Teasing The Successes And Limitations Of Leadership Involvement In Water Technology Innovations In Enhancing Job Creation In Namibia

Dr. Kavindame Romanus Kawana[1], Dr. Greenfield Mwakipesile[2], Prof. Dr. Kennedy Matengu[3]

[1]Namibia Business School, University of Namibia,
Private Bag 16004340 Mandume Ndemufayo
Pionierspark, Windhoek
Namibia

[2]Namibia Business School University of Namibia,
Private Bag 16004340 Mandume Ndemufayo
Pionierspark, Windhoek
Namibia

[3]Namibia Business School, University of Namibia,
Private Bag 16004340 Mandume Ndemufayo
Pionierspark, Windhoek
Namibia

Abstract: *This paper investigated the Successes and Limitations of Leadership Involvement in Water Technology Innovations to Enhance job creation in Namibia. The main theoretical framework comes from theories on leadership as a key aspect to socio-economic development. A quantitative method was used in a case study design. Data was gathered from grassroots the community's experiences and understanding towards the relationship between leadership, water technology innovations and job creation.*

Informed by this investigation and based on the Kavango East Region case study, there is a relationship between Leadership, water technology innovations and job creation. The challenge seems to be that Regional Leaders rarely pay visits to the rural communities to see what the communities are doing and come up with mechanisms to support them. There is no effective communication between Regional Leaders and the local community; there is no leader-community relation. Due to this, leaders do not allocate resources to be used towards water technology innovation projects by the rural communities. Consequently, the Kavango East Region is the poorest in the country with 53% of its population living in abject poverty.

The Limitations of Leadership Involvement in Water Technology Innovations to Enhance job creation in Namibia should be addressed as a matter of urgency. There should be a minimum number of villages to be visited by Regional Leaders every year and a performance contract for Regional Leaders which will be used as a tool to hold them accountable.

Keywords: Leadership, Water Technology Innovation, Successes and limitations, Job creation.

1. Introduction

Advanced countries that have adequately grasped the role of water technology innovation in their daily operations, have realised enhancement in regional development and better living conditions of their people [39]. According to [28], the country should develop itself through the use of its natural resources and technology innovation. Namibia has 14 Regions; these Regions are not at the same level when it comes to development or economic growth, delivery and available important infrastructure.

According to [9], Namibia's historic legacy of apartheid colonialism resulted in enormous levels of socioeconomic inequalities, primarily along racial lines, but also according to gender and class. The country's negotiated transition to independence ensured that the economic structure remained largely intact after independence. Despite various attempts by the Namibian Government to provide basic services for all (such as education and health) and despite several policy interventions aimed at redressing the apartheid legacy and extending social protection, Namibia still ranks amongst the most unequal societies in the world. Namibia followed a path of market-oriented economic policies, coupled with moderate social reforms but without a systematic program of redistribution of wealth.

As a result, the country's achievements, in terms of overcoming poverty, unemployment and inequality, were limited. The rural population, vulnerable workers and informal sector workers have experienced only limited material improvements since Independence. Likewise, the achievements of substantive gender equality are still a long way from being realised. Despite the substantial achievements in terms of legal equality, patriarchal cultures and attitudes are still widespread.

Some regions in Namibia are more developed than others. This could be attributed to the colonial leadership of the apartheid South African government which mostly concentrated on regions with mineral resources such as //Karas, Erongo, Khomas, Otjozondjupa and some parts of Oshikoto Region. The calling to use natural resources in order to create jobs and improve the living standards of the community came at the right time, as the world is geared for other economic challenges, which can only be overcome when a given community is self-reliant. Consequently, the role of leadership in water technology innovations in enhancing job creation in the Kavango East Region has become an issue, which needs to be understood. This has inspired this study. By way of making use of a case study of the Kavango East Region, this study probes and benchmarks issues of the role of leadership in water technology innovations to enhance job creation. The aim is to establish a hidden reality in Kavango East Region, as to what extend Regional Leadership play a role in water technology innovations which can be a key to job creation.

1.2.1 Leadership and Development issues

The main cause of lack of development in Namibia in general and the Kavango East Region in particular lies in the leadership and developmental plans created by Namibia's colonial masters. This does not mean that people are poor because of colonial policies of the past, but because they live in areas that were previously neglected by the colonial governments in terms of investing in using natural resources to develop the lives of people, in order for them to be self-reliant. Based on this background, one major purpose proceeding from this study is to take account of historical events regarding leadership and relate that to the impact on job creation and development in Namibia in general and Kavango East Region in particular.

Primordial history presents job opportunities for the people of Namibia and Kavango East Region in particular, as being contract workers in South African mines (Johannesburg) and some central, western and southern parts of Namibia, areas which were promoted by the colonial governments in Namibia. [26] stipulates that while social and economic development in Kavango was largely neglected by the South African administration because it was a black homeland, some of the transport infrastructure was developed for strategic reasons by the South Africans during the Namibian liberation war. That administration also started several agricultural development projects along the Kavango river, and allocated about 60 large farms to foster commercial farming by Kavango residents. Those first farms probably provided the foundation for the current massive effort to privatize large farms.

In contrast, the newly independent Namibia presented its National Vision 2030, which states that, the country should develop itself through the use of its natural resources and technology innovation. Namibia has 14 Regions which are not at the same level when it comes to development or economic growth, service delivery and available important infrastructure.

Although this vision is realistic, however, the belief of the inhabitants of Namibia and Kavango East Region in particular is that job opportunities are not available locally, the only way to get a job is to migrate to areas where there are mines, sometimes to other places (Aussenkher and Noordoewer) that are using natural resources (such as water) which are also available in abundance locally (Kavango East Region). However, they fail to use them although others use them at other places. Thus, in Namibia and the Kavango East Region in particular, leadership has always regarded existential realities such as poverty, inequality and unemployment as a source of social, political and economic challenges in that region.

One fundamental argument remains that, after Namibia's independence on 21 March 1990, the Kavango East Region has been electing political leaders, but the question that needs to be raised is with regards to what impact this leadership has had on developmental issues such as job creation, poverty eradication and inequality in the area. It is a known fact that development of any given region depends largely on the leadership of that particular region. According to [27], the relationship between leadership and sustainable development is very important, because there is no development without leadership especially in the social, human and cultural dimensions. It is broadly recognized that Africa and Namibia's service delivery in particular is insufficient and will be a major constraint in attaining the Millennium Development Goals (MDGs) and Namibia's well-known vision 2030 [10].

Although Namibia is free from colonialism and apartheid, the consequences of the colonial policies still prevail. However, the proclaimed Vision 2030 needs to be accompanied by a paradigm shift concerning the issues of how leadership should use the available natural resources in their respective areas of jurisdiction to create jobs and foster development for their regions and Namibia in general.

If leadership is to shift its focus onto using the Kavango River as a key to develop its people and Namibia in general, the Kavango Region could have been a center of wealth a long time ago. [26], agrees and further states that, in a broader context, it is significant that Kavango shares the middle section of the whole river system with Angola, and also occupies a central place between the catchment in Angola and the famous Okavango Delta, downstream in Botswana. As public, political and economic interests in the whole Okavango River Basin grow, the Kavango region is likely to assume an increasingly important and strategic role in the management of the River's health and wealth.

The challenging dynamics often experienced by regional leaders is on how to support their inhabitants to use natural resources to create jobs and develop themselves. Another important aspect worth mentioning here is that the colonial and apartheid governments, used force in their operations. This made the black communities in Namibia fear them and not engage their leaders to discuss developmental issues. The new independent Namibia adopted the policy of decentralization on which it promotes leader-community interaction concerning development. It promotes open participation in development dialogue between Regional leadership and the communities they serve. [23] maintains that, the Government has established thirteen (13) Regional Councils under the Act of 1992. This was a plan to bring the government closer to the people especially the previous disadvantaged black people. The apartheid government operated on the principles of making the black people's living standard worse as compared to whites and the coloured people. This resulted in widening the gap between the black people who are seen as poor people and the white people as rich people. At present the majority of black

people work for white people, but very few white people work for black people. This is a result of the apartheid system which taught people that black and while people are not equal.

[23], further observed that, after the establishment of Regional Councils in 1992, they were mandated to make sure that the living standards of the people were upgraded in all areas in order to reduce vulnerability and foster self-reliance among the communities of Namibia. This was with the intention of making the Namibian people equal irrespective of skin color and previous backgrounds.

