information systems are playing a vital role in most types of organisations. The philosophy that information is one of the most important resources determining the survival of many organisations has been widely adopted. This attitude has become important not only for the private sector, which is forced to adopt this philosophy to survive (Bayat 1994:327). Computers have become a potent force in the work force. Every public administrator must therefore acquire a significant level of understanding of its use in the administrative activities such as policy-making, planning, decision-making, organising, staffing, financing, work procedure and control (Hanekom, Rowland & Bain 1987:198). To execute administrative processes information is needed.*

(a) **Policy-making**

*Policy-making depends largely on enough information. Information is gathered from the public, interest/pressure groups and public officials. Such information is computerised for easy access and retrieval by decision-makers. Policies emerge in response to policy demands, those claims or demands made upon officials for action on some public issues. Policy-making refers to the actions together with numerous decisions and thought processes that precede a policy statement. During the process of deciding on public policy, a deliberate choice among alternatives is made with a view to arriving at a final statement of the object or objects to be pursued, or methods of action to be employed. Consequently, decision-making provides for a final choice among alternative policy proposals, the result of which, is made public, is a policy statement or a policy (Hanekom & Thornhill 1983:62-63).*

(b) **Planning**

*Planning is a set of processes which must be carried out to find a course of action to achieve a policy objective which has been identified and described with the policy statement. As explained, a policy is indeed only a statement of intention to take action to satisfy a need by reaching an objective. There could then be a number of possible courses which could be followed to reach the proposed objective partly or in whole; for example, the policy can be to provide*

*houses to the poorer sections of the populations instead of to every member of the population. To discover the best course to reach the objective partly or fully, planning must be undertaken. The processes of planning could then show some resemblance to those undertaken for policy-making (Cloete 1975:28-29).*

*Government planners are expected to use public funds and resources in ways that best serve the needs of society. According to Schumacher (1967:49) there are two types of planning in public administration, namely strategic planning which sets broad, distant goals and the program planning which pertains to immediate output. These plans are further subdivided into short, medium and long-term planning.*

*For planning to be effective the mentioned type of plans need to be programmed in detail, kept up to date with changing circumstances and used to achieve current objectives. Information and sound decision based on the computerised information are essential that will make plans complete. Computerised information can be used in various public organization for proper planning. In the department of education, for instance, a properly programmed computer may help teachers manage a student's schedule of activities as the student progresses through the institution. From computer programmed information, administrators at school can make better plans about the use of human and material resources (Sanders 1985:443).*

(c) *Decision making*

*Making decision for policy-making in public administration is based on information. The past experience of collection of information and its utilisation for decision-making was found to be tedious as it was a continuous process carried out by the same individual. The advent of computers improved this process by separating the function of decision-making from information collection. This means that information for decision-making is gathered and compiled by persons who operate outside the decision-making process. The role of computer programmers and specialist is information gathering and are not responsible for decision. The emphasis is therefore on computer-based information systems to support decision-making for policy-making (Hanekom et al. 1987:196).*

*Francois (1973:37) in Hanekom et al. (1987:197) states that a computer may be used in decision-making either actively and directly, or as an aid to decision-making. The active or direct use implies that the computer actually makes decisions. It should, however, be pointed out that the possibilities of a computer to get directly decision-making are limited, since it cannot itself define a problem and fix the priority, and neither can it determine the variables and parameters necessary to the statement of the problem.*

*The computer can however be useful in making routine decision(s) for lower levels of administrative decisions for policy-making according*

*to set rules which can be specified in either fixed or probabilistic terms. The means that the computer can search for, retrieve and process data in its own store and indicate by reference to general rules the accepted or optimal decision. The advantage of this method is that the leading official is greatly relieved of routine decision-making, and may concentrate on complex decisions. As an aid to decision-making, the computer appears to be most valuable in processing information that is fundamental at all stages of decision-making. The computer can collate information from different sources, analyse it and present it to the leading officials in such a way that decision-making will be greatly facilitated.*

*Policy-making cannot be adequately studied apart from the environment or context in which it occurs. Demands for policy actions start from problems and conflicts in the environment and are transmitted to the political system by groups, officials and others. The environment, broadly viewed, includes geographic characteristics such as climate, natural resources and topography; demographic variables such as population size, age distribution and spatial location; political culture; social structure or the class system and the economic system (Anderson 1994:51).*

*When making public policies the policy-makers should take cognisance of internal and external factors. Internal factors refer to those factors present within the government institution which can influence policy-making process, such as conditions of establishment,*

*political assignment, legality according to the state and administrative law, financial means and abilities of the personnel. External factors are circumstances, policy directions of political parties, pressure groups, interest groups and mass demonstrations, research and investigations by commissions and committees and personal views of public servants and political office-bearers (Botes et al. 1992:306-309). Relevant and important aspects of these factors should be computerised to assist policy-makers when making public policies.*

*Computer-based information can result in increasing the decisional effectiveness of public officials. It also has the ability to reduce uncertainty and risk with resultant of better decisions because choices can be made on the full range of options possible in a given problem-solving situation. The computer can, above all, increase the significance attached to qualifiable factors in decision-making for policy-making because it allows decision-makers to:*

- Consider and weigh more information at one time;*
- focus attention on more of the institution's major concerns;*
- acquire access to a larger proportion of available information relevant to a given problem; and*
- reduce levels of uncertainty and risk in decision-making (Hanekom et al. 1987:198).*

**(d) Organising**

*The introduction of computer into a public institution brings about changes in the environment within which public servants operate. For this reason, organisation and adjustment of procedures become essential to adapt to changing circumstances. Computer has an advantage of speed, accuracy and cost to public institution, which process large amounts of information. The computer is therefore a means of creating new structure and work methods for the execution of approved policy. It is indicated that computer technology gives the opportunity of decentralisation. Activities of public institutions can be decentralised as computer technology provides a flexible and swift means of communicating information (Hanekom et al. 1987:198).*

**(e) Staffing**

*The computer, due to its speed and efficiency can replace the staff required for many routines information processing tasks. It enables sections in the institution to expand the scope of their task or to undertake new tasks. Computerisation tends to reduce staff as well as costs. Computer technology may also influence the organisational structure of institutions by changing the number and type of personnel required for administrative functions. When computer technology replaces officials or certain levels, the levels of supervision will also be reduced (Hanekom et al. 1987:199).*

*Danzigra (1977:33) in Hanekom et al. (1987:199) cites some advantages of computer in public institution as follows:*

- it provides the supervisor with easy access to performance data and enhance his ability to utilise the knowledge and skills of his subordinates to the advantage of themselves and their employer.*

**(f) *Financing***

*Operational cost in government institution have been reduced by the advent of computerisation, particularly in handling large quantities of data. This means that not only cost efficiency is involved but also service efficiency. Although computerisation usually cost money, it may save, staff and other governmental resources in the long run and produce user benefits worth the added operating cost (Hanekom et al. 1987:199).*

*The finance department in a public institution handles the budget process. The budget preparation, review, appropriations, executive and audit are major stages of all budget processes and are assisted by computer based information system. If a finance officer wants to track spending in a particular account, he will use computer-based information to examine the expenditure in the public organisation. He would be able to control spending more effectively because data on spending could be retrieved quickly and then analysed to make the evaluation of an approved policy possible (Straussman 1985:231).*



(g) **Control**

*According to Dimock & Dimock (1969:510) "... control is a control function of management because it is the means of measuring results, not only in terms of finished products or services, but also over periods of time." In the light of this definition, it can be seen that control is a follow up process to planning and a check on past and current performance to see if planned and approved goals of policy-making are being achieved.*

*The instantaneous availability of computer-based information enables leading officials in the public sector to maintain the type of control as mentioned in the fore-going paragraph. This means that leading officials are able to control internal events or activities by obtaining rapid and correct feedback about ongoing activities for policy-making purposes (Hanekom et al. 1987:199).*

✧ **Use of computer in record keeping**

*Public institutions have kept a variety of records. Legal requirements could determine the number extent of the record to be kept. However, the records that are essential are:*

- Establishment records;*
- records of filled or vacant posts;*
- leave record, vacation as well as sick;*
- retirement records;*

- *correspondence records;*
- *personnel files; and*
- *relevant acts, regulations, procedure, manual and costs.*

*Keeping of mentioned records has been made less cumbersome by use of computers. Nowadays it is also essential to keep a close watch on productivity. As some types of work productivity are complicated systems of assessing and recording productivity are required. In these instances the computer-based data collections and information system are essential in record keeping (Cloete 1994:183).*

✧ *Use of computer in research*

*Computer based information has had a meaningful impact on research programmes of public sector. The population trends and patterns can be accurately predicted by using analysis based on computer program system. In the field of medical administration in particular, it has been used for cancer research, and more recently, as the core of a system of group of practice where its ability to store and handle information is used for record purposes with large client list (MacRae & Page 1967:21).*

*Computers and expert system programs are being used to assist diagnosing illnesses and further research in formulating a health policy. Sanders (1985:441) maintains that, in addition to being a diagnostic tool, computer-based information system is also a research*

*tool that provides insight into causes and prevention of stroke, patterns of drug addition and medical history preparation, necessary information for policy-making. It therefore remains to be seen that computer-based information is a valuable administrative tool that enables medical researchers in the public sector to reach conclusions. This is done on the basis of the information that is analysed and compared with established standards.*

☆ ***Computerisation in the courts***

*In the 1970's courts started computerizing their day to day operations with computers, new cases can be recorded and indexed in many ways allowing retrieval of desired information. For example, data may be needed on the cases for which certain law firms are providing services, or an analysis may be needed of the different kinds of changes against defendants.*

*Instead of labourious hand posting to courts dockets, developments on each case are fed into the computer, with great saving in time and accuracy. Computers are used in the execution of approved legislation, to prepare court calenders which include details of the cases to be heard on particular dates. They also prepare notices and subpoenas, saving much clerical time. Some systems even provide notes to defendants reminding them of their trial date and that they must be represented by counsel at trial (Nigro & Nigro 1984:442).*

