CHAPTER 4 : VALUE SYSTEM AND VALUE CHAIN OVERVIEW

4.1 THE VALUE SYSTEM FOR SOUTH AFRICAN NATIONAL DEFENCE

The top-level value system consists of the DoD, the national and international environments. The DoD, as shown in Figure 49, is the element in the value system in which the value chain is located. The output of the DoD is those operations which fall within the role of the SANDF as defined within the Constitution. The SANDF's operations influence the environment, which includes the regional, local and international political, economic, socio-cultural and technological situation. In turn, the key parameters of the environmental situation influence the SANDF and serve as input to the DoD.

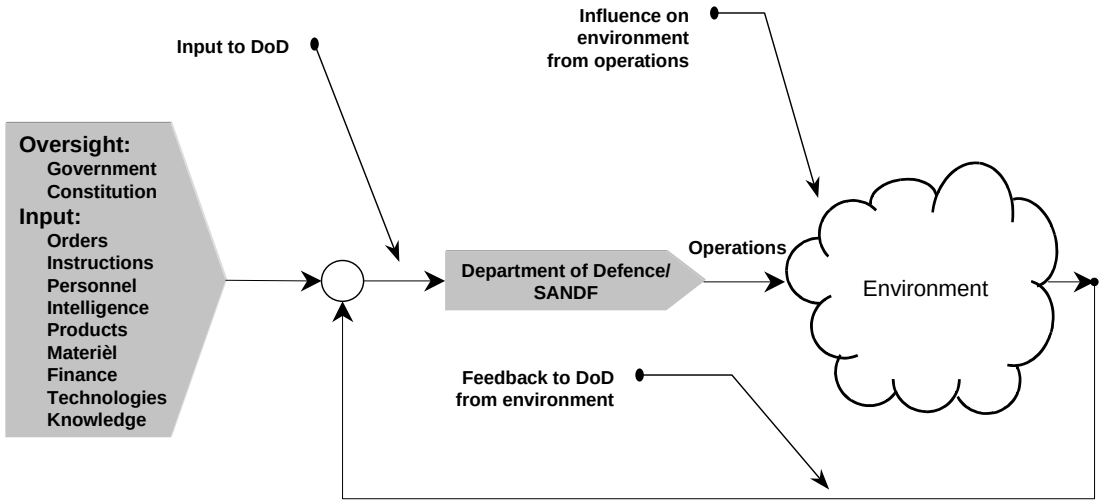

Figure 49: The Department of Defence in the National Value System.

From the discussion above, it can be seen that elements in the value system include both domestic and foreign firms in the defence and related industries.

Further elements in the value system include:

- The national environment.
    - The government of the RSA.
    - The RSA legal environment.
    - The RSA economy.
    - Local defence and related industries.
- The international environment.
    - Foreign countries.

- International defence and related industries.

4.1.1 THE PRODUCT LIFE CYCLE AND VALUE SYSTEM

At the lower level of the value system, the resources used to execute the SANDF's functions have a value system that also plays a part in Figure 49 above.

Products and Products Systems pass through the life cycle phases shown in Figure 50. Value is added during each of these phases. In the Operational and Support phase, the item is employed and, when required, supported. Support in this context includes logistic and engineering support, both of which are value-adding activities. The higher level use or employment of the item during training or war-fighting is also a value-adding activity. The value is then added at the User System or higher level.

Figure 50: Typical Life cycle Phases of a Products System or Product.

The phases in the life cycle of items do not all occur entirely within the DoD's value chain. Each phase in the life cycle has its own role-players, as shown in Figure 51.

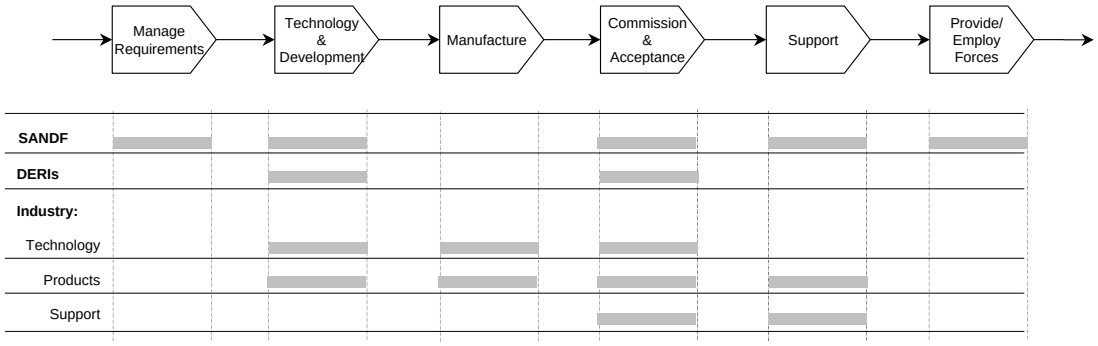

Figure 51: A Representation of the Products System Value System and the Role-Players.