Because the colonial and apartheid governments were undemocratic, there was no opportunity for black people to ask their leaders to account for lack of development and poverty became entrenched amongst them. It looks like even after independence, many inhabitants of Namibia and Kavango East Region in particular are still afraid of confronting their leaders for lack of developmental activities or the provision of resources for development. As a result, they remain poor, unemployed, and live lives characterized by inequality. It seems that there has not been extensive education in the local communities especially in Rural Kavango East Region on their rights and powers as community members over their own elected regional leaders. Because the communities do not confront their regional leaders, the leaders choose to remain unsupportive to them.

The use of natural resources can be a key to unlock developmental challenges in the Kavango East Region. There is need for leaders to pay attention to this and provide the needed assistance to the community. [40], agrees and says the Kavango River flows through south eastern Angola towards Namibia, where there are a number of districts that have a high potential for irrigated and flood-recession agriculture. Initial surveys in this area indicate that the region could provide important agricultural and economic development opportunities in the future. The district administration in the region is in need of assistance, both technical and financial.

Although there is leadership in place for the Kavango East Region, they are inactive and ignorant of the use of water technology innovations. According to [27], it is clear that leadership plays an important role in administration and this role is in highlighting the human side than in other aspects. [16], avers that, the role of leadership in the development and growth of such regions is paramount, with of course the understanding that leadership is one of the most creative elements of the regional economic development process.

The problem identified by [22], is that the communities are not using water technology innovations to create jobs for themselves and to use water effectively, due to several limitations of leadership involvement in water technology innovations. The Report goes on to state that this has resulted in high unemployment and high poverty levels. According to the report developed by [26], they found that while the focus of Botswana's use of the Kavango has been on its tourism, Namibia viewed the river as a passing resource to be exploited before it leaves at Muhembo. Thus, the river is perceived as a source of water for irrigation and provides water for domestic and industrial needs in the Central Regions. A number of lodges and camp sites have been developed by private individuals and companies, and one conservancy, but the leadership has paid little attention to the creation of wealth and jobs through the use of water in the Kavango River. Traditional Leaders (Headmen) should know about water technology innovations and its importance through awareness and training from the experts through their regional leaders. According to [27], the relationship between leadership and sustainable development is very important, because there is no development without leadership especially in the social, human and cultural dimensions.

In order to examine the role of leadership in water technology innovations in enhancing job creation issues in Namibia and the Kavango East Region this paper used as a case study. The main objective of this study was to investigate the roles of leadership involvement in water technology innovations to enhance job creation.

The sub-objective of this paper was:

  ☐ To investigate successes and limitations surrounding leadership involvement in water
    technology innovations to enhance job creation.

2. Leadership in general

Literature on rural leadership is full of descriptions of the challenging nature of rural areas. Leadership is necessary to assist rural areas to expand their traditional boundaries and bring meaningful development. As society becomes more complex, rural areas become equally complex, placing a greater demand on the individuals who lead them.

But what is leadership? Do leaders have special personalities and/or physical traits? Is a leader an individual who closely monitors the performance of others? Are leaders, individuals who articulate a vision and inspire other members in the organisation to believe in that vision? Do leaders tell people what to do, tell them when to do it, and punish them if things are not done as prescribed? Do leaders have a specific behavior that they exhibit in the course of their interaction with others? Or, are leaders individuals who can cultivate a special type of relationship with people, making each individual feel unique? In pursuit of answers to these questions and to establish a clear definition of leadership theorists, researchers and practitioners have spent over a century researching and analyzing various theories on the subject of leadership.

In the majority of the literature accumulated over the past century, it is clear that definitions and meanings of leadership are numerous and at times conflicting. For example, in an earlier work, [7] indicated that there are 130 definitions of leadership. Furthermore, [6] postulate that over 350 definitions of leadership have been coined over three decades.
Leadership has also been defined from a behavioural and interpersonal perspective. For example, [1] defines leadership as the quality of the behavior of individuals whereby they guide people or their activities in an organized effort. Despite the multiple definitions of leadership, the following components can be identified as being central to the phenomenon of leadership:
  (a) leadership is a process;
  (b) leadership involves influence;
  (c) leadership occurs within a group context; and
  (d) leadership involves the attainment of goals.

2.1 Main theories of leadership

Leadership can best be defined as a process whereby an individual influence a group of individuals to achieve a common goal [35]. Defining leadership as a process means that it is not treated as a trait or characteristic residing in the leader alone, but as a transactional event that occurs between the leader and his or her followers. It is a process which implies that a leader affects and is also affected by those whom he or she leads. It emphasises that leadership is not a linear, one-way event, but rather an interactive event. However, it is important to note that it is the leader who often initiates the relationship, creates the communication linkages, and carries the burden for maintaining the relationship.

Defining leadership as a process also emphasises the significance of relationships, which are very important in rural areas. The type of leadership effective in rural areas must value relationships, individual differences and the important characteristics of rural communities [2]. Therefore, to be an effective leader in rural areas, a special type of leadership style should be present. Leadership style may be defined as a pattern of specific behaviours or attitudes that a leader places on different leadership functions [26]. Although leadership is viewed as a process, leadership style is the glue that holds the process together.

Approaches to studying leadership have resulted in a focus on leadership styles prevalent in the 1990s and in the first decade of the 21st century. Literature reveals a number of schools of thought about leadership styles. It suggests that leadership styles have developed through at least four main generations of theories namely:

- trait theories,
- behavioural theories,
- situational theories and
- transformational theories.

The available literature also points out that the four theories are not mutually exclusive or time bound. In other words, although it is true that the progression of thinking tends to follow a sequential path, it is very evident in the literature that elements of the four generations of leadership theories have experienced cross-fertilisation [5] ;[43].

The first of the four generations of theories are the trait theories, where a universal set of effective characteristics is identified. Some of the earliest studies of leadership in the United States are based on the assumption that good leadership is synonymous with the possession of certain traits [36]. Specifically, some of the traits include such widely diverse attributes as social characteristics, intelligence, and even physical appearance. Other traits highlighted are the ability to supervise, initiative, self-assurance, and individualised approaches to work [13].

The first half of the 20th century was dominated by research that examined leadership traits. In the early 1970's, there was a noted shift from defining leadership traits to an approach that related those traits to leader effectiveness, reflecting a shift from trait research to behavioural research that was in progress.

The second are the behavioural theories, where a universal leadership style was identified. Behavioural theories began to have a major influence on leadership studies during the 1950s and 1960s. The Ohio State University Leadership Studies that began in 1945 are considered to be the origin of the behavioural approach. Those studies established two of the most well-known approaches to understanding leadership styles. For example, the studies resulted in leadership behavior being charted on two dimensions namely: initiating structure, wherein the leader acted to further the work objectives of the group, and consideration, in which the action focused on interpersonal relations and the needs of the workers.

Leaders who are high on the initiating structure concentrated on employees' tasks and procedures. They devoted much of their efforts to scheduling work, devising work activities, and communicating information about the work. Leaders high on consideration structure focused much on understanding their employees and building productive working relationships. Behavioural theories implied, at least theoretically, that training and education in leadership could create effective leaders [2];[25]; [44].

At the same time as the Ohio State University's studies, Bales (1950) and his associates concluded from their studies that two categories of leadership behaviour were primary namely: task-oriented and socio-emotional. Leadership studies at the University of Michigan also identified these two dimensions, calling them job-centred and employee-centred [25]. Other terms for these two dimensions include task behaviour and relationships [19] and concern for production and people [8]. Several researchers saw these dimensions as opposite sides of the same coin. A leader that was high on one dimension was not necessarily low on the other. [8], however, feel that a leader could be either high on both dimensions at the same time, low on both dimensions at the same time, or somewhere in between. This combination was the basis of their managerial grid, where the leader's style is determined by the amount of attention given to both dimensions. This grid has nine levels of concern for people and nine levels of concern for production.

The third are the situational theories, where a combination of leader, subordinate, and situational characteristics were considered [20];[37]. Two well-known researchers on leadership, Douglas McGregor (1960) and Fred Fiedler (1967) were very instrumental in the development of situational theories. McGregor theorised that individuals' potential for leadership is greatly influenced by their assumptions about the nature of human beings. Fiedler believes in the contingency theories which states that leadership is based on situational factors. He sees the leaders' capacity to influence subordinates as largely a matter of the leader's style and personality, the characteristics of the work group, and the needs of the work situation [24]. Similarly, [19] identify four different leadership styles that could be drawn upon to deal with contrasting situations. In their research, they provide an influential discussion of choosing the appropriate style for a particular situation.

The other theory is the transformational theory where the focus of the leader is on the unique connection between the leader and the followers. This form of leadership accounts for performance and accomplishments for the larger group and the organisation [4]. Transformational leadership theories

evolve from the transactional theory which focuses on the leader awarding or disciplining followers depending on the adequacy of their performance [5].