✧ ***Computerisation in the legislature***

*Legislatures need quick access to much factual information for policy-making when they prepare legislation and in managing their internal operations. Computers are being used by many state legislatures to meet information needs for policy-making matters, due to the fact that they store large amounts of data and answer inquiries within seconds. Computers save much time in obtaining information, they avoid the textual and other errors characteristic of manual operations. Computers produce records less expensively, and, because the information is stored on the computer tape, eliminate much paper work (Nigro & Nigro 1984:408).*

*Computers have many other applications, such as helping to avoid conflicts in committee meetings and in assignment of conference rooms. Computerised daily agendas are other examples (Nigro & Nigro 1984:409).*

✧ ***Computers in the library***

*The use of libraries, whether, national libraries or libraries in certain institutions have increased. Maintaining of accurate records of users has caused concern to officers employed in these institutions. Computer based system in libraries has improved accuracy and efficiency. Dunlop & King (1991:6) indicate that "... we have*

*benefited from computer system, used data articles and frequently communicated via electronic mail."*

✧ *Computer in health services*

*In health services the purpose of the computer is to take over some of man's routine intellectual operations, especially those routine mental tasks that involve performing a series of intellectual operations that follow a habitual pattern, so as to free personnel for more creative efforts (Gillies 1982:382).*

*Gillies (1982:385) adds that if the data processing or management information system of a health organisation is to be cost effective, it must be tailored to the specific needs of that organisation and developed in consultation with potential users of the system. In other organisations it may be decided to automate only certain patient information system such as the admission history and physical examination, or laboratory test or admission and discharge summaries. In some institutions patient information is processed manually, but certain key management information is automated such as budget, financial reports, personnel and payroll record, employee on/off duty schedules and patients statistics.*

*The increased and improved performance has led to the acceptance of electronic data processing in almost every field of the public service (Wissink 1991:259). The computer can therefore be of great*

*assistance to public managers in making logical choices between alternatives in policy-making (Ströh 1992:43).*

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## **6. TOOLS FOR POLICY FORMULATION**

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*Public managers cannot make rational and meaningful decisions unless information is at their disposal. The ends and aims of information systems amongst others are the following:*

- 1. To rationalise decision-making for policy formulation, -stipulations, -implementation and -execution.*
- 2. To adapt available research results so that the official can be enabled to determine possible alternative eventualities for consideration by political office-bearers and to advise political office-bearers about alternative solutions.*
- 3. To process data quickly and correctly into a useful pattern such that it can be utilised to rationalise decision-making.*
- 4. To ensure that all decision-making is well founded on relevant facts (Van Straaten 1984:42-43).*

*In the field of public administration, the information can be programmed with the help of an information system. The primary function of a management information system is to transmit needed information quickly to the managers (Laufer 1975:389). Decision-making and management become easier for a public manager who knows and understands the process of receiving, processing and managing information to achieve organisational goals. The need to be computer literate entails being able to have and apply basic knowledge and skills in using a computer. Computerising as a technological tool enables decision-makers to easily process, store and retrieve relevant information instantly with great accuracy for decision-making.*

### **6.1 Formulation of a policy**

*Formulation of a policy starts with existing problems or needs within communities. Such problems or needs are identified and specified by the people. A need therefore arises for the government to provide goods and services for the communities. To solve these problems or needs the government creates policies. A number of decisions have to be taken in order to arrive at a policy. Political office-bearers initiate policy and this is possible because of the influence of public managers who have the know-how and expertise at operational policy level. Public service manager also acts as an advisor to political office-bearers as far as the efficiency of the policy is concerned (Hanekom 1995:55).*

*According to Anderson (1994:37) policy formulation has to do with what is proposed to be done about the problem or need. Policy formulation is*

*essentially the preparation of the plan of action. Policy can be made by any functionary (appointed official or political office-bearer such as a minister) empowered by law to do so by the legislative body concerned for example, a parliament or municipal council. Individuals and interest/pressure groups have a major role in policy formation by providing needed information to the legislature (Cloete 1975:25). However, where such an important matter as the establishment of a new type of hospital is concerned, it must be expected that the matter will have to be referred to the legislative body for a policy decision culminating in enabling legislation.*

*After a broad policy, for example, for the treatment of psychiatric conditions, has been laid down by the legislative bodies, it can be expected that a number of lower level policies will have to be made by the political office-bearers and/or the appointed officials before the objective of public hospitals to satisfy the needs of all sections of the population will be achieved. To decide to do something about a need or problem and what to do, the legislative body needs information. With relevant information at hand, other activities come into play, namely, legislation or administrative rules must be drafted that, when adopted, will appropriately carry the agreed upon principles or statements into effect.*

*The development of an information system entails information collection, processing, storing and retrieval. Public administration is required to be rational and objective as far as possible. It should be based on factual information. The administrative and executive authorities gather as much information as possible to facilitate effective decision-making. The*



*information collected, processed and stored should be in respect of the whole range of activities constituting public administration, namely the generic administrative, the functional, the auxiliary and the instrumental activities. Information stored in an information system can be obtained from statistical returns, books, periodicals, newspapers, files, minutes of meetings and discussions (Cloete 1994:245). Other sources of information amongst others are reports of commissions, annual reports, interdepartmental investigations, circulars and research results (Van Straaten 1984:69-70). Such information should be computerised for easy access and also be updated continuously. New data should be added and absolute, incorrect or irrelevant data should be eliminated.*

*Anderson (1994:1) defines cost benefit analysis as "... a tool for systematically developing useful information about the desirable and undesirable effects of public sector programs or project." Cost benefit analysis therefore attempts to estimate the relevant cost of programmes, on the one hand and the expenditure, on the other hand. Financial information can be derived from appropriation accounts and other financial statements (Van Straaten 1984:69). The most general use of cost benefit analysis is an attempt to measure the costs and the gains that would result from alternative courses of action. All rational choices involve the weighing up of benefits and costs (Dasgypta & Pearce 1972:19). By so doing, the need being addressed is analysed with regard to costs and benefits.*

*While cost benefit analysis measures both costs and benefits in a common monetary value, cost-effectiveness analysis measures costs in monetary*

*value (budget expenditure) and effectiveness is measured in other units such as satisfaction of recipients or quality of goods (Fox et al. 1991:228). According to Sutherland (1977:124) effectiveness is measured by noting the extent to which the decision-makers have achieved the goal passed by the setters or mission analysis. Cost effectiveness analysis is therefore most appropriate in decision-making, which requires objectives and their attainment to be measured in other terms.*

The budget serves as “... (a) financial plan serving ... (as) a pattern for and control over future operations ... hence any estimate of future costs .. (and as) a systematic plan for the utilisation of manpower, material of other resources” (Stedry, in Kohler 1959:2).

*Programming and program budgeting are useful for the development of efficiency and effectiveness. Alternative possibilities should be identified, weighed and where necessary be implemented to accomplish needs satisfaction for the community (De Necker 1993:92). Hyde (1992:47) states that, “... every budget system, even rudimentary ones, comprises planning, management and control processes. Operationally these processes often are indivisible, but for analytical purposes they are distinguished.”*

*Planning is the determination of the goals of the organisation and the selection of the programmes best calculated to achieve these goals. Programming entails the scheduling and execution, as efficiently as possible of the specific projects required for implementing these programmes. Budgeting is the process of converting the goals, programmes and projects*

*into money estimates for review with the administration and final action by the legislature."*

*According to Hovey (1972:17) the planning, programming and budgeting system is an approach to mission-oriented, purposive and goal-oriented management. The logical sequence of establishing programmes is conceived to be (1) deciding what needs to be done; (2) considering alternative ways to do it; and (3) establishing the costs of alternatives and selecting the best alternatives in the execution of an approved policy.*

*Golembewieski & Rabin (1975:31) observe that the budget enacted by the legislature cannot be formulated in complete detail. The executive must be permitted discretion to adapt the programme to the needs of a changing situation as it unfolds subject to the overriding policy objectives established by the legislature. It follows that review should be much more than a matter of accounting or auditing as commonly understood.*

*The budget in executing approved policies, points out the cost involved in implementing a programme. Budget also serves to co-ordinate various plans being implemented as all costs will finally reflect in the overall budget of the organisation. They again have beneficial effects of controlling the progress being made with the implementation of a plan. They provide standards of performance and require that visible progress be made before finances are granted for a particular expenditure. The budgets and programme constitute and create measures and standards of control against*

*which the progress with a plan can be evaluated are of importance to ensure that the desired results are obtained (Fox et al. 1991:53-54).*

*Planning, Programming and Budgeting (PPB) is a rational decision-making technique that may be used to make more systematic decisions, given a set of objectives and the information at hand. It emphasises the long-term benefits and costs of programmes, rather than the short-term. PPB is composed of programme budgeting and system, which typically involve cost-benefit studies. It basically places in common categories all activities necessary to accomplish some broad end or programme (Golembewieski & Rabin 1975:429).*

*Officials are responsible to formulate budget proposals to the legislature for the approval of programmes as outlined in the budget. The budget proposals are aimed at achieving the set administrative objectives. The budget is therefore one of the most important administration tools which officials utilise in order to run a sound public financial administration. If the budget proposals are rationally programmed and the budgeting processes are on course, then officials can with certainty, ensure that other administrative processes such as control are effectively on course. The aforesaid can be accomplished since a budget is a revelation of the government's programme of action, and the set objectives are defined by the budget (Van Straaten 1984:29).*

*The policy-making function of the budget assumes that governments are confronted with alternatives in their service delivery to the public and that*

*the choices between alternatives are affected by current service delivery and the development of the community. In the policy-making function, the budget is used to decide on the continuation of existing services, the development of new services and the apportionment of resources between the various public services (Mikesell 1986:37). The tools mentioned above are usually utilised by decision-makers to make decisions in order to meet the society's needs.*

*The term policy-making usually refers to the actions and thought processes that precede policy statement, whereas decision-making is said to be the purposive human behaviour of selecting from alternatives a strategy to solve a problem or to achieve a goal (Hanekom 1987:13). Decision-makers are forced to make a deliberate choice involving factual and value propositions with the aim of arriving at a desired solution. For decision-making to be effective, computerised and relevant information should be at the disposal of decision-makers. With a view to arriving at a final statement of the intentions of the legislator, of the actions to be taken and of the objectives to be achieved, decision-making gives finality to the choice between alternative policy proposals (Hanekom 1987:13).*