The users within the AoSs should formulate their own requirements for operational capabilities.

The system specification developed from the requirement statement is a systems engineering task that can be executed by either the client's or contractor's engineers.

The individual Product or critical prime item development specifications are developed from the system specification: this is also a systems engineering task that can be executed by either the client's or contractor's engineers.

Further design and development of Products and items at lower levels on the systems hierarchy is primarily the domain of industry. Smaller or specialised projects to modify or upgrade items may be performed by the SANDF's engineering services.

The Products Systems often require upgrades during the operational phase of their life cycles. These upgrades may be to enhance capabilities in view of threats or to improve the dependability or supportability of the Products Systems.

4.2 THE VALUE CHAIN

This section outlines the value chain within the DoD. Further description of the parts of the value chain is presented in the following chapters.

4.2.1 ORGANISATIONAL TRANSFORMATION

The DoD is in the process of organisational transformation to enable it carry out its roles and functions efficiently and effectively within the framework of national values and policies. The main intent is to enhance performance management and to improve cost-effectiveness (Defence Review 1998: Ch 9 paragraph 21).

A. KEY CONCEPTS

The transformation of administrative, command and control and supporting structures of the DoD is based on the following key principles (Defence Review 1998: Ch 9 paragraph 22):

- Systems Approach: Adopt a systems approach to the management of defence.
- Jointness: Share resources between the AoS while preserving essential service uniqueness.
- Focus: Focus on the core business of defence and outsource non-core functions.
- Civilianisation: Appoint civilians where uniformed members are not required in posts.
- Reserve Force: Use the Reserve Force as far as possible.
- Information Technology: Exploit information technology.

B. SYSTEMS APPROACH

According to the Defence Review (1998: Ch 9 paragraph 22 –29), the DoD is considered as a system, divided into sub-systems working together to produce a specific output: those combat-ready forces that can be employed on operational missions. The combat forces can also be considered as systems.

The systems approach is based on four main processes: Strategic Direction, Support Forces, Provide Forces, and Employ Forces. The latter three are executive processes. The processes are presented in Figure 52 as the top level of the DoD's value chain, and are briefly explained below:

- Strategic Direction: The Strategic Direction process is vested in the integrated DoD, and directs the three executive processes through ministerial direction, the policy framework of the DoD, and the departmental strategy and plan.
- Support Forces: The vertical segment of the Support Forces in Figure 52 provides material and personnel to combat forces for the Provide Forces process, for deployment in operations. The horizontal segment of the Support Forces in Figure 52 maintains combat-readiness of Products Systems throughout the value chain.
- Provide Forces: The Provide Forces process integrates and transforms force components into combat-ready forces. This consists of three separate sub-processes:
    - User Systems, which are force components, are integrated and converted into combat-ready units, such as battalions, squadrons and ships.
    - Combat-ready User Systems are integrated and converted into combat-ready single-service forces or higher order User Systems such as brigades (i.e. forces drawn from one arm of the service).
    - Combat-ready single-service forces are integrated and converted into combat-ready JHOUS (task forces).
- Employ Forces: The Employ Forces process involves the deployment of forces in an operational capacity. C JOps employs combat-ready forces to accomplish specific missions as ordered by the appropriate directions from the President.

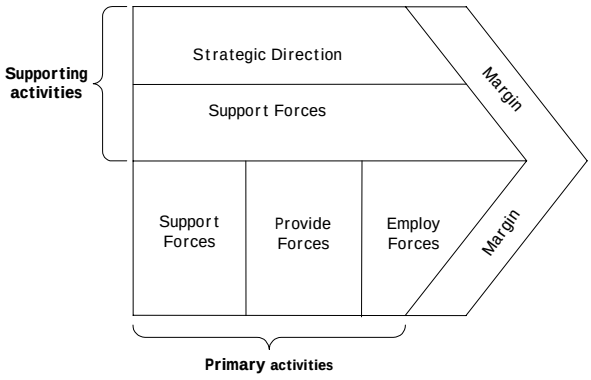

Figure 52: Value Chain of the Top-Level Process of the DoD.

The systems approach aims to achieve effectiveness, efficiency and economy and to facilitate the following policy objectives, although these objectives will only be achieved through careful planning and costing:

- Performance management is to be facilitated and accountability enhanced.

- Total costs of outputs are to be made visible.
- Empowerment of lower hierarchical levels is to take place and bureaucracy to be reduced.
- The separation of the Provide Forces and Employ Forces processes, should enhance control over military power.