Transformational leadership goes beyond the attempts of the leader to satisfy the followers through transactions or exchanges based on contingent rewards. In contrast, transformational leaders typically heighten awareness and interest in the group or organisation, increase confidence, and move followers gradually from concerns for existence to concerns for achievement and growth. Furthermore, transformational leaders develop followers to the point where they are able to take on leadership roles and perform beyond established standards or goals [3]; [5].

Each of the leadership models discussed above offer suggestions of various aspects that might be appropriate for rural leadership. Taken together, these and literally hundreds of other leadership models identify fundamental aspects of leadership that are appropriate for developing a rural leadership model. In summary, some of these aspects include the significance of the work environment and the importance of tasks and relationships. Other attributes of leadership models include trust, integrity, power, influence and finally cultural competence [29]. The authors propose that of all the leadership models discussed they seem to point to the fact that the transformational leadership is the best model for rural areas. This leadership model is also a good model for this study.

2.2 Rural Leadership Model

According to [27], transformational leadership theory is an example of the development of leadership theories that have surpassed the traditional bureaucratic organisational models of leadership. Transformational leadership is a model that includes a

structure that stresses leadership styles that allow for flexibility and individualization. It encourages input in decision making and stresses the importance of teamwork and social relationships. A transformational leader is very important to the community. This leader has a clear perception of her/his followers and is aware of his/her own values, needs, vision, and acts in a manner that promotes the needs of both. This leadership model recognizes the importance of the connectedness of the individual, the work group, and the community. It calls for individual input while working for the overall benefit of the community. This type of leadership is ideal for the situation in the Kavango East Region, since there seems to be a challenge for a leader- community relationship.

As a result, individuals feel included and they are prone to want to spend more time and energy to meet the needs of the community. Transformational leadership creates an atmosphere in which all individuals feel included and appreciated which motivates them to enhance their own satisfaction while working to promote the good of the community [14].

Transformational leadership is empowering and participatory because it promotes decision-making and fosters local leadership. Teamwork is emphasised and the community is viewed as a system of people working together with common dreams. This leadership style creates a culture based on openness, trust, respect, and inspires a team spirit.

Transformational leadership has several implications for addressing the problem of leadership in rural areas. It has been well established in extant literature that rural areas are in need of good leadership [12].

Transformational leadership is a model that provides the type of leadership necessary to deal with the complexities that exist in most rural communities. It has the elements of trust and respect that facilitates the cooperation needed for effective teamwork. Furthermore, it emphasises a relational approach in which leaders show interpersonal consideration through relationship building, empathy, and interdependence that is so appropriate for rural areas [3].

[33] suggests that community leadership should be based on our knowledge of communities rather than organisations. He supports this claim by stating that community leaders cannot rely on formal authority or power positions. Leaders should, on the contrary, depend on their ability to build relationships and support from the community itself. This idea of building relationships is not the way organisational leaders conduct business. The authors use this difference between community leaders and business organisations as one way of supporting their rejection of formal leadership theories.

Transformational leadership is a model that goes beyond the traditional approaches to leadership. It approaches the community as an interactional field. The community field is a process of interrelated actions through which residents express their common interest in the local society. Transformational leadership influences relationships among individuals, leaders and collaborators who bring about real change that reflect their mutual purposes [29]. By thinking of leadership as relationships rather than associating the term with position and responsibilities could help overcome many rural community residents' reluctance to "get involved" or "be a leader" [33]. This way of thinking certainly lends credibility to the problems facing rural community leadership development today.

One major concern is the unwillingness of members of society to get involved in their communities. Defining leadership as a relationship might alleviate the fear certain people have in being called leaders. This model also has some major practical implications for examining leadership in social work education and profession. One of the main premises of this leadership model is also an interactional approach.

This model stresses the importance of social relationships when working with communities and redefining one's perception of leadership. Leadership has been traditionally conceptualised as an individual skill. The corresponding approach to research and theory testing assumes an individualistic conceptualisation of leadership, in which a sharp distinction is drawn between leaders and followers. Within this tradition, leadership and leadership development is thought to occur primarily through the individual. Much research has shown the complex nature of interaction between a leader and the social and organisational environment. From this perspective, the transformational leadership model proposes a way of working with communities to build new leaders and engage communities. In many geographical locations, social work practitioners are viewed as being very distant from the local community [32].

According to [3], transformational leadership is important for social work practitioners when working with rural communities. This theory approaches leadership as a social process that appears to engage everyone in the community by moving away from the formal structure that guides many organisations. As indicated earlier, leadership in the social work profession is becoming increasingly more important and complex as the profession itself has changed. This theory proposes an approach to leadership that will assist rural communities in addressing some of the social, cultural, economic, political and demographic factors that are creating changes in human services delivery systems.

Shifting the focus of leadership from the leader to emphasising the quality of the relationship between the leader and the followers creates the opportunity to build new communities and address some of the issues facing rural communities [33]. Transformational leadership suggests some practical applications to addressing the problems in leadership facing rural communities [43]. Based on extant literature the issue of leadership is critical to rural communities in the 21st century. Transformational leadership appears to be a model that can benefit rural communities. However, further research is needed to assist social work leaders in understanding the depth of this theory so that it may be used more effectively to bring about change in rural areas.

2.3 Regional leadership of the Kavango East Region

The Kavango East region is facing a lack of leadership, which is supposed to bring about water technology innovations at the centre stage to enhance job creation for the local inhabitants. Lack of leadership is a ticket to lack of development. According to [26], "…a number of lodges and camp sites have been developed by private individuals and companies, and one conservancy, but the leadership has paid little attention to the creation of wealth and jobs through the use of water in the Kavango River".

Many argue that leadership may be the catalyst through which these changes may occur. Communities that are creative, entrepreneurial, and committed to building a shared vision and consensus are found to be better prepared to address community needs [7]. For rural communities to be sustained, there is need for local leadership to take charge and guide the way into the future. A new generation of leaders is needed to build local partnerships for managing change in today's diverse communities [38]. Leadership itself has played a fundamental role in nearly every aspect of society, and is particularly important in developing rural communities.

In 1908, President Theodore Roosevelt initiated the Country Life Commission and charged it to study the major aspects and issues in rural areas in the United States of America. A primary finding of that study was the overriding lack of quality leadership within rural areas. Yet, reflecting on leadership by itself is inappropriate leadership (as defined later within this chapter) is the accomplishment of group purpose, which is furthered not only by effective leaders, but several other factors including innovators and entrepreneurs, available resources, and social capital, or contributing to the common good [12]. Therefore, leadership must be considered within a context, regarding a specific purpose, in this case the role it plays in the use of water technology innovations to enhance job creation in Kavango East Region.

Therefore, one of the contexts and purpose behind this paper is, the rural communities and how leadership relates, interacts, and affects individuals, social capital, and change within the communities of the Kavango East Region.

2.4 Leadership and rural development

Rural communities have unique ideals and values, as well as a culture and life of their own. Unfortunately, many of today's rural areas are in trouble. Issues facing rural communities are vast and numerous; more specifically, rural communities in Namibia. Still, many argue that leadership may be the catalyst through which positive changes can take place. Local leaders are concluding that if economic and community development is to take place, it is their responsibility to make it happen. Fortunately, some of today's rural communities are doing exceptionally well. But what makes these communities different? And what community aspects come into this equation? Finally, could the presence of effective community leadership be the key to leading troubled communities to a brighter tomorrow.

[31], conducted a study in Nigeria. The overall purpose of the study was to ascertain the role of local leaders in community development programmes in Idea to Local Government Area (LGA) of Imo State. The study aimed to:

1. Ascertain the various roles played by local leaders in community development programmes in the study area;

2. Identify the sources of information on community development;

3. Describe the gender issues in local leadership as it relates to community development;

4. Identify the factors that hinder local leaders from achieving results in community development in the area; and

5. Draw implications for extension policy and practice.

They said that, it is generally accepted that self-sustained rural community development is vital to the economic and social progress of any developing nation like Nigeria. Unless the ways and means of massively accelerating development in the rural areas where over 80% of Nigeria's population reside [11] our national goal of self-sufficiency and control over resources may continue to evade us. Interestingly, the resources already exist, but what is missing is the mastery of the practical wisdom and technology to mobilise them for our overall benefit (leadership). The main argument in favour of community-based development is that communities are deemed to have a better knowledge of the prevailing local conditions (such as who is poor and deserve to be helped, or the characteristics of the local micro-environment), and a better ability to enforce rules, monitor behaviour, and verify actions related to interventions [32].