*According to Lasswell (1956:11), as quoted by Gilbert (1968:5), the process of policy formulation has seven stages which are described as follows:*

1. *Intelligence - addresses how information is processed by policy-makers to formulate problems or alternatives.*

2. *Promotion - deals with the processes by which agitation and other tactics are used to promote causes and self interests.*
3. *Prescription - considers how general rules about a policy alternative are adopted or enacted and by whom.*
4. *Invocation - describes how the application of the policy rules or laws are made and authority to assume compliance with the policy lie.*
5. *Application - defines how laws or rules are applied by executives or enforcement officers.*
6. *Termination - focuses on how the original rules or laws are terminated or modified or extended.*
7. *Appraisal - labels the processes by which the success or failure of the operation of policies is appraised.*

*The above-mentioned stages help to understand public intention and the responsibility of public administrators as they work as instruments to assure such policies are managed economically, efficiently and effectively.*

*To ensure that there will be sufficient income to attain the policy objectives, it is necessary for estimates of income and expenditure to be compiled before commencement of the expenditure transactions. The estimates of income and expenditure are detailed in the budget. The expenditure institutions are*

*usually in possession of all the factual information about the affairs of state. The budget in the public sector is debated extensively item by item before approval by the legislature. To make extensive debating possible the legislative body must have enough and relevant information in considering a policy which may be computerised for easy access and retrieval at any time. The execution of the budget after it was approved by the legislative body, means that a policy must be implemented and the money must be spend on the approved programme(s) to execute the approved policy. The execution of the budget entails the keeping of accounts and other records of every financial transaction. The legislators make provision for formal methods of exercising control over the financing operation. They rely on auditing and the attendant reports made by auditors who are accountable only to the legislatures. Steps must be taken to prevent theft and other malpractice. The officer must ensure that the steps undertaken in his organisation will make it possible to be accountable. To obtain a work-programme approach to budgeting and to improve control over the spending of money, Planning, Programming and Budgeting System (PPBS) has been developed (Cloete 1975:37-38).*

## **6.2 Adoption/approval of a policy**

*The legislature have authority to approve a policy proposal as a policy to meet a specific need. Once a plan has been formulated, a policy proposal passes through legitimisation, which includes the conferring of official status on the policy as public policy, usually through legislative enactment (Richardson & Baldwin 1976:125). For example, this is apparent in the*

*Reconstruction and Development Programme as a policy envisaged by the African National Congress and adopted by the Government of National Unity before the 1994 democratic elections (The Reconstruction and Development Programme 1994:1-2). It is important to take cognisance of the fact that when choosing between alternative objectives, programmes and policies, the result of the selection is an objective, a programme and a policy and not a decision. A decision is only the moment when the selection is made in favour of one alternative as opposed to another (Hanekom 1987:13).*

*The legislature devotes its attention to the problem or goal by authorising action, that is, by developing proposed courses of action with the help of appointed public officials and other sources of public information such as interest groups (Hanekom 1987:52). Computerised information system plays a major role at this juncture. The legislators are enabled to function effectively with information at hand. Support is developed for a specific proposal so that a policy can be legitimised or authorised. This implies getting the government to accept a particular solution to the problem. Policy adoption is not involved with selection among a number of policy alternatives but rather action preferred policy alternative for which the proponents of action think can win approval, even though it does not provide all they might like (Anderson 1994:120). The adopted policy is publicly stated and becomes the policy of the legislator regarding a specific goal or need. It is also the spelling out of the goal or goals the policy-maker or legislator intends to pursue with the community or group of the community (Hanekom & Thornhill 1993:64).*



*The approval of a policy empowers the administrative and executive bodies to develop programmes in order to attain a specific goal or need. The process of implementation ensures that the programmes are achieved effectively and efficiently with the use of technological tools such as network analysis, PPBS, Management by Objective (MBO), work study and system analysis.*

### **6.3 Implementation of a policy**

*Once adopted, the proposed course of action become public and its execution is the responsibility of the executive governmental institutions, government departments, control boards, research institutions, departments of local authorities, public institutions specifically established for this purpose and other bodies charged with day-to-day activities of the administration of legislation (Hanekom 1987:52). This implies that it is only through the actual implementation of a policy that goal realisation becomes possible when the declared intentions of the policy-maker are put into action. Some laws are primarily applied by the courts of law (for example, when the law is contravened) whilst, in the execution of public policy, interest groups may succeed in influencing an executive public institution in the manner of execution of a policy. In other instances, community institutions can be employed in the administration of government programmes (Hanekom & Thornhill 1983:66).*

*A public manager, irrespective of his/her level of operation has a great responsibility towards operationalisation of government policy intentions*

*into practical reality. His/her personal attributes to perform orderly coupled with his/her expert knowledge and skills are not enough to contribute effectively to the smooth running of government organisations in general. Such a practitioner needs to be multi-skilled in processes leading to the implementation of policy whilst he/she contributes significantly to the formulation of policy decisions (Ströh 1995:22).*

*Gortner et al. (1981:6) describe public policy as the desired goals that have been established by the politically organised community. Public policy not only describes the substance of what is to be done but also describes the process by which it is to be done. In a democratic state, public policy does not only take into consideration what the final objective of any action is but also how that action will affect each citizen as the object is being attained.*

*Policy implementation is synonymous with administration. Attention here is on what is done to carry into effect or apply adopted policies. The government's administrative machinery applies the policy (Anderson 1994:38). It is important to note that a goal may be reached by using one or more programmes. It may therefore be necessary that more than one programme be set up to reach one goal and even inter-related goals. In the case where an interdependent relationship between activities exists, the activity cannot begin until one or more of the others have been completed. A project normally consists of a combination of interdependent and dependent activities (Van Straaten 1984:171). Project is another policy-related word that is used to refer to parts of a program. The word program may be associated with the word policy (Davis 1974:11). Redelinghuys et*

*al. (1985:333) state that "... an interdependent relationship may exist between activities, with the result that an activity cannot begin until one or more of the others have been completed. A project normally consists of a combination of interdependent activities."*

### **6.3.1 Network analysis/programming**

*Network analysis was developed to become an efficiently operated scheduling tool. It aims at gathering the required information on a project, while at the same time it can show some deficiencies. Network analysis is nowadays used to a considerable extent in contract work where deadlines and delivery dates are imposed. Network programming refers to a schematic diagram of all activities that need to be programmed in such a way as to facilitate the achievement of a goal within a certain time frame (Van Straaten 1984:171). Such network can also be extended to include any number of channels and any degree of interaction between channels.*

*The aim with network analysis is not only to achieve the set objectives, but also to achieve maximum benefits that can only be done by properly programming and quantifying activities to be undertaken to reach the goal. It will be impossible to achieve the aim of network analysis without proper information. One would need to ensure that:*

- ◆ *Activities are identified and structured systematically in order to achieve the goals;*

- ◆ *the inter-relationship between activities is identified in order to determine which activities need to be done when; and*
- ◆ *the time that it would take to complete each activity must be determined (Redelinghuys et al. 1985:333).*

*The value of network programming is that it enables one to clearly identify the goals that need to be achieved by defining them in a schematic way. As a result of this goal identification, the action and the order in which they need to take place for completion of the goal can be determined (Van Straaten 1984:171). In a network program the activities that must be undertaken to reach a goal are structured in a diagram. The macro network is the definition of the project objectives in the network form. It is prepared as a preliminary to the construction of the detailed network. By using network programming decision-makers can plan the use of resources and to schedule activities by graphically showing the relationships among the activities as well as the structure of the entire project. This tool also identifies potential problem areas (Turban et al. 1977:235). The two best known network techniques are PERT (Program, Evaluation and Review Technique) and CPM (Critical Path Method). PERT was developed by the research unit of the American Navy in 1957 and CPM was developed by James E. Kelly and Morgan R. Walker for du Pont de Nemours Company also in 1957 (Van Straaten 1984:173). PERT and CPM allow management to check the effectiveness of various alternative ways of executing projects. These networks are designed to establish the order in which the separate operations must be implemented and completed (Inverson 1985:88).*

*In drawing a network diagram and scheduling the activities, the planner is forced into detailed and analytical thought about the project on which he is working. If a project has been properly planned, that is, if all unnecessary work has been eliminated from it and if all necessary work has been correctly allocated, it will still be possible to accelerate its speed of completion by the allocation of further resources, either in the form of men, plant or machinery, or combination of these. With a network analysis it is possible to estimate accurately when a project will be completed. Concentration on critical activities gives this date a much better chance of being realised than a traditional method of planning which treats all the activities as critical (Reynaud 1970:151-152). It provides management with an approach for keeping planning up to date as the various events are accomplished and as conditions change.*

*Network programming can be implemented effectively by using a computer. A computer allows for fast processing of information. The quicker the information is available, the quicker the operational decision can be made. Alternative solutions can also be investigated for use in the case of unexpected crisis. To execute a programme, actions for activities are very important for the meaningful programming to achieve the set goal. In network programming, activities are described as one step in the total project and an arrow represents it. The tail of the arrow represents the beginning of the activity and the head represents its completion. Every activity is thus represented by a step in the execution of a project or the delivery of a service that should be undertaken (Van Straaten 1984:171).*

*Network analysis allows the manager to reappraise the existing system and identify examples of duplication and overlapping which may detract from the efficiency of the systems' operation. Network analysis also enables stricter controls to be applied, since any deviation from schedule is quickly noticed (Burman 1972:22). It can be used as a tool in the furthering of administrative generic processes, namely, policy-making, organising, personnel, work method and procedures and control.*

**(a) *Utilisation of network programming for the rationalisation of policy-making***

*Policy-making is part of administrative process. "Public administration is not an end in itself but is merely a tool of government and the servant of the Community as such it may be expected to grow and to change as society itself changes" (Caiden 1991:65). "Policy-making is the activity preceding the publication of a goal ..." (Thornhill & Hanekom 1985:85). Network analysis can be used in the execution of a policy by identifying steps that can be programmed in a way that will assist managers or functionaries in their duties.*