C. JOINTNESS

Jointness seeks to enhance the effectiveness and efficiency of all military operations by synchronising the actions of the four Arms of Service (Army, Navy, Air Force and Military Health Service) and the civilian component of the DoD at every level. Joint integrators, such as technologies, command and control sub-systems and administrative and training procedures, will be nurtured in developing force components and preparing forces. Jointness, however, will not be achieved by destroying the unique features of the AoSs; their cultures are necessary for the different operating environments and will be maintained, although some adaptations may be necessary (Defence Review 1998: Ch 9 paragraph 30).

4.2.2 THE SUPPORT FORCES PROCESS

The DoD supports the SANDF through the Support Forces process. This makes forces available to the Provide Forces and Employ Forces processes. The Support Forces process includes the acquisition and support of appropriate human resources and equipment. Figure 53 presents the high-level process of supporting a Products System for employment in operations.

The DoD's high-level support process consists of the following main functions:

- Acquisition: The DoD acquires those Products Systems that are needed to satisfy the staff requirements of a particular user. The Acquisition Project Officer and the Products System Manager commission the Products Systems. The System Manager accepts the new Products Systems into service after qualification and commissioning. Engineering expertise is essential for development and verification during this process and is shown as the overlap between the two functional blocks. Integrated Logistic Support expertise is essential for the development and verification of the support system during the acquisition process, and is shown as the overlap between the two functional blocks.

- Integrated Logistics Support: The Products System Manager manages the support effort according to the baseline. The Products System Manager must provide the agreed availability of combat-ready Products Systems to the user. Requirements to improve reliability or supportability are referred to Engineering Support.
- Engineering Support: Engineering investigates cases of poor supportability, dependability or capability referred by the Products System Manager or User. Where necessary the operating baseline is changed and qualified. Engineering also supports the acquisition process.
- Disposal: Products Systems are phased out when they become obsolete or uneconomical to operate and support.

The subsequent chapters discuss these functions in more detail.

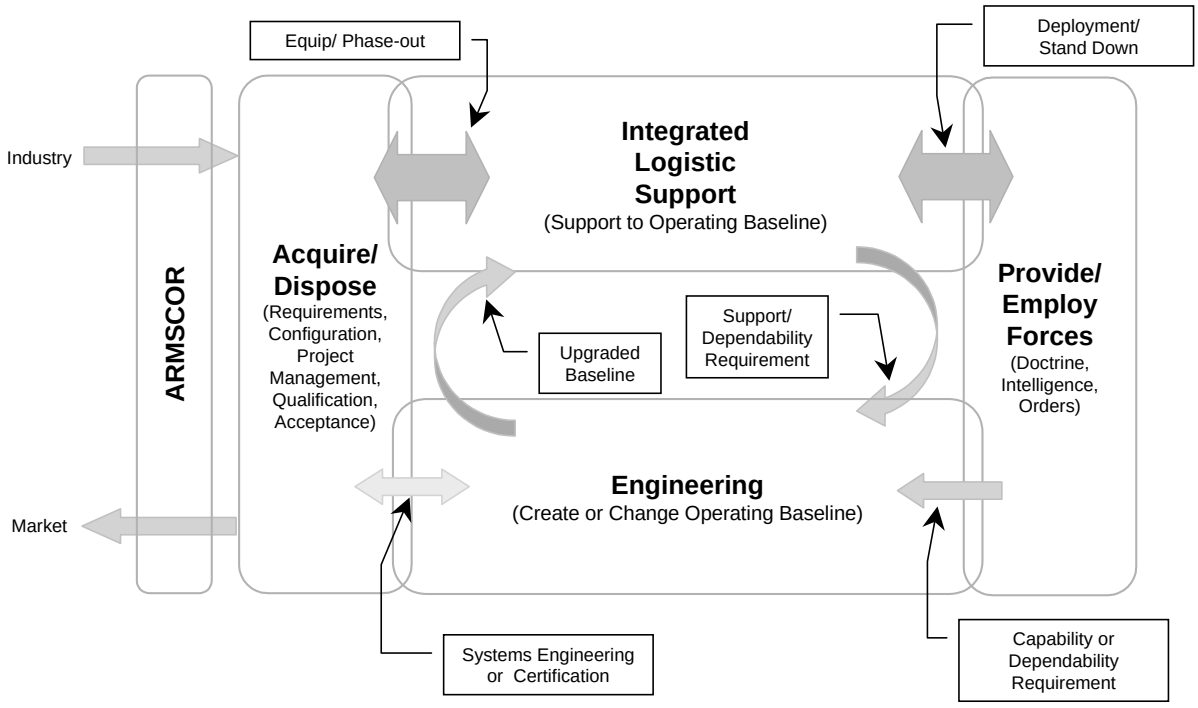

Figure 53: A High-Level Representation of the Support Process