2.5 The Role of Leadership in water technology innovations

"Consumers today have a better standard of living than those consumers had a decade ago and are much better off than

consumers were a hundred years ago. That improvement is due to technological innovation. Thus, technological innovation is a critical driver for improvement in consumers' living standards, survival, growth, success and the wealth of nations. Understanding innovation is of great importance because of its huge impact on these three levels of consumers, and nations" [39].

Accelerating innovation and technology will help address the complex challenges facing America. Technology innovation can be a means to ensure that future actions are more sustainable and be an economic driver, help businesses thrive, create jobs and be a source of U.S. exports [21]. The improvement of water treatment and management systems and technological solutions in recycling and sea water desalination together with other non-technological solutions should be explored. These approaches require the attention and action of governments around the world [34]. This means that leadership involvement is a paramount aspect to any developmental activity. My opinion is that leadership should be involved in order to see development taking a centre stage in the Kavango East Region, in the form of employment creation.

2.6 Challenges facing leadership in water technology innovations

One should imagine a holistic and integrated approach to water quality and water quantity management, which maximizes ecosystem restoration. It is difficult to envision sustainable solutions to our water challenges without technological innovations, such as the distinct opportunities identified above. While these water resource challenges and market opportunities are framed as individual pursuits, ideally, many of these can be achieved in an integrated manner. So, for example, in the case of a traditional municipal wastewater treatment facility, one should imagine a utility that generates energy; captures nutrients for resource recovery; sells their water for reuse; generates half the volume of bio solids; emits substantially less greenhouse gases; uses green and natural infrastructure to manage storm water, mitigate climate impact and provide aesthetic cityscape benefits; and contribute to a comprehensive watershed monitoring program in partnership with a diverse set of partners. Just imagine if we put all of the pieces together.

2.7 Opportunities and Challenges of water technology innovations in Kavango East

According to [22], the communities in Kavango East Region are not using water effectively neither are they using water technology innovations to create jobs for themselves due to a lack of leadership involvement. This has resulted in high unemployment and high poverty levels in that region. According to [26], while the focus of Botswana's use of the Kavango has been on its tourism, Namibia views the river as a passing resource to be exploited before it exits Namibia at Muhembo. Thus, the river is perceived as a source of water for irrigation, domestic and industrial needs in the Central Regions. A number of lodges and camp sites have been developed by private individuals and companies, and one conservancy, but the leadership has paid little attention to the creation of wealth and jobs through the use of water in the Kavango River. Traditional Leaders (Headmen) should know about water

technology innovations and its importance through awareness and training from the Regional leaders.

This means that there is a great opportunity for water technology innovations in the Kavango East Region. This is actually the key aspect which this study is looking into, the use of water technology innovations in order to enhance job creation. In addition, Namibia has established green scheme projects.

3 Methodology

The research design of this paper was a case study. [17] define case studies as "in-depth studies of a specific 'unit', which may be individuals, organisations, events, programmes or communities". Directed by this definition, this research selected a case study to investigate a specific case of the role of leadership in water technology innovations in enhancing job creation.

A case study design was selected for this study because it draws upon a range of methods, such as interviews and questionnaires, focus group interviews by village communities, observation and document artifact collection and analysis. In this regard, the researcher enters the subjects' world or life-setting in the Kavango East Region to understand and interpret the meaning that subjects give to their everyday life in the use of water in their villages. In this case, the experiences of the people living in the Kavango East Region in terms of economic, social and cultural ties as well as water usage, were a major denominator of the results of this study.

The study utilised an applied research aimed at solving both policy and real problems regarding regional leadership involvement in water technology innovations to enhance job creation in the Kavango East Region and Namibia in particular. As stated in the statement of the problem above, this study was geared towards exploring answers to the research question, 'To what degree may the full regional leadership involvement in water technology innovations enhance job creation in the communities of the Kavango East Region?"

The objective of the methodology used in this study was to come up with an amalgam of exploratory and descriptive approaches. The researcher selected this method because this study arose out of a lack of basic information concerning perspectives and understanding by the communities at grassroots level in the Kavango East Region on the role of regional leadership in water technology innovations to enhance the job creation phenomena. [15], indicated that exploratory research is conducted to gain insight into a situation, phenomenon, community and/or individuals.

In qualitative studies such as this one, [18] suggested that description is more likely to refer to a more intensive examination of phenomena and their dear meanings, thus leading to thicker description, hence a research strategy such as a case study can be used.

Furthermore, the purpose of this study was to provide qualitative and quantitative information on various factors, which the researchers hypothesised as being related to leadership involvement in water technology innovations to enhance job creation in the Kavango East Region.

This mixed method of study made use of the case study design to assess the role of Regional Leadership involvement in water technology innovations in enhancing development in the Kavango East Region. The study showed a detailed and intensive analysis of a single case. It was a single location (one Region) study. A case study research involves the study of a case within a real-life contemporary context or setting [42].

Since the study involved both exploratory and descriptive approaches it used both qualitative and quantitative data presentation and interpretation as in section 6 of this study. As stated above, this study was delimited to the Kavango East Region of Namibia. Interviews with the communities were conducted in the villages of the Kavango East Region.

Twenty-one villages were randomly selected, for the purpose of the focus group interviews conducted among the communities in that area. At this phase, the researcher only presented a primary indication of the design and methodology of the research.

This study was analytically descriptive, using a mixed-method approach. It exploited inductive generalised reasoning, since it used statistical inferences in which the researcher generalised from a non-probability sample to the research population of the Kavango East Region. Some of the data was collected by means of observations, while the primary data of the study was obtained through focus group interviews. This means that the focus group interviews constituted support for the non-probability results. Focus group interviews were used for this purpose. Observations, interviews and non-structured questionnaires are qualitative methods of collecting data.

The researcher prepared a focus group interview schedule in the form of meetings organised amongst the grassroots community villages of the Kavango East Region as discussed above. The structured research questions were prepared in English, but could be administered in vernacular such as RuSambyu, Rumanyo and Thimbukushu where necessary. To contextualise this research into the Kavango East Region, the researcher included current information / secondary data regarding leadership involvement in water technology innovations to enhance job creation. The information covering the issues was in reports, books, journals and periodicals. This section on methodology consists of the following concepts: data collection procedures and techniques; the team of researchers, study area, population, sampling methods and strategy.

3.1 Population

According to [24], 'population' is the aggregate of all the cases that conform to some designated set of specifications. Hence, by the specifications of people residing in the villages of the Kavango East Region, this sub-section defines a population consisting of all the people residing in the villages of the Kavango East Region. As alluded to above, the sampling selection for research was rooted in the 2011 Population and Housing Census conducted by the [28]. However, there were strong assumptions that uncontrollable movements of people within the Constituencies and villages of the Kavango East Region, as well as to other Regions would affect the population for the chosen area. Therefore, this research included a probability technique to obtain more information from people living in the grassroots villages of the Kavango East Region.

This was done because it is not always easy to obtain statistics of people moving from one village to another, or from one constituency to another on a daily basis by means of probability techniques. The problem is based on the complexity of recording the movement of people daily.

According to [25], supported by the delimitation commission report of 2013, the Kavango East Region had a total population of 115 447 people, with 343 villages (excluding Rundu town and Divundu Village Council), with an average household size of 6.7 and an area of 25 576 square Kilometres. Based on this, for the sake of this study, the unit of analysis was a village. A sample of 21 villages were identified within a radius of 15-222 kilometres along the Kavango River, eastern side of Rundu town.

3.2 Sample

[24], maintained that, sampling refers to the group of elements selected with the aim of investigating something about the population from which they are taken. Two sampling techniques were used in this study. The probability sampling in the way of random sampling technique was used to select representative villages from the total of 343 villages in the Kavango East Region. The non-probability sampling technique was used by way of a purposive sampling to select the headmen/headwomen of the village and their community representatives to elicit both qualitative and quantitative data on the role of leadership in water technology innovations to enhance job creation in the Kavango East Region. This was done based on the experience of the grassroots communities in the villages. Below is how the number of villages was calculated:

The sample of this study consisted of 19 randomly selected villages out of 343 villages. For each village there were 8 members (1 headman and 7 advisors) x 19 villages = 152 members, which were interviewed in focus groups. Each village had 1 headman who was automatically part of the 8 members. The 19 villages were randomly selected by using a research randomizer, a computer program.

The sample size was calculated using Slovin's formula at a 95% confidence interval. The formula is shown below:

$$n = \frac{N}{1 + N(e)2}$$

Where:
N= Population
n= Sample size
e= $(0.05)^2$

$$n = \frac{343}{1 + 343(0.0025)}$$

n= 343/1+0.8575 =1.8575
Sample Size=21 villages

In this regard, twenty-one (21) villages, with a total of 777 grassroots community members were interviewed at their villages where the headmen/headwomen helped to facilitate this research project in order to obtain information without any restrictions on people. All people who came to the headmen/headwomen tree were interviewed, since turning some away could cause embarrassment, which could cause the remaining respondents to avoid giving information to the researcher.