*Through the usage of network programming the functionaries can identify different solution methods, which can be put to the disposal of the politicians. The politicians can then weigh these network programming and use them as tools for decision-making (Van Straaten 1984:1991).*

**(b) Network programming as a tool for organising in policy-making**

*An organisation is formed when people come together as individuals or as groups for the achievement of a specific objective. According to Dessler (1977:122) organising is "... the process through which ... activities are grouped logically into distinct areas and assigned to managers: it is the organisation of wide division of work. It results in 'departments' logical groupings of activities."*

*Network programming which is based on quantification, is the basics of the organisation process. Network programming indicates, who, when and by whom services should be delivered. Network programming is very essential in the identification of centralization and decentralization process. With the decentralization of services, network programming will clearly indicate which units should be used in order to execute a project.*

*By showing and emphasising the relationship between all the activities in a project, network analysis enables these people in charge of individual sections to see precisely how their work meshes in with the work of others (Van Straaten 1984:194-195).*

**(c) Network analysis as a tool for finance in policy-making**

*Network analysis is an important component of program budgeting. Budgeting is described as "(a) financial plan serving ... (as) a pattern*

*for and control over future operations ... hence any estimate of future costs (and as) a systematic plan for the utilization of manpower, material or resources" (Sterdry, in Kohler 1959:2).*

*By indicating which activities have float (spare time) available and by measuring the amount of this float, network analysis enables resources to be allocated in their most effective way. In order for decision-makers to make informed decisions, an analysis of solutions, alternatives should be judged in terms of their costs involved, this could be done by the help of network analysis. Network analysis therefore provides information as to what project money should be made available to, how much and when. Employing PERT and CPM enables management to use resources more wisely by examination of the overall plan. Resources can be transferred to bottleneck or trouble areas from other activities (Van Straaten 1984:197-198).*

**(d) *Network analysis as a tool for effective utilization of personnel in policy-making***

*Personnel are needed for the day-to-day operations in the public sector. With the use of network analysis, it is easier to determine which activities should first be executed by a specified number of personnel. Short, medium and long-term objective for personnel can be determined by the use of network analysis. According to Van Straaten (1984:222) the process requires managers to be able:*



- *to predict changes in the nature of activities in the institution or department where personnel have an influence; and*
- *to access and utilise information about the existing numbers of personnel.*

*Network programming gives information as to when an activity should start and finish, this helps in the effective utilization of personnel.*

**(e) *Network analysis as a tool for the improvement of work methods and procedures***

*There must be defined procedures for the carrying out of activities in network programming. A network programming does contribute to the rationalization of work procedures as they should be in a logical and systematic order (Van Straaten 1984:199). Other tools such as organisation and work-studies can be done during network programming to determine which ones are effective and can be kept, and which should be changed. Each action should be investigated to determine the simplest but most effective way of completing the activity. With an accurately and realistically planned project the manager will have less need to supervise work directly, and will be released to plan still more effectively for the future of his project.*

**(f) Network analysis as a control measure to ensure a back flow of information**

*Control is the mechanism to monitor the execution of every activity in the network programming. The purpose of control is to make sure that what was planned will eventually be achieved. Thornhill & Hanekom (1985:179) describe the exercising of control as a process “... to establish whether expected results have been achieved and to institute corrective action should a significant deviation become apparent.”*

*Network analysis clearly articulates the steps to be followed in the execution of all the activities in the project. PERT and CPM indicate when and how the project will start and come to an end. By indicating which activities have spare time available, and by measuring the amount of this spare time, network analysis enables resources to be allocated in their most effective way (Reynaud 1970:151).*

### **6.3.2 Planning, Programming and Budgeting System (PPBS)**

*The “... Planning, Programming and Budgeting System is a technique which combines the elements of cost-benefit analysis, budgeting and management by objectives, forcing public managers to define their objectives in terms of activities or programmes, assess their costs and evaluate programmes against the particular objectives and resources utilised” (Fox et al. 1991:292).*

*Dimock & Dimock (1969:493) describe the objectives of PPBS as follows:*

- ☆ *Long-range planning becomes routine;*
- ☆ *plans and programs are reviewed continuously;*
- ☆ *governmental activities are described in terms of programs and results, rather than the number of positions or other unrelated retail;*
- ☆ *interdepartmental co-ordination of programs is strengthened;*
- ☆ *intergovernmental planning is improved;*
- ☆ *a program evaluation cycle is provided, making it possible to measure progress by stages; and*
- ☆ *each program is evaluated in terms of national goals.*

*Managers are encouraged to use the Planning, Programming and Budgeting System whose implementation plan involves the following six steps:*

- *Establishment of the aims and objectives of the planned project;*
- *development of the programme name and structure whose focus is to achieve the defined objectives;*
- *identification of activities that contribute to the achievement of each objective;*
- *identification and costing of the resource used for each activity;*
- *definition of performance measures and outcomes resulting from the activities; and*
- *estimating future resource requirements so that future costs can be predicted to facilitate multi-year budget (Strachan 1997:14).*

*Costing as the specialised application of accounting techniques can supplement and support the PPBS in determining the cost of each unit of*

*output instead of estimating the cost of running the whole department or service. Use of the Gantt's Chart to plot activities where the output can be quantifiable can also be applied (MacRae & Page 1967:88).*

*Complete data must be provided as to cost, benefits and feasibility, on the basis a choice must be made among alternative courses of action. Once the decision has been made and the money budgeted and appropriated, then at various stages thereafter, accomplishment must be evaluated on this basis of complete cost and benefit analysis. Hence, PPBS is an input-output system based on vigorous analysis seeking to discover the relative advantage of given solutions compared with other possible ones (Dimock & Dimock 1969:492). The crucial stages in ensuring effectiveness and efficiency are "... the preparation of the budget, which should be done carefully and objectively using insight and skill, and the implementation of the budget, which should be monitored throughout to ensure that the objectives are being achieved as closely as possible and at least cost" (Cloete 1994:158).*

*It is a requirement that the legislature must, in the final analysis, accept responsibility for all the financial transactions of the executive institutions and the implementation of the budget by the administrative executive institutions. Politicians and public officials are generally accountable for their activities to the public (Cloete 1994:161).*

*Gildenhuis (1993:58) quotes Normanton (1972:312), defining accountability as "... the obligation to expose activities and the results of such activities and to explain and justify them. For him accountability also*

*refers to the way in which financial management and other responsibilities in this context provide the basis for the evaluation of the conduct of public officials and political representatives.”*

*In this regard Hanekom et al. (1994:177) writes “... if in any sense it can be said that government is for the people, then those who possess and exercise political power must submit their actions to public scrutiny and approval.” However, the politicians cannot possibly “... have knowledge of thousands of transactions that are dealt with by their subordinates. Nevertheless it will be found that the actions of the political office-bearers and the officials are usually of such a nature that accounts can indeed be given of them in public” (Cloete 1991:63).*

*Andrew (1988:28) explains that “... the recognition and acceptance of public accountability is a guideline to which employees are bound. Because all public employees are bound to specific ethical code of behaviour, it is necessary that at all times they can explain in public that they have in all respects carried out their duties in the correct.”*

*According to Fox et al. (1991:124) accountability remains an aid in exercising control over executive action and compels public officials to act with caution and constant.*

### 6.3.3 Cost benefit analysis

*Cost benefit analysis together with PPBS, can help decision-makers to make a proper choice of the best alternative for implementation to meet society needs. Gillies (1994:87) explains cost benefit analysis as a procedure by which all costs resulting from installing and operating a system are determined and converted to monetary forms, and a ratio (cost-benefit ratio) is calculated to reflect the relationship of costs to benefits. It aims at determining whether the advantage of a service is at least equivalent to the costs thereof. Cost benefit analysis is an administrative tool or technique that allows public managers to compare the various decision-alternatives on the basis of the cost/benefit ratio, which is assessed in monetary value. In other word, if R80 is used on a programme that produces R100 in outcome-value, the effort can be said to have a cost/benefit ratio of 0.80 as opposed to a programme that produces R120 in outcome for the same input and has a 0,66 cost/benefit ratio. It can be said that the lowest ratio alternative should be recommended as the most optimal economic solution (Fox et al. 1991:288).*

*Cost benefit analysis implies the identification of goals and the systematic analysis of alternative methods of achieving them, as well as an evaluation of whether they have in fact been achieved effectively. It is valuable and used in the planning stage of programming work performances. Again it is of value as a control measure when determining the effect of existing activities in achieving a goal as compared to alternative possibilities (Andrews 1982:149).*

*Cost benefit analysis is a method for rigorous and systematic examination of alternative courses of action and for presenting the relative worth of each alternative in terms of specific objectives. Levin (1984:21) refers to cost benefit analysis as "... the evaluation of alternatives according to a comparison of both their cost and benefits when each is measured in monetary terms." Bayat (1994:172) suggests that cost benefit is the "... systematic evaluation of all benefits and cost, tangible and intangible, whether readily quantifiable or difficult to measure, that will accrue to all members of society if a particular project is adopted. It is a quantitative technique that compares the cost and benefit of a particular programme to see whether the programme will improve national prosperity, but also examines whether there are alternative ways of achieving the same objectives in a more efficient way."*

*Woodhall (19970:14) defines cost in terms of the total cost of a project, that is, all the resources used up by the project. With a cost benefit analysis, efforts are launched to calculate various costs such as primary or direct costs, operating costs, associated costs, tangible and intangible costs and historic costs. Primary costs are needed to provide goods and services such as costs used for project management, material and labour. Operating costs are used to maintain the system, for example, salaries, equipment and material. Associated costs are costs that are incurred by either beneficiaries or sufferers of a given project of activity. Tangible costs are costs that can be determined and quantified beforehand. Intangible costs are costs that are not determined beforehand or cannot be quantified. Historic costs are costs*

*already incurred in a given project. Additional costs are costs incurred by other instances and not the government (Van Straaten 1984:141-142).*