In addition, six hundred and eight (608) females and one hundred and sixty-nine (169) males participated in the focus group interviews; three hundred and seventy-four (374) were between twenty-three (23) and thirty-five (35) years of age, while the rest were above thirty-five (35) years of age. Forty-six (46) participants were disabled from albinism and dwarfism.

3.3 Sampling strategy

The Kavango East Region is a region that shares a border with the Kavango West to the western side, to the northern side along the Kavango River it shares a border with Angola, to the eastern side it shares the border with the Zambezi Region, and to the southern side, it shares the border with Otjizondjupa Region. The Kavango East Region has a history of using water to produce food for domestic consumption. Given this very short background, the questionnaire was structured with a view to reflect demographic patterns in the Kavango East Region. The questionnaire was also based on the assumption that the grassroots community in the villages of Kavango East Region use water for various purposes such as domestic / household use as well as the production of food such as vegetables. One type of questionnaire was prepared for all focus group interviews in the villages of the Kavango East Region. The questionnaire in Appendix B reflects the probability side of the purposive sampling technique since the researcher selected villages randomly and purposively selected the respondents who participated in the focus group interviews.

However, this technique used a random probability in the selection of villages to be interviewed combined with purposive selection of the respondents. The purpose of the questionnaire was to probe the respondents' experience and understanding regarding leadership involvement in water technology innovations to enhance job creation in the grassroots rural community of the Kavango East Region.

3.4 Research Instruments

The study used focus group discussions for collecting data. During the focus group interviews structured and non-structured questionnaires were administered to the village participants.

3.5. Procedure for data collection: Focus Group Interviews

The researcher sought approval from the Kavango Regional Governor, informing Regional Leaders that he would be in the Region to conduct research. After that, the researcher met with the village headmen/headwomen to explain to them about the research and its processes, and then made appointments with randomly selected villagers on different dates and times. Twenty-one (21) villages (the headmen and senior advisors)

were asked to participate in focus group interviews; participants were asked questions concerning the role of leadership in water technology innovation in enhancing job creation. The standardised non-structured questions had 31 sub questions to cover the two research objectives namely:

(1) to investigate successes and limitations surrounding leadership involvement in water technology innovations to enhance job creation and;

(2) to investigate the relationship between leadership, water technology innovations and job creation.

3.6 Data analysis

After the focus group interviews had been conducted at all the sampled villages, the qualitative data was coded, and a data dictionary created to explain the meaning of each code. Then the data entry process started, using Statistical Packages for Social Scientists (SPSS). Univariate analysis was used to test for categorical variables, and bivariate analysis was used to test for any correlations. Multivariate analyses was conducted to test multiple linear regression analysis. This was followed by data display, which went a step beyond data reduction to provide an organised, compressed assembly of information that allows one to draw a conclusion. The researcher established patterns of interrelationships that suggested why the success or limitations in leadership involvement in water technology innovations to enhance job creation and how leadership involvement in water technology innovations contribute to job creation. After all this was done, the data was then interpreted, in the form of a report.

3.7 Village interviews

After all, 21 focus group interviews had been carried out, the researcher used content analysis to summarise and categorise the interview field notes and recordings of data according to their typicality / common themes. The researcher organised data, breaking it into manageable units, synthesising data, discerning patterns of situations, and discovering what was important and what was to be learned. Individual themes were used as the coding sampling units for analysis. After all the focus group interviews, the notes on the responses were processed for the phenomena to speak for itself. A coding system to code all the responses was developed, by creating abbreviations of the themes from the questionnaire which was used. The research results are presented in graphs and charts under the section on Results and Discussions.

3.8 Data collection procedures and techniques

The nature of the research design was that of a case study. The data was collected by means of direct, systematic observation and focus group interviews. In the execution of these methods, the research participants (interviewers and interviewees) had to be obtained to carry out the research in terms of the case study research strategy discussed above. The following sub-sections sketch the research techniques used during the fieldwork on the Kavango East Region.

3.9 The questionnaire

The research instrument used was an eight-page questionnaire developed for interviews with focus group interviewees in the grassroots community villages of the Kavango East Region, using a random sampling technique. The questionnaire was written in English, but it was administered in the vernacular

(RuSambyu, Rumanyo and Thimbukushu respectively) in order to make it easy for the interviewees. The inclusion of non-structured questions in the questionnaire enabled the researcher to elicit the respondents' unique views on particular issues of concern. The questionnaire consisted of 22 questions and was organised into three sections namely:

Section A: Demographic information

This section contained items that identified details about the respondents in relation to their gender and number of respondents.

Section A: How does leadership involvement in water technology innovations contribute to job creation?

This section started to probe the community on how they wanted their Regional Leadership to be involved in water technology innovations in order to contribute to the economic development of their respective villages and their region in particular. It also sought to establish how many times the local community met with their regional leaders to discuss the role of leadership in water technology innovations to enhance job creation.

The section further probed the community's views on whether they thought their regional leadership had a role in water technology innovations to enhance job creation at their villages. It continued and probed the community on whether they thought water technology innovation use at their respective villages would contribute to wealth creation and a reduction of inequalities. The section further probed the community, if their regional leadership was involved in water technology innovations to enhance job creation at their villages. The section also sought to understand from the community how their regional leadership was involved in water technology innovations to enhance job creation.

3.10 Research ethics

Permission to conduct the study was sought from the Kavango Regional Governor, in writing. The researcher ensured that all focus group interviews started by giving a statement of intent where the researcher assured the respondents that the information and data collected would be used solely for the research and that the respondents would have open access to the results once they were published. Informed consent from the respondents was also sought before the necessary information was collected. During the entire investigation, anonymity and confidentiality was maintained by not recording any names and not disclosing any information between focus groups. Data is stored in a locked cabinet and will be destroyed by shredding and burning after 5 years.

4 Results and Discussion

Leadership issues in the Kavango East Region

The Kavango East Region has seven (7) Constituencies, namely: Rundu Urban, Rundu Rural, Mashare, Ndonga Linena, Ndiyona and Mukwe. Each constituency has one elected leader called a Regional Councilor, who has a 5-year term of office. The Regional Councilors are firstly nominated through political party structures and then they are brought forth as eligible candidates for election as Regional Leaders to the community.

In most cases, grassroots communities have no choice but to vote for the candidate already nominated through the political party's structures. Therefore, after election most Regional Leaders become more loyal to the political party which nominated them in order for them to secure the next term of office. They pay little or no attention in most cases to the grassroots community that elected them because the community has less power concerning their stay or removal from office.

A political party has power to recall a particular candidate if the candidate fails to respect any orders of the political party and its structures, but it is very difficult for any particular community to recall a Regional Councillor who fails to deliver service to the grassroots community or who does not pay attention to the needs of the community. In other words, the Regional Councillor is accountable to the political party, which he/she belongs to, but not to the community that voted for him or her. One can say that grassroots communities are just used to accomplish the desires of the party structures. At some point the grassroots communities do not feel the impact of their Regional Leaders in terms of socio-economic developmental efforts. Therefore, poverty, inequality unemployment and many other social ills still prevail in the lives of the grassroots communities of the Kavango East Region.

4.1 Constituencies and Traditional Authority

The Kavango East Region has got two lines of authority, political authority and traditional authority. Political authorities are the elected Regional Councillors, who are in office for five (5) years. Their area of jurisdiction is the constituency. Sometimes a constituency covers more than one (1) traditional authority. There are six (6) constituencies in the Kavango East Region, with each constituency having one (1) councilor. A constituency cannot have more than one (1) councilor at the same time, unless one dies and is replaced by another through a democratic election. Regional councilors are governed by the Regional Councils Act of 1992, which states the functions and powers of the Regional councilors.

The second line of authority is the traditional authority; this authority is not elected. It is inherited. If the incumbent hompa or fumu passes on then the next in line takes over. This is in accordance with the Kavango customs. Their time of serving is based on the lifetime of the particular hompa or fumu. There is no given period of service. For each traditional authority, there is only one (1) hompa or fumu. The area of jurisdiction of a hompa or fumu is a traditional authority. The traditional authority is still governed following national laws. The Traditional Authority Act, directs how the traditional authority should run their affairs. This act also guides the Council of the traditional authority on succession plans, as well as the functions and powers of traditional authorities. The Kavango East Region has three (3) traditional authority areas namely; Sambyu, Gciriku and Hambukushu. It is very important to note that Regional councilors and traditional authorities have different functions and powers.