*Newton (1972:21) describes benefits, as the maximum amount of an individual would be willing to pay for a good at minimum cost. Benefits are all gains that are obtained from a specified programme and the benefits are compared with the circumstances before the project can be started. Efforts must also be launched to calculate benefits such as primary or direct benefits, secondary or indirect benefits, tangible or market valued benefits and intangible or non-market valued benefits. Primary benefits are the immediate benefits from a project or when goods and services are delivered. Secondary benefits are benefits obtained from the project, which were not the main or prime objectives of the project. Tangible benefits are benefits that can be valued in terms on money. Intangible benefits are benefits that cannot be valued in monetary terms. These are immeasurable benefits such as education (Van Straaten 1984:142-144). Some of these types of costs and benefits however cannot be calculated simply through assessing the monetary value.*

*What is really desired with a cost benefit analysis is not the best system for meeting the goals but rather the best allocation of available resources among the alternative opportunities (Gramlich 1981:4). Therefore, the first stage with a cost benefit analysis is to agree on a number of criteria, which together describe each project sufficiently. Objectives to be attained by the use of resources must therefore be defined as explicitly as possible (Kramer 1979:23). Careless selection and specification of objectives can lead to*



*solution of wrong problems or needs. Only when defining objectives has been satisfactorily performed, the other steps can then be taken such as programming with reasonable assurance of heading in the right direction. A fundamental characteristic of a cost benefit analysis is the systematic examination and comparison of alternative courses of action that might be taken to achieve specified objectives for some future time period (Kramer 1979:23).*

*All sources of data should be exhausted before an accountable decision is taken. Relevant information together with other contributory factors can facilitate decision-making. For the functionaries to arrive at a decision, firstly, the list of the current benefits and costs are to be included in the definition of the project. Secondly, the list of benefits and costs, direct or indirect must be reduced into monetary values in order to arrive at an estimate of the current net benefit of the project. Thirdly, comparison of the stream of annual net benefits with the capital cost of the project. That is to compare annual value after an allowance has been made for depreciation of capital assets and decide if the rate of return is high enough to justify proceeding with the project (Peters 1986:18).*

*Cost benefit analysis assists decision-makers in policy-making by availing better information to them to make their decision(s). Due to the fact that alternatives were developed to solve a need, the decision-makers have a broad choice to decide on solving a problem. As cost benefit analysis reflects costs and benefits over the short, medium and long-term, decision-makers can have a holistic view over the entire project and therefore*

*strengthen their decision(s). In cases where the quantifiable costs and benefits can be accurately measured, the decision-makers can determine the financial implications of their decisions or choices (Dasgupta & Pearce 1972:19).*

*Cost benefit analysis ensures that scarce resources are allocated efficiently, firstly, between the competing private sector and public sector uses, and secondly, between alternative public sector projects (Brown & Jackson 1978:158). It can be used to quantify money in program execution. It also informs decision-makers about the different possible alternatives, which can be implemented to attain the stated objectives. The objective of cost benefit analysis is to secure 'value for money' in economic life and this is achieved by simply adding up costs and benefits of alternative economic choices and selecting the alternative which offers the largest net benefit, that is, the highest margin of benefit over cost (Newton 1972:16).*

*Cost benefit analysis consists of a few main stages, namely, identification, classification, quantification and presentation. All the various effects of a proposed project or program are identified and listed at the identification stage. These various effects provide the checklist of all the items that should be considered. The second stage classifies the various effects into economic efficiency benefits and cost, for example, desirable project output and productive resources used in a project. The third stage involves quantification wherever feasible of both the economic-efficiency benefits and the income-distributions impacts of the projects. The fourth stage presents relevant information in a straightforward manner, that is, in a form that*

*clearly spells out the important assumptions underlying the analysis and the implications of those assumptions for the study's conclusions (Anderson & Settle 1978:2). Cost benefit analysis will not always clearly indicate the best choice. It should be borne in mind that cost benefit analysis is a guide, an aid to decision-making. It gives an approximation of what society prefers (Dasgupta & Pearce 1972:21).*

### **6.3.3.1 Steps in cost benefit analysis**

*A few steps will be briefly described of how cost benefit analysis is utilised to determine the most cost effective solution in policy-making.*

#### **(a) Identification of objectives**

*The aim of cost benefit analysis is to identify alternatives for decision-making in policy-making that can offer a great deal of benefits with fewer costs. The implementation of cost benefit analysis entails at first the description of objectives, which the government officials are aiming at. To bring about proper relations in operation which may be needed to reach the aim. The results that the project has to attain will greatly depend on how effectively objectives are identified and described. With thoroughly identified objectives available, the execution of operations can be programmed. Different alternative solutions should be investigated so as to enlighten the decision-makers of alternative solutions that will retain large benefits with fewer costs (Van Straaten 1984:150).*

**(b) Identification of alternative solutions**

*Possible alternative solutions should be identified and investigated to implement a policy. In the evaluation of the program that has to be executed, the available results should be used to determine which existing solutions are the most investigated. The result should be implemented to stimulate the effectiveness of the execution program. The identification of alternative solutions serves two purposes, firstly, to assure that scarce money is effectively spent. Secondly, that accepted alternative solutions retain the largest benefit for the community (Van Straaten 1984:151).*

**(c) Determination of standards for testing alternative solutions**

*Every alternative solution must be tested in advance to determine their efficiency. The relevant standards for efficiency should be developed. The results attained after the implementation of standards should be quantified in money. By so doing, it can be determined which alternative solution should be left out, and which ones are to be put forth. The criteria for determining costs and benefits involve the reduction of the programme in terms of its quantitative and qualitative features. This is the basis for comparing alternatives against each other according to their common features (Van Straaten 1984:151-152).*

**(d) Relationships between costs and benefits**

*Steps should be taken to determine the relationships between cost, effectiveness and environmental factors. Models should be designed*

*for cost, effectiveness and a compound model for cost and effectiveness. The model serves to explain alternative properties and costs that are involved. Mathematical programming and simulation are some of the techniques that can be used to design models. The approach that has to be followed, will be influenced by the number of alternatives, complexity of cost and benefit criteria and other aspects more related to administrative requirements (Van Straaten 1984:152).*

**(e) *Application of values to the variables***

*Alternative solutions will be influenced by assumptions during the preparation of alternatives of expected costs and benefits. Different values should be applied in every alternative solution to execute a policy. The results obtained should then be given in the evaluation of each alternative (Van Straaten 1984:153).*

**(f) *Appendix of non-quantifiable costs and benefits***

*In the public sector, there exist several costs and benefits, which cannot be qualified and subsequently cannot be quantified in money. These costs and benefits should be identified in order that they should be noticed by decision-makers. An appendix must be established and attached to the cost benefit analysis which contains alternatives; identification of methods followed in the cost benefit analysis (Van Straaten 1984:153-154).*

**(g) Choice making**

*By weighing different alternatives against each other, decision-makers can determine which alternatives can offer the largest economic and social benefits for the money to be spent (Van Straaten 1984:154).*

**6.3.3.2 Identifying and measuring benefits and costs**

*The task of identifying the benefit or impacts of a program involves a systematic effort to record all the consequences of a particular program. In this process, the benefits and costs of a project are identified and then measured in comparable units. If the benefits exceed the cost, the project will lead to a more efficient resources allocation. If the costs exceed the benefits, the project will lead to a poor allocation of resources (Browning & Browning 1979:83).*

**(a) Identifying and measuring benefits**

*Identifying and measuring benefits requires two steps. The first step is to determine the impact of the project. Secondly, the effects are expressed quantitatively that is, the value of these effects to the public must be calculated (Aronson 1985:237).*

*Since it is difficult to evaluate programs that generate heterogeneous bundles of service, cost benefit analysis translates the benefits of a program into comparable units of money in order to facilitate meaningful comparisons. "Since*

*cost benefit analysis is concerned with aggregate increase in the Gross National Product, the simplest way to measure the value of an increase in national income is to see what people are willing to pay for it. What people will pay for goods depends not only on their preferences, but also on their disposable income" (Nigro 1984:20).*

*The other way to measure benefits is to use the market price to estimate the benefit. The price of goods sold in a market, merely reflect the minimal price the consumer will pay to purchase those goods (Layard 1972:14).*

*In some cases, an analyst may be conceptually aware of all the impacts of a particular project, but be unsure which impacts are identifiable benefits. In this case, primary and secondary benefits should be considered. Primary benefits refer to the direct benefits created by an investment in a project, while secondary benefits refer to indirect benefits induced by initial capital outlays (Nigro 1984:19). To illustrate the latter point, let's assume that a school is built with the purpose of providing children with instructional space. However, the building may serve other purpose as well. It may provide a convenient place for voting on Election Day and it may offer a useful facility for the evening activities for adult education.*

(b) *Identifying and measuring costs*

*The identification of costs is much more straightforward as compared to that of measuring benefits. In a project pricing, four different types of costs can be identified, namely, project outlays, maintenance and repair costs (OMR costs), indirect and external costs and opportunity costs. Project outlays include items such as planning costs, preparation costs and actual investment costs. Government projects are badly exposed to overruns on such costs. In some instances, the government may have changes in the specification of equipment, which may be extremely costly, depending on the state of the production process. Operation, maintenance and repair costs are included when a project is completed. There may be some effects that hinder work progress and market supply. For example, if complicated equipment is bought without skilled personnel to service it, the government has to incur additional costs in setting up its own programs to produce skilled technicians. Their indirect or external costs associated with the provision of particular goods or services. For example, when the government orders companies to stop dumping pollutants into waterways, business may buy expensive equipment resulting therefore in the quality or the quantity of their products. Opportunity costs refers to the value of lost chances (Nigro 1984:33-35).*



*To make rational decisions, decision-makers have to be sure that the relevant information is collected, processed and interpreted. Because benefits and costs can be quantified, decision-makers can determine the money-value for the benefit and the expected expenditure in order to achieve an objective. Cost benefit analysis serves decision-makers with an opportunity to direct political decisions by expressing cost in money.*

#### **6.3.4 Management by objectives**

*When management by objectives is combined with PPBS and cost benefit analysis, public managers are forced to define their objectives in terms of their activities or programmes. Public managers can also assess costs and evaluate programmes against the particular objectives and resources used. The utilisation of these tools enforces cost effectiveness. The approved policy can therefore be implemented effectively (McKenna 1980:127).*

*Management by objectives (MBO) may be defined more or less in the same way by different authors. The difference might be in connotation. For instance, Carrell, Kuzmits & Elbert (1992:250) refer to MBO as performance appraisal method. Mondy & Noe (1987:313) refer to MBO as "... a philosophy of management that emphasise the setting of agreed-on objectives as the primary basis of motivation, evaluation and control efforts." Robbins (1979:252) defines management by objectives as "... a programme that encompasses specific goals, participatively set, for an*

explicit time period, with feedback on goal progress." These participatively set goals are tangible, verifiable and measurable, for example, the provision of low-cost housing units by the government for a number of households within a specified period of time. One of the most elaborate definitions is by Giegold (1978:2). He maintains that management by objectives is a "... management process whereby the superior and subordinate, operating under a clear definition of the common goals and priorities of the organisation established by top management, jointly identify the individual's major areas of responsibility in terms of the results expected of him/her, and use these measures as guides for operating the unit and assessing the contributions of each of its member."

It involves a process whereby staff members at several organisational levels are coached by their supervisors in setting their own goals, directing their activities towards attaining them, and measuring their own achievements using those goals as a frame of reference (Gillies 1982:47). The purpose of management by objectives is to make goal setting routine among public officials at the different levels and enable public officials to take decisions objectively. This can be done if the officials have enough relevant information to make rational decisions. Such decisions can be made by gathering information to predict outcomes of various actions, choosing the most desirable objective or goal, identifying ways to meet the goal, choosing the most effective method for realising every objective and measuring the results of using the chosen method (Roux *et al.* 1997:121-122).

*Management by objectives can be used to broaden participation of officials in the day-to-day decisions. To attain this result there must be thoughtful negotiations between senior officials and subordinates on how to perform their work to achieve the set goals. Therefore, management by objectives can be defined as "... management by results rather than by activities" (Benge 1976:135). Specific goals become the concern of every manager. Delegating becomes an integral part of managing when management by objectives is used. Management by objectives cannot succeed without delegation at all organisation levels (Benge 1976:135). According to Fox & Meyer (1995:34) delegation is "... the passing of duties and rights (responsibility and authority) from a superior person or unit to a subordinated person or unit."*

*The first result to be expected from management by objectives is the realisation that the traditional statement of objectives is inadequate, is indeed in most cases inappropriate. The first work to be done is to identify what the objectives should or could be, the result of clear policy-making.*

*Management by objectives emphasises further the need that officials must participate in the process of identifying aims, determining results and setting objectives and courses of action as a team (Gledening et al. 1973:5). The superior and the subordinate(s) of a organisation jointly define its common goals, define each individual's major areas of responsibility in terms of the results expected of him and use these measures as guides for operating the unit and assessing the contribution of its members. Thus, participation in decision-making occurs by managers at all levels and accurate measurement*

*is central to management by objectives. Without measurements, management by objectives cannot be implemented (Reddin 1979:391). In achieving participation of every official, it will be necessary to work toward getting consensus in problem solving, decision-making and setting objectives.*

*Robbins (1979:253) also maintains that "... MBO's appeal undoubtedly lies in its emphasis on converting overall organisational objectives into specific objectives for organisational units and individual members. MBO operationalize the concept of objectives by devising a process by which objectives cascade down through the organisation."*

*The process of management by objective involves:*

- The setting of organisational objectives for a given period;*
- devising plans to implement the objectives; and*
- carrying out periodic evaluation of progress towards attainment of the objectives (Booyens 1993:126).*

#### **6.3.4.1 Identifying and setting objectives**

*Robbins (1979:253) suggests the following procedure:*

- \* At the beginning of each fiscal year, the manager and subordinates share in identifying and listing areas of work performance and/or programmes which need to be improved, that is, need identification). Heads of departments, sections and units usually do the formulation of objectives. This*

*actually is a statement of results to be achieved or what is to be accomplished. It involves the participation of all the functionaries, superiors and juniors in the decision-making process. There is a general agreement that participation in decision-making strengthens a functionary's motivation and commitment. The identified needs are then communicated up the administrative hierarchy for evaluation and approval.*

- \* *The approved needs are converted into tentative short, medium and long-term objectives and communicated to all that are concerned.*

#### 6.3.4.2 *Programming objectives into activities*

*Once the objectives are established, a plan of action is initiated to ascertain the scope and complexity of the task and the range required in accomplishing goals. The functionaries determine the individual activities in order to achieve the goals according to drawn programme. The officials responsible for the programme guide the subordinates in the manner the programme has been drawn. The success of the programme is based on the co-ordination and participation of the functionaries. According to Divincenti (1989:97) a plan of action involves:*

- ❖ *Identifying specific steps needed to reach the objective;*

- ❖ *determining who will share responsibility for accomplishing specific objectives;*
- ❖ *developing details;*
- ❖ *assessing resources needed such as personnel, finances, equipment and supplies;*
- ❖ *assigning phases of the plan and target dates; and*
- ❖ *reviewing and integrating plans.*

*The following steps are inherent in the programme of action arrangement of organisational rules, provision and utilisation of personnel, finance, work methods and procedures, implementation, control and evaluation.*

**(a) *Programme for arrangement of organisational rules***

*The programme for arrangement of organisational rules helps in the implementation of the determined activities in the institution and the creation of posts in the department, division, section and sub-section for adequate management in small units. To arrange the organisational rules, the following should be done:*

- Contributions should be made by the branch office, division or section to the achievement of the set objectives;*
- activities should be co-ordinated;*
- the overlapping of activities should be limited so as to use the scarce resources effectively; and*

- *effective communication should be maintained (Van Straaten 1984:221).*

**(b) *Provision and utilisation of personnel***

*In the public sector programming of the provision and utilization of personnel is important. This is so for the sake of efficient and effective delivery of goods and services. To also ensure the attainment of the results as well as evaluating the performance standard of each functionary. The provision and utilisation of personnel requires amongst others the following:*

- *To predict changes in the nature of activities in the institution on which personnel has an influence; and*
- *to have information of existing numbers of quality of personnel for the sake of personnel development if necessary, and a host of other information in relation to the provision and utilisation of personnel (Van Straaten 1984:222).*

**(c) *Finance***

*Ideally, the most desirable of several possible objectives are chosen and activities to achieve each objective are identified. For each activity responsibility or authority is identified and agreed upon between managers and subordinates followed by the determination of how outcomes will be measured. MBO encourages managers to delegate some of their responsibilities to their subordinate. Deadlines for each of the outcomes in*

*terms of time are estimated together with the financial implications of each objective (Gillies 1982:49).*

*Management by objectives cannot be effectively instituted without adequate financing. It must be taken care that every program in the delivery of goods and/or services should be investigated to see whether an objective is worth pursuing at all in terms of return-on-investment. Effective budgeting involves getting the best mileage out of the limited resources available. The effective analysis of relevant information is an important requirement in the preparation of program budgeting. With the implementation of MBO, techniques such as network programming and cost benefit analysis can contribute to quantify and rationalise programmes. The use of MBO provides purposeful steps and measurable results. Steps must be taken to determine whether the activities should be undertaken in order to achieve the goal. Alternative solutions should be investigated and weighed against one another to determine which solution is the most effective for the prevailing circumstances (Van Straaten 1984:224-225).*

**(d) *Investigation of work methods, improvement of work environment and the development of standards for measuring performance***

*The success of MBO in the public sector and the results that would be achieved depends largely upon work methods and*



*procedure to be applied. To effect the work methods and procedures, manuals will have to be prepared from which individual personnel member is assigned. The manual should be updated frequently to ensure that the services delivered are of standard and quality. Through the manual a personnel member can determine what is expected of him/her and how to co-ordinate his/her contribution with colleagues. MBO puts stress on work measurement, consequently attention is focused on qualitative, quantitative and time standards. The standards set for the public goods and services are sometimes higher than those for the private sector (Van Straaten 1984:225-226) are.*

*Economic survival is still the primary demand placed upon management that all other measures of performance must follow and fit this goal. The establishment of measure of performance for each unit of the institution must accompany the establishment of measurable goals. In management positions the measure of the manager's performance is largely the measure of his institution's performance (Odiorne 1965:80-81).*

*To realise the required results the following should be done amongst other:*

- A critical investigation in relation to the existing procedures to determine how to improve the manual so as to obtain better results;*

- *locations where the assignments are done such as in offices and work environment should also be investigated to improve the work environment; and*
- *unnecessary hurdles such as lighting, heat and ventilation should be improved if they are in poor condition.*

*The significant gain to work flow emanating from MBO include the carrying out of goal directed activities and the provision for consultative and participate management. Workers or subordinates sort of 'own' the objectives and therefore show a committed effort toward attaining them.*

*Feedback should also be given and enhanced so that it can be determined which steps should be taken. To determine which work environment/conditions should be improved and which new standard to be developed to measure performance. Above all, to ensure that the contributions of the functionaries are directed towards the attainment to the objectives (Van Straaten 1984:226).*

**(e) Control**

*The greatest advantage of management by objective is perhaps that it makes it possible for a manager to control his own performance. Self-control means stronger motivation, thus a desire to do the best rather than just enough to get by.*

*Feedback of results and the use of a computer have to be built into the decision to provide continuous testing, against actual events, of the expectations that underlie the decision. Few decisions work out the way they are intended to. Unless there is feedback from the results of a decision, it is unlikely to produce the desired results (Drucker 1986:480).*

*Control emanates from controls and the responsibility to ensuring that the execution of approved objectives is done (Van Straaten 1984:200). The exercise of control in the public sector has one objective, namely, to ensure that account is given in public for everything the authorities do or neglect to do, so that all the citizens can see exactly what is being done or not being done to further their individual and collective interests (Cloete 1994:205). Without control MBO cannot be used successfully as an administrative tool. The exercise of control where MBO is applied serves to determine amongst others:*

- Whether the expected results are achieved;*
- whether the objectives have been attained cost-effectively;*
- whether the continuation of programmes is justified to reach the set objectives; and*

- *whether the functionaries have developed alternative solution methods and whether these methods will be more effective (Van Straaten 1984:228).*