4.2 History of water usage in Kavango East Region

[44], suggests that, the early and continued settlement of people along the Kavango River has resulted in an extremely uneven distribution of people. The most dense rural populations are

concentrated in a swathe about 10 kilometres wide along the Kavango River. About 70% of all rural residents live here.

Historically, people settled where water and soils were most suitable for farming. That created a pattern of unevenly distributed settlements within the region. A ribbon along the river, approximately 10 kilometres wide, is densely populated, and approximately 70% of the whole population live within this 10-kilometre zone. The Kavango East Region has abundant water. The region does not have water shortages at all. According to [68], water scarcity is the lack of sufficient available water resources to meet water needs within a region. It affects every continent and around 2.8 billion people around the world at least one month out of every year. More than 1.2 billion people lack access to clean drinking water.

Water scarcity involves water stress, water shortage or deficit, and water crisis. While the concept of water stress is relatively new, it is the difficulty of obtaining sources of fresh water for use during a period of time and may result in further depletion and deterioration of available water resources. Water shortages may be caused by climate change, such as altered weather patterns including droughts or floods, increased pollution, and increased human demand and overuse of water. A water crisis is a situation where the available potable, unpolluted water within a region is less than that region's demand. Water scarcity is being driven by two converging phenomena: growing freshwater use and depletion of usable freshwater resources.

Water scarcity can be a result of two mechanisms: physical (absolute) water scarcity and economic water scarcity, where physical water scarcity is a result of inadequate natural water resources to supply a region's demand, and economic water scarcity is a result of poor management of the sufficient available water resources. According to the United Nations Development Programme, the latter is found more often to be the cause of countries or regions experiencing water scarcity, as most countries or regions have enough water to meet household, industrial, agricultural, and environmental needs, but lack the means to provide it in an accessible manner.

The reduction of water scarcity is a goal for many countries and governments. The UN recognises the importance of reducing the number of people without sustainable access to clean water and sanitation. The Millennium Development Goals within the United Nations Millennium Declaration state that by 2015 they resolved to "halve the proportion of people who were unable to reach or to afford safe drinking water". [68], estimated that, of the 1.4 billion cubic kilometers (1 quadrillion acre-feet) of water on Earth, just 200,000 cubic kilometers (162.1 billion acre-feet) represent fresh water available for human consumption.

More than one in every six people in the world is water stressed, meaning that they do not have access to potable water. Those that are water stressed make up 1.1 billion people in the world and are living in developing countries. According to the Falkenmark Water Stress Indicator, a country or region is said to experience "water stress" when annual water supplies drop below 1,700 cubic metres per person per year. At levels between 1,700 and 1,000 cubic metres per person per year, periodic or limited water shortages can be expected. When a country is below 1,000 cubic metres per person per year, the country then faces water scarcity.

According to[68], in 2006, about 700 million people in 43 countries were living below the 1,700 cubic metres per person threshold. Water stress is ever intensifying in regions such as China, India, and Sub-Saharan Africa, which house the largest number of water-stressed countries with almost one fourth of the population living in a water stressed country. The world's most water stressed region is the Middle East with averages of 1,200 cubic metres of water per person. In China, more than 538 million people are living in a water-stressed region. Much of the water stressed population currently live in river basins where the usage of water resources greatly exceeds the renewal of the water source.

The Interviews started from the villages closer to Rundu Town (15 Kilometres at Vhungu Vhungu) and then proceeded to those in remote areas and ended at Bagani village (222 km away from Rundu Town). The researcher found that there is a strong correlation between the village distances and the number of times Regional Leaders were engaged in discussions with community members at those villages (r = 0.576, p=0.06). The same applies to the number of times Regional Leaders were engaged in discussions on water technology innovations (r =0.484, p= 0.026).

The closer the village was to the urban area, the less the number of times, the Regional Leaders visited that particular village. This can be attributed to the fact that Regional Leaders in a radius of 80 kilometers and below reside in Rundu Town. Most of the time they are just in urban areas. If they want to go to the villages, they will always commute, and if regional leaders attempt to visit their community, they mostly visit the nearby villages in their constituencies first. This is the case with the regional leader for Rundu Rural East who mostly visits the closest village from the town (Vhungu Vhungu village).

Regional leaders from the radius of 81-222 kilometres reside within their community. This gives them more opportunities to meet their community from time to time. Therefore, Regional Leadership's impact on development is felt stronger in the villages which are situated far away from Rundu Town (r =0.74, p =0.00).

This can also be linked to support the fact that the 56 percent of the poverty level in the Kavango East Region reported by the Namibia Statistics agency can be true because much of the population of the Kavango East Region lives in villages near Rundu Town. In addition to that regional leaders do not attend to those villages, that is why the poverty level is higher in the Region.

The Kavango East Region concurred that leadership involvement in water technology innovations will impact on poverty eradication, job creation, improved economic activities and sustainable development. From the spearman correlation of the research findings, on village distance from Rundu Town, we see that at least 54.76% (r =0.74)^2 of the predictability of regional leadership impact on development is the result of distance from the urban centre (Rundu Town).

The spearman correlation of the research findings also indicates that[there is a strong negative correlation between having a committee to discuss development (water) problems in villages and the impact of Regional Leadership on development, especially, when communities try to seek an

audience with the regional leaders and the leaders do not accord them such a chance (r =0.439, p=0.05).

Table 4.1 Role of Leadership in Water Technology Innovations

Variable	Description	Frequency	Percentage
Number of times the Regional Leaders visited the village in the last 5 years	None	7	33.3%
	Once	3	14.3%
	Twice	2	9.5%
	Three	1	4.8%
	Four Time	0	0.0%
	Five Or More	8	38.1%
Number of times the Regional Leaders were engaged in discussion	None	7	33.3%
	Once	5	23.8%
	Twice	2	9.5%
	Three	1	4.8%
	four time	0	0.0%
	five or more	6	28.6%
Number of times the Regional Leaders were engaged on water technology innovations	None	12	57.1%
	Once	2	9.5%
	Twice	2	9.5%
	Three	1	4.8%
	four time	0	0.0%
	five or more	4	19.0%
How much has been allocated to Water in the Regional Budget	None	9	42.9%
	Proposed but no allocation	12	57.1%
	Proposed and allocated	0	0.0%
	Allocated without proposing	0	0.0%

Table 4.2 Leadership Communication in Water Technology Innovations

Variable	Description	Frequency	Percentage
How do you seek an audience with the Regional	Sent a letter	3	14.3%
	Went physically to the offices	13	61.9%

Variable	Description	Frequency	Percentage
Leaders	Did not contact the leaders	5	23.8%
How did the regional leaders respond to your requests for meeting	Ignored our request	2	9.5%
	leader listened but did not provide resources	16	76.2%
	leader listened and provided resources	0	0.0%
	not applicable	3	14.3%
Do you have committees to discuss problems in the village	Not in place	7	33.3%
	No, but we would like to have them	1	4.8%
	No, we cannot afford to pay them	7	33.3%
	Yes, it is in place and organized	6	28.6%
Impact of leadership on development	Poverty eradication	0	0.0%
	Job creation	0	0.0%
	improved economic activities	0	0.0%
	sustainable development	0	0.0%
	all of the above	11	52.4%
	not aware	10	47.6%

A total of 61.9% of the respondents indicated that communities seek audience with regional leaders, mostly by going physically to their offices. On the question whether their regional leaders respond to their (communities) request for a meeting, 76.2% of the respondents indicated that their regional leaders listened to their concerns but did not provide resources. The rationale behind this is that there is no dedicated budget given to regional leaders which caters for community development, and this is hampering development in the rural areas of Kavango East Region. It might be that regional leaders are willing to allocate resources, but they do not have the resources at their disposal.

A total of 28% of the respondents indicated that they have a committee that discusses problems in the villages. On the same question 33.3% of the respondents said they do not have one, because they can't afford to pay them, since government does not pay them. While the other 33.3%, also indicated that the committee is not in place without any reason.