*Every supervisor performing control functions must ensure that the results obtained with the work of subordinates culminate in the fulfilment of the policy objective. The principal function of every supervisor is to promote the economic, efficient and effective provision of goods and services. The control measures should always be applied in such a manner that they will have a motivational effect on the workers to promote maximum productivity (Van Straaten 1984:235). Many MBO programmes are found in business, health-care, educational, government and non-profit organisations and the main aim of having such programmes is to obtain productivity (Robbins 1979:253).*

**(f) *Evaluation of results to be attained***

*This is sometimes termed the final review of subordinate results measured against established or revised goals (Sherman et al. 1996:325). Management of objectives emphasises the evaluation of results. Accordingly standards should be developed and implemented against which the activities can be measured. In essence the political official responsible for political policy will determine whether the expected results have been attained cost-effectively. The chief official together*

*with heads of department rechecks the measuring tool to see whether it yields the same results. The same applies to the lower level, that is, supervisory and lowest levels for re-checking. Every level in the hierarchy is checked to see whether the necessary contributions have been made to realise the required results. Continuous feedback plays a crucial role during the implementation of policies (Van Straaten 1984:226-228).*

*To accomplish effective periodic evaluation for MBO, Divincenti (1989:98) suggests the following procedure:*

- Scheduled progress review sessions over the fiscal year.*
- Planned conferences involving all that are concerned throughout the service and administrative hierarchy.*
- An analysis towards the end of the fiscal year of the year's activities and accomplishments as well as problems that may have been encountered.*
- Annual report.*

### **6.3.5 Work study**

*Work study is "... the systematic examination of the methods of carrying on activities so as to improve the effective use of resources and to set up standards of performance for the activities being carried out" (Kanawaty 1992:9). Techniques used in work study are method study and work measurement respectively. Method study is concerned with the way in which*

*work is done and work measurement with the value or work content of the task itself.*

*Method study involves the breaking down of a procedure into its component elements and each element is then analysed. Elements that cannot be analysed or broken down are eliminated or improved. The analytical approach used in method study expedites work flow through showing areas in work procedures where changes likely to be most effective, helps to highlight unnecessary activities which are eliminated and show areas where improvements can be possibly instituted. Work measurement is the most important technique whereby the inefficient use of time may be observed and measures taken to eliminate it. It essentially contributes to the determination of the standard time for a job or part thereof and should always follow method study. When carried out prudently it can facilitate work flow within departments and subdepartments (Van Niekerk 1978:77).*

*According to Currie (1978:47) work study is one of the major techniques in the group known as Productivity science. A number of techniques have as their ultimate objective enabling management to create a prescribed output with a reducing input of the three real resources, manpower, materials and capital equipment. Other techniques which form this concept are organisation and methods, operational research, network analysis and system analysis. The function of work study is to obtain facts from gathered information, and then to use those facts as a means of improvement. Work study can and is of service to management and other generic administrative functions in numerous ways.*

(a) *Work study to rationalise policy-making*

*There are three levels of policy-making, but for the purpose of this paper only administrative executive implementation policy will be shortly discussed. According to Cloete (1991:84) "... when the policy of the government-of-the-day and the political implementation policy have been made known, attention can be given to the formulation of the third policy, viz. administrative executive policy." This level of policy-making is mainly concerned with the practical steps to give effect to the officials to formulate the administrative executive policy. For example, the policy of the government-of-the-day could state that this year 10 000 low-cost houses should be provided to the poor (Cloete 1991:85).*

*At the administrative policy-making, questions like, what should be done to erect the houses? How is this being done? Who should do it? How can it be done to meet the expectation of the community at minimal cost? This situation surely suggests the involvement of work study office. It should be remembered that the purpose of work study "... is to assist the management to obtain the optimum use of the human and material resources available to an organisation for the accomplishment of the work upon which it is engaged" (Currie 1978:47). Without information made available by work-study offices, policies may not be eternal truth, but hypotheses subject to alteration. In this regard Fox et al. (1991:29) remarks, "... policy can be related to the information needs, the origins of the public policy information*

*and the levels of information utilisation." Work study as the major information technique could be appropriated in this instance.*

**(b) *Work study as an organising tool***

*According to Cloete (1991:112), "... organising consist of classifying and grouping functions as well as allocating the groups of functions to institution and workers in an orderly pattern so that everything the workers do will be aimed at achieving predetermined objectives." In this, work study techniques have their part to play. It is often been said work study can make any organisational pattern work.*

*Organising for public service creates a structure for exercising administrative power. In making the structure, work-study can be used as the best tool to rationalise work division (Fox 1991:66).*

*"In most cases, however, a great deal of negotiation will be required, and the planned changes will take time" (Currie 1978:45). Work study is there to simplify problems and to assess the economics of various alternatives.*

*Improvements in planning and organisation sounds obvious and elementary and there are few people who would not claim to be able to do somebody else job better. The work studies attitude of mind turns this critical attitude towards own organisation. Everybody should think how the planning of the organisation could be improved.*



*Manpower is the most valuable resource and the cost of human effort is increasing relatively faster than any other resources. The fundamental facts revealed by work study have been proved beyond doubt to be a far better basis of wide division of work (Currie 1978:46).*

**(c) *Work study to rationalise finance for policy-making***

*A public institution cannot initiate any work without money. All public institutions are dependent upon the citizens for their income. According to Andrews (1998:9), "...financing is an essential enabling function which must be undertaken to make funds available so that the personnel function may be carried out." Taking further the fundamental facts revealed by work study, that is, work division, Cloete (1991:141) writes, "...in the public sector the financial and his branch/division are unfortunately still often regarded merely as institutions whose sole function is to release line (functional) officials from routine bookkeeping duties. It has not yet been fully realised that the bookkeeping functions can be developed into a principal administrative aid, e.g. as an aid to ensure that the available resources are used in such a way that they bring the highest productivity."*

*While still on the high productivity work study should be seen as a tool that symbolises the analytical and progressive attitude of mind*

*which is mainly concerned with making management manage better, rather than getting the work-man work harder (Currie 1978:46).*

*It could therefore be said that work study as a tool to assist management should be included in determining work volume and as such to establish the number of employees needed in each level of the organogram (posts). This cannot be viewed separately from the financing side. "The requirement that one has to answer in public for everything done in the public sector necessitates accurate recording of every financial transaction, no matter how trivial it may appear" (Cloete 1991:141).*

**(d) *Work study to rationalise staffing for policy-making***

*Once legislation has been passed in the Parliament, to give effect to a specific policy, the organisational arrangement having been completed and money made available, then personnel can be appointed to put the institution into operation. The operation of providing personnel and setting them to work calls for economic consideration. Systematic analysis and critical examination of the type of work to be done is important.*

*According to Cloete (1991:151), "... the staffing of public institutions involves numerous activities (process) which constitute the comprehensive staffing function carried out by personnel officials working in personnel offices and by supervisors."*

*The selection process include, amongst others, requirements for application forms, verification of application, preliminary screening, preliminary interview, selection test. Before all these processes can be embarked upon, work study will have been employed because of its suitable nature in this regard. Work study defines duties and establishes fair work loads for workers and thus assists co-ordination by establishing a sound organisation structure so that every function is properly manned and in balance with the others (International Labour Office 1979:30).*

*The input of work study offices is very important in the creation of posts or determination of an establishment. Work study should be used for job analysis and description, classification of posts, setting and recording of class standards, allocation of the posts to the classes and the institution will subsequently recruit (Cloete 1991:162).*

**(e) *Work study rationalising work methods and procedures to achieve policy objectives***

*It is important to learn procedures of work "... after policy has been formulated, organising and financing functions have been completed, and personnel members have been appointed" (Cloete 1991:174). Organisational arrangements will compel persons to unite their efforts on an orderly manner. However, the individuals could still hold differing views on how to perform a specific task. To ensure that everyone in specific organisation unit co-operates in attaining the*

*policy objectives and does not waste time in the process, it is essential to prescribe specific work methods and procedures for each task. This will result in efficient work performance and that work will be done in the shortest time using the minimum amount of labour and at the lowest cost (Cloete 1991:174).*

*It is the duty of work officials or management advisory service (as work study directorate is referred to in the province) to ensure efficient work performance in the shortest time, using the minimum amount of labour and at the lowest cost. Management advisory services, like the name suggests, will advise the management on how those could be achieved.*

*A management advisory service is often required to draft procedure manuals as well as departmental establishment or organograms by other departments.*

**(f) *Work study to rationalise decision-making for policy-making***

*It will be seen that specific decisions have to be taken before whatever administrative function is engaged. Such decisions can be to rationalise every step that public administrators may have to take.*

*In their discussion of managerial decision styles, Fox, Schwella & Wissink (1991:135) summaries as follows:*

- *You solve the problem or make the decision yourself, using information available to you at that time.*
  
- *You obtain the necessary information from your subordinates, then decide on the solution yourself. This surely necessitate the involvement of work study as they have "... all tangible steps that could be taken to ensure that a job was done in the best way" (Currie 1978:26).*

*The optimising model of decision-making may be more effective if work study could be used to gather more information and make it a management for rationale decisions. "The optimising model of decision-making attempts to describe how an individual should behave in order to maximise or optimise a specific outcome" (Fox et al. 1991:136). They identified six steps that should be taken when making a decision, that is:*

- *Ascertaining the need for decision;*
- *identifying the decision criteria;*
- *allocating weights to the criteria;*
- *developing the alternatives;*
- *evaluating the alternative; and*
- *selecting the best alternative.*

*After ascertaining the need for decision, one may invite work study officer to assist in the criteria that will be used to select the best*

*alternative. Work study is of the nature that it can be used to obtain facts and use those facts as a means of improvement.*

### **6.3.6 System analysis**

*A system is "... a set of elements together with relationships between the elements connected or related to each other and to their environment in such a manner as to form an entirety or a whole" (Smith et al. 1980:63).*

*According to Bocchino (1972:40) system analysis is "... the examination of an activity, procedure, method, technique, or organisation to determine what must be accomplished to optimise the attaining of predetermined objectives." Public institution should undertake regular analysis of existing systems that are used to achieve set objectives. System analysis provides public managers with an aid that may be used to rationalise their decisions in respect of improving systems.*

#### **(a) Use of system analysis for policy-making in the public sector**

*System analysis can be effectively used to rationalise policy decisions. It helps policy makers to effectively solve the problems and to manage the policy issues that they face. To be able to do this, they must generate information and marshal evidence bearing on their problems and possible actions that may be suggested to alleviate them (Miser & Quade 1985:2). Public policy is dependent upon information pertaining to societal goals or problems. Individuals, groups and*

*institutions such as staff units and domestic institutions supply the information. The legislative and executive authorities together with the public institutions are vested with legal authority to participate in policy-making. Interest groups and influential individuals are unofficial policy-makers (Hanekom 1987:21).*

*According to Gillies (1994:63) system analysis is a planning as well as a control tool, and provides valuable information for decision-making and problem solving. By breaking a complex system into subsystems and identifying the interconnections between subsystems, scrutinise each, and determine how alteration of each factor would affect total system function. In this way alternative solutions can be found for problems in the megasystem.*

*System analysis is carried out to determine the influence of changes in any part of the system on other components or the system as a whole. In addition, system analysis is aimed at finding the cause of shortcomings in one component of the system (McMillan & Gonzalez 1973:13-16). To understand the underlying problems within a system, the system needs to be subdivided into subsystems and to study and investigate the components individually (Ströh 1995:28).*

*System analysis analyses and improves the various subsystems of a system in order to enhance the provision of goods and services to the community. The construction of models of systems and subsystem, which forms an integral part of systems analysis, contributes towards*

*making complicated systems more understandable for public managers and thereby simplifying decision-making (Ströh 1995:26). System analysis should analyse and improve existing systems on an ongoing basis (Bocchino 1972:78). Bohm (1987:37) asserts that system analysis is a tool that serves to improve the problems and manage the policy concern of managers.*

**(b) *Use of system analysis for organisational arrangements***

*Barratt and Downs (1988:12) define organisational arrangements as "... the decisions made by or on behalf of the council about how the organisation is shaped and operated ..."* In this context it refers to the decisions taken by public managers on behalf of the government about how the public sector and its different entities should be shaped and operated for policy-making.

*Public managers are constantly engaged with planning and decision-making about the use of available scarce resources of government. It is therefore imperative of them to carefully monitor the use of these resources in practice. Their work involves the bringing together of efforts of individuals working as part of the larger system of government, to achieve good results intended whilst acting on behalf of all the citizens (Barratt and Downs 1988:13). System analysts analyse organisational arrangements to improve working co-ordination, efficiency and effectiveness in attaining the predetermined goals.*



(c) *Use of system analysis for financing public operations*

*The public sector is responsible for the delivery of goods and/or service. Budget is essential for the delivery of goods and/or service. It is further necessary that alternative solutions are developed and evaluated in order to identify suitable solutions of the system that will bring about efficiency and effectiveness. Money should not be spent unsuccessfully (De Necker 1993:87-88). Hatry (1978:28) explains effectiveness as "... the extent to which the government produces a given output with the least possible use of resource, which is naturally one of the most important objectives with system analysis."*

*Van Gigch (1972:4) writes, that system analysis places emphasis on identification of broad goals which provide direction and focus for the organisation. This results in a systematic, defensible way of ranking competing claims against the organisation's purposes. McKenna (1980:127) writes that: "... cost benefit analysis ... investigates the costs and benefits of each of a set of alternatives so that the decision-maker can better understand the consequences of a decision." In the public sector where abundant community needs should be satisfied with limited resources, tools such as cost benefit analysis would be used with system analysis to develop the effectiveness of government activities by identifying suitable solutions for the realisation of specific objective(s) (De Necker 1993:93).*

(d) *System analysis for the arrangement of personnel functions for policy implementation*

*After the legislature has approved a specific policy to be executed, organisational arrangements have been done, and the budget has been allocated, personnel can be appointed to undertake work processes necessary to deliver goods and/or services to the community (De Necker 1993:94).*

*The complex network of functional activities, analytical methods and tools which are together known as personnel function, interact continuously with one another for effectiveness and trained personnel to serve the public sector, to lead, to use, to pay and to conserve (Andrew 1982:5). Flippo (1981:57) explain that "... organisations are systems of relating resources that will make possible the accomplishment of specified ends or goals."*

*Cloete (1991:158) indeed writes that "(m)any public institutions spend the largest part of their available money on personnel." Cloete (1991:158) suggests that "(w)hen the annual budget is compiled, the establishment of the institution should be investigated thoroughly to determine whether it is possible to abolish any parts."*

*Novick (1969:35-36) elucidates that manpower planning "... involves two parts. One is an analysis for determining the quantitative needs of the organisation - how many persons will be needed in the future*

*under specified conditions of growth. Stagnation, or even decline. The other part is a qualitative analysis to determine what the people should be like - what qualities and characteristics will be needed, assuming some idea of the organisation's future direction." System analysis assists managers to determine prerequisites of any particular post (Cloete 1984:149).*

**(e) *System analysis for the research and arrangement of work methods and work procedures in the public sector***

*With the help of system analysis, can the leading functionaries the newly implemented system(s) subject to intensive investigation of evaluating resistant work-methods and - procedures, or else, if necessary, to develop new work-methods and - procedures and to implement those that will give favourable results (De Necker 1993:106). Some techniques and tools are utilised together with system analysis to enable work-methods, such as organisational- and work-study investigations, network techniques, network programming and simulation (De Necker 1993:111-118). Van Niekerk (1978:37) describes work study as a management aid based on various techniques, but above all on methods studies and work measurement.*

*In expediting work flow it is concluded that system analysis will among other purposes:*

- *Identify unnecessary steps in carrying out a procedure or process in the unit or submit and thus*
- *eliminate bottle-neck's which tend to retard progress towards timeous achievement of specific goals, and*
- *supply feedback loops where additional information or specific control mechanisms are required (Gillies 1982:67).*

*System analysis can be used by managers to improve and expedite work flow in their institutions, departments or units.*

**(f) *System analysis as a tool for exercising control during policy implementation***

*Thornhill & Hanekom (1979:129) explain that it is necessary after the termination of administrative and functional activities to determine whether the expected results have been indeed attained. The exercise of control is a process "... to establish whether expected results have been achieved and to institute corrective action should a significant deviation become apparent."*

*System analysis is usually employed to analyse inappropriate activities within a system and to rectify or discard them as a measure of control. Control features are constantly reviewed and evaluated by government authorities in order to enhance the efficient implementation of programmes or projects using system analysis (Kotzé 1975:132).*

#### 6.4 *Evaluation of a policy*

*According to Roessner (1988:121) evaluation means the examination and assessment of the mode of action and of the effectiveness of the government policy. This encompasses especially identification of intended and unintended effects, analyses of target groups, accomplishment of objectives as well as analysis of the implementation and administrative management of programmes.*

*Policy evaluation is concerned with the value and desirability of the results and impact of a particular policy. At this stage of policy process, those people who determined and implemented the policy and those who were effected by the policy attempt to find out if it has really worked. Policy evaluation occurs as a continuous process throughout the policy process. It is an appraisal or assessment of policy content, implementation and impact in order to determine the extent to which the specified policy objectives are being achieved. Again it tries to determine the impact of a policy on real-life situations and to ascertain whether the policy makes any difference with regard to policy actions taken. Policy evaluation may lead to finding better policies to achieve objectives and also to changing the objectives themselves (Hanekom 1987:89).*

*Policy evaluation is carried on in various ways by a variety of actors such as policy evaluators and public managers. It is sometimes highly systematic; at other times it is rather haphazard or sporadic. In some instances policy evaluation has become institutionalised; in others it is quite*

*informal and unstructured (Anderson 1994:250). Evaluation results are used to build a body of objective information that is essential to the effective operation of a formalised policy process (Polivka & Stryker 1983:259).*

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## **7. CONCLUSION**

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*Information is important to all organisations and in particular for policy-making. To make a political or an administrative decision, the government needs information for that purpose. Managers need to make decisions based on facts or available information. Policies are formulated by the legislature in order to satisfy particular needs. Officials in the public sector are responsible to advise politicians and especially political office-bearers about the needs of people and how these needs can be solved. They are responsible to gather information to assist the legislative body in formulating a policy. To do it effectively they must make use of scientific methods and administrative tools to get the necessary information. After the legislative body approves a policy it is the task of the officials to prepare strategies of how to implement the policy. They must develop alternative solutions to be able to choose the one that will be the best to reach the goal(s). To do everything information is needed. That means that the officials must perform in such a way to use administrative and other tools, to the information that they need to do their job.*

*Computers are used as storage tanks of information. They allow information to flow efficiently and faster when needed for policy-making. In this way a conclusion can be reached that the best information system is one that is computerised, because statistics and reports become easily available for decision-making since information can be retrieved any time when needed. This does not mean that other systems, which are not computerised, are not important. It all depends on the manager and the end-user of an information system. Computerised information is vital for decision-makers that must perform planning, organising and controlling functions in order to achieve goals. The value of information is also affected by such properties as its relevance of contents, timeliness, reliability and form.*

*Administrative tools can be used to effectively ease the exercising of a choice in decision-making. Any action taken by the government with regard to policy-making implies that the choice of an alternative from among competing alternatives has been selected. The utilisation of administrative tools makes it possible for managers to quantify their decisions. It is therefore imperative for current managers to commit themselves to exploring the use of these tools to help them in decision-making. A reasonable amount of patience should be exercised as technical innovations as in computing tend to overwhelm the old guard more than it does important to explore as many alternative options as possible so as to choose the most cost-saving and yet effective solution to prioritise economic decisions.*

*Administrative tools are complementary to each other. No administrative tool should be considered as the most superior to others. Knowing these tools, public officials will be able to implement them for the programmes they are best suited. Knowledge in the use of tools will ensure efficiency and effectiveness in the delivery of goods and services by the executive and administrative institutions. Most of the tools lend themselves to objective determination of priority needs to be met, can be quantified to make costing and programming possible. The impact of utilising these tools in the public service benefits its consumers through the efficient and effective delivery of goods and service of a high quality in an equitable manner to all the people.*



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