On the impact of regional leadership on development, 52.4% indicated that proper leadership will contribute to poverty eradication, job creation, improved economic activities, and sustainable development. Sadly, 47.6% of respondents indicated that they are not aware of anything. This may be attributed to a lack of education in the community to enable the community to know what is expected from their elected regional leaders (also see table 4.7 above for more).
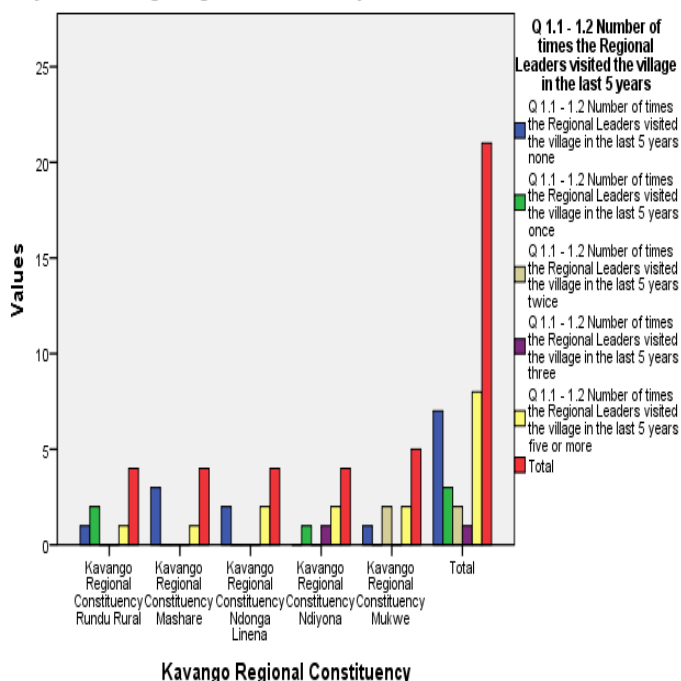

Figure: 4.1: Number of regional leadership visitation to the community

Figure 4.1 above shows the number of regional leadership visitation to the community. As one moves from Mukwe constituency towards Rundu Rural East constituency, the number of visitations declines. This is also linked to the impact of regional leaders on development, as one moves from Mukwe towards Rundu Rural Constituency. The impact of the regional leadership on development also declines. The Absence of regional leadership visitations to the grassroots communities, indicates a lack of commitment from the regional leadership towards development of the rural poor communities of the Kavango East Region. It is only through leadership visitation to the communities that leader-community relations can be enhanced, and foster common vision and understanding towards what needs to be done at the grassroots level in order to empower them, promote self-reliance, and reduce poverty.

5. CONCLUSIONS

It came to light that there is a problem concerning the role of leadership in water technology innovations to enhance job

creation in the Kavango East Region, as well as a lack of leadership involvement in water technology innovations. This contributes to socio-economic development in the region. It was found that while the focus of Botswana's use of the Kavango has been on its tourism, Namibia viewed the river as a passing resource to be exploited before it exits at Muhembo. Thus, the river is perceived as a source of water for irrigation and provides water for domestic and industrial needs in the Central Regions. Private individuals and companies have developed a number of lodges and campsites. A single conservancy has also been established. However, the leadership has paid little attention to the creation of wealth and jobs using water in the Kavango River.

This paper also found that the Ministry of Agriculture, Water and Forestry and the Kavango East Regional Leadership find it difficult to understand the importance of water technology innovation in enhancing development. This has resulted in water technology innovation not being given attention as part of its priorities, which can be used to develop the Kavango East Region through the creation of better living conditions for all.

5.1 RECOMMENDATIONS

This paper has identified various factors concerning successes and limitations of leadership involvement in water technology innovations in enhancing job creation in the Kavango East Region. Based on these factors, this paper considers recommendations that would help leaders to support the use of water technology innovations in enhancing job creation in the Kavango East Region to:

• Understand the type of tools and equipment, which the communities need to use water
 technology innovations to enhance job creation.

• To know other sort of support which leaders should offer to the communities in order for
    them to feel motivated to continue using water technology innovations to create jobs for themselves.

• For leaders to know and understand the barriers affecting the use of water technology
 innovations by the communities

These recommendations are important to enable regional leaders of Kavango East Region be conscious of the existing gap between leadership involvements in water technology innovations in enhancing job creation to the grassroots communities and the asymmetric nature within the regional economies.

Therefore, this study recommends:

To the Central Government

• That there should be a policy to compel regional
    leaders to live within the community or
    constituency from which they are elected during. If
    Regional Leaders do not live within the communities,
    which elected them, it will be hard for them to know
    their community's needs which require their attention.

• That there should be a prescription on the number of villages developmental community
    meetings based on the number of villages in the
    particular constituency. These meetings should be

convened by regional leaders. At such meetings, the community will be given a chance to rate the quality of their regional leader's engagement.

• That the central government/ the Ministry of Urban and Rural development needs to come up with capacity development program for regional leaders. Regional leaders need extensive training to understand their roles and influence on community development, poverty eradication and job creation, before they can resume their duties and not just a mere induction since some regional leaders lack advanced education in development matters.

• That there should be a mechanism in place, which will give certain power to regional Governors to supervise Constituency leaders (including the Chairperson of the Regional Council) in their activities

Chairperson of the Regional Council) in their activities in the villages including community development issues.

• That the Ministry of Rural and Urban development, should allocate a budget to the Constituencies, to enable regional leaders to fund some critical development projects such as the use of water to create jobs for the rural poor.

To the regional leaders

• That there is a high need for Regional Leaders to implement water technology innovations in Kavango East Region, this will impact on wealth creation, job creation, improve self-reliance, reduce poverty and reduce inequality.

• That there should be a mechanism in place for regional leaders to improve their working relations with the communities.

• That regional leaders should understand the importance of community empowerment, as a key to self-reliance and a way of promoting socio-economic development in their regions.

To the grassroots communities

• That there should be a program to capacitate community members to understand the role of their leaders. The community must be trained to understand the roles of the regional leaders. This will make them focused and not give up in their efforts to self-reliance by using their regional leaders.

• That their Community should be given legal power to remove constituency (Regional) leaders who are not cooperating with the community or not contributing to development within their communities even when their term of office has not expired.

• That there should be a mechanism to make regional leaders account for the promises they make to the communities based on their discussion or during community meetings or visits.

REFERENCES

[1] Avolio, B. J. (1999). *Full leadership development: Building the vital forces in organisations*. Thousand Oaks, CA: Sage.

[2] Avant, F. L. (2013). African Americans living in rural community: Building assets from an Afrocentric perspective. In T. L. Scales, C. L. Streeter, & H. S. Cooper (Eds)., Rural Social Work: Building and Sustaining Community Capacity (5-16). Hoboken, New Jersey: Wiley.

[3] Avant, F. L. (2006). Leadership styles as predictors of job satisfaction and organisational commitment among faculty in social work education. (Doctoral dissertation). Jackson State University. Jackson. MS.

[4] Bass, B. M. (1985). *Leadership and performance beyond expectations.* New York: Free Press.

[5] Bass, B. M. (1998). *Transformational leadership: Individual, military and educational impact.* Mahwah, NJ: Erlbaum.

[6] Bennis, W., & Nanus, B. (1985). Leaders: The strategies for taking charge. New York: Harper & Row. *Open Journal of Leadership,* Vol.2 No.1, March 27, 2013

[7] Burns, J. M. (1978). Leadership. New York: Harper and Row. Open Journal of Philosophy, Vol.3 No.3, July 30, 2016

[8] Blake, Robert R., Jane S. Mouton, Louis B. Barnes and Larry E. Greiner (1964), "Breakthrough in Organization Development," *Harvard Business Review*, 42 (6), 133-155.

[9] Central Bureau of Statistics (2015) Namibia Poverty Profile,Windhoek: Central Bureau of Statistics, National Planning Commission.

[10] Central Bureau of Statistics, National Planning Commission (2008): A Review of Poverty and Inequality in Namibia. Windhoek: Central Bureau of Statistics, National Planning Commission.

[11] Guardian Newspaper Limited (2008) Health minister Prof. Grange and deputy, Aduku, resign over N300M scam charges. Wednesday March 26.

[12] Gardner, R. C. (1990). Social psychological perspectives on second language acquisition. In H. Giles & W. P. Robinson (Eds.), *Handbook of language and social psychology* (pp. 495-517). Oxford, England: John Wiley & Sons.

[13] Ghiselli E.E. (1963).Moderating effects and differential reliability and validity. Journal of Applied Psychology, 47

[14] Gen. 41:1-37 (Revised Standard Version of the Bible); J. Donald Hughes, "Sustainable Agriculture in Ancient Egypt," *Agriculture History*, Vol. 66, pp. 12-22 (1992); Butzer, op. cit. reference 2.

[15] Falkowski, G., Pedigo, P., Smith, B & Swanson, D. (1998), *A recipe for ERP success, beyond Computing.* New Jersey, Princeton University Press.

[16] Florida, R. (2002), *The Rise of Creative Class: And How It's Transforming Work, Leisure, and Everyday life.* New York, NY: Basic Books.

[17] Freeman, C. (1997). *The Economics of Industrial Innovation Cambidge*.MA: MIT Press.

[18] Fekri A. & Hassan,(1997) "The Dynamics of a Riverine

Civilization: A Geoarchaeological Perspective on the Nile Valley, Egypt," World Archeology, vol. 29, no. 1 (1997).

[19] Hersey, P. & Blanchard, K.H. (1977). Management of organization behavior: utilizing human resources (3rd. ed.). Englewood Cliffs. NJ: Prentice-Hall.

[20] Hersey,P. & Blanchard, K.H. (l985). Management of organization behavior: utilizing human resources (4th. ed.). Englewood Cliffs. NJ: Prentice-Hall.

[21] Integrating Technology Innovation Blueprint for Integrating Technology Innovation U. S Environmental Protection Agency (2013), EPA 001-M-13)

[22] Kavango Regional Council Operational Audit Report (2013). Self-Assessment Project (2013)

[23] Kawana, R. K. (2013). Success in the Implementation of Performance Management System in Regional Councils: A Case study of Erongo Regional Council. Masters' Degree thesis, Midlands State University, Zimbabwe.

[24] Kidder H. And Judd C. M. (1986). Research Methods in Social Relations. Harcourt College Publishers ISBN 10: 0030024730 ISBN 13: 9780030024733

[25] Likert, R. (1967). The human organization: Its management and value, New York: McGraw-Hill.

[26] Mendelsohn, J. & El Obeid, S. (2006). A digest of information on key aspects of Kavango's Geography and sustainable development prospects. *Research and Information Services of Namibia.* 5-19

[27] Molenki, S (2012). *Role and relationship between leadership and sustainable development to release social human, and cultural demision.* M'sila Algeria: Elsevier Ltd.

[28] Namibia 2011 Population and Housing Census Preliminary Result. National Planning Commission, (2012).

[29] Northouse, P.G. (2013). Leadership: Theory and Practice. Los Angeles: Sage Publications.

[30] Oke, A., Munshi N. & Walumbwa F (2009). The Influence of Leadership on Innovation Process and activities. *Organisational Dynamics.* *38*, 1, 64 -72

[31] Ozor, N. (2006) Cost-Sharing as an Alternative Approach to Financing Agricultural Technology Transfer in Nigeria. PhD Thesis submitted to the Department of Agricultural Extension, University of Nigeria, Nsukka and International and Rural Development Department, The University of Reading, UK: 348pp.

[32] Platteau, J.P. and F. Gaspart (2003) Disciplining Local Leaders in Community-Based or Research on the Economics of Development (CRED),Namur Belgium. Available online at: http://siteresources.worldbank.org/INTPUBSERV/Resources/plateau3.pdf.Retrieved 21 August 2016

[33] Pigg, K. E. (1999). *Community leadership and community theory: A practical synthesis.* Journal of the Community Development Society, 30, (2), 197-212.

[34] Rights, I.P., (2013). Driving Sustainable Development: The role of Science, Technology and Innovation.*G-Science Academies Satements.*1–6.

[35] Skidmore. F. D. (1990).Biochemistry of Breast Cyst Fluid: Correlation with Breast Cancer Risk. May 1990. Pages 284-287

[36] Stogdill R. M. (1948) Personal Factors Associated with Leadership: A Survey of the Literature, The Journal of Psychology, 25:1, 35-71, DOI: 10.1080/00223980.1948.9917362

[37] Sumner, M. (1999), Critical success factors in enterprise wide information management systems projects. *Proceedings of the America Conference on Information*

[38] Tabb M. & Montesi C. R. (2000). A Model for Long-Term Leadership Development Among Groups of Diverse Persons: The Delta Emerging Leaders Program, Journal of the Community Development Society, 31:2, 331-347, DOI: 10.1080/15575330009489710

[39] Tellis, G.J. (2008). Important research questions in technology and innovation. *Industrial Marketing Management*, *37*,6, 629–632.

[40] Terry, M. E., F.J. Lee, and K. LeRoux (1994) A Survey of Natural Resource Based CraftProduction and Marketing in Namibia. Windhoek, Namibia: LIFE Project and the Rossing Foundation.

[41] UNDP Annual Report (2007): Making Globalization Work for Everyone.

[42] Yin R. K. (2009). *Case study research: Design and method (4th ed.).* Thousand Oaks, CA: sage

[43] Yukl, G. (2006). The nature of leadership. In G. Yukl (Ed.), Leadership in organisations (pp. 1–24). Upper

[44] Yukl, G. (1998). Leadership in organisations. (4thed.) New Jersey: Prentice-Hall.

Author Profile 1

Dr. Romanus Kavindame Kawana is one of the young Namibian scholar, trainer and a mentor. He earned his Doctorate of Business Administration, interrogating "The Role of Leadership in Water Technology Innovations to enhance Job Creations: In Kavango East Region", from University of Namibia. On which he became the First person to be awarded this Degree from an Institution of higher learning in Namibia.

He obtained his Diploma in Criminal Justice and Forensic Auditing/Investigations at the University of Johannesburg (2008) in South Africa; Baccalaureus Technologie in Forensic Investigation/Audtiting at the University of South Africa (2011); Bachelor in Household Economic Approach and Analysis at the University of Kuazulu Natal (2012); Master in Business Administration at Midlands State University of Zimbabwe (2013). Doctor of Business Administration from the University of Namibia (2017) and a Master of Agriculture from the University of KwaZulu Natal (2018).He is a professional

member of the Institute of Internal Auditors: South Africa since 2009 and he became a member of the Institute of Directors of Zambia in 2016.

In 2004 the Candidate served at a Relief Teacher at Shambyu Combined School. The same year in September, the Candidate joined the Kavango Regional Council as a Clerk. As from 2005-2008 served as an Accountant at the Ministry of Works, Transport and Communication. From 2008-2010 the Candidate served as a Chief Clerk responsible for Mukwe Constituency as well as Divundu Settlement, at Kavango Regional Council. As from 2010-2012 he served as a Control Officer at Erongo Regional Council, in June 2012 he was promoted to the level of a Chief Control Officer. As from 2014 the Candidate joined Office of the Prime Minister, Department State Owned Enterprises Governance Council Secretariat, which later on became the Ministry of Public Enterprises as a Deputy Director.

He serves as an independent member of Public Accountants and Auditor Board of Namibia, Namibia Development Trust and as a Council Member at National Council for High Education. He serves as a supervisor for the several research projects of Business Administration Diploma and Masters Degree students in the Namibia Business School. He teaches part-time at the same School. He has published 1 Peer reviewed article and has presented several papers at National and International level conferences.

Author Profile 2

The Rev. **Dr. Greenfield Mwakipesile** is a management professional with wide ranging experience in research, training, sales, marketing and administration in industries ranging from manufacturing, distribution, wholesaling, retail and services.

Education
Th.D.
Atlantic International University - USA

MBA
University of Zimbabwe
Harare, Zimbabwe

Bachelor of Business Studies Honours Degree (BBS Hons.)
University Of Zimbabwe

He has over twenty five years of experience in marketing. He has worked as a Researcher, Lecturer/Trainer, Sales Manager, Marketing Manager, Product Manager to MD and CEO.

Prior to joining the NBS consulting team as a marketing expert, Dr. Mwakipesile worked as Marketing and Sales Director for some multinational. He was charged with establishing and overseeing the sales team, managing the Marketing Mix, creating Sales and Marketing plans for the company and seeing to their successful implementation. He also gave direction on market penetration and dealt with key account customers. Amongst the brands marketed under his most recent portfolio were HP, Alva Gas, Jindal Gas, Karbonn Smart, One Stop Solar, Ducellier Batteries, Diplomat Furniture, SKM Motorbikes, Skyworth TVs and Swag, to name a few.

Other Working Experience:
A. December 1989 to April 1990:- PTC HQ - Transport Controller's Assistant:
B. January to February 1991:- Market Research Analyst - SUGAR DISTRIBUTORS
C. March to May 1991:- News subeditor - Analyst ZBC
D. June 1991 to May 1992: - Trainee Manager - OK BAZAARS
E. September 1992:- Acting Supermarket Manager - OK BAZAARS, First Street
F. October 1992 - Acting Sales Manager OK BAAZARS Second Street.
G. November 1992: -Branch Administration Manager - Bon Marche' Borrowdale
H. July 1993 to April 1994 - Sales Manager and Acting Branch Manager - Bon Marche' Borrowdale.
I. August 1994: - Lancaster Industrials as National Sales and Marketing Manager
J. December 1995 - Zimbabwe Pharmaceuticals (ZimPharm) Marketing Manager Consumer.
L. September 1997 - Natioal Sales Manager for ZIMPHARM.
M. December 1997 - Sales and Exports Manager for ZIMPHARM.
N. April 2000 – June 2003 BP And Shell Marketing Services - Senior Category Manager Non Fuel Income Atlantica.
P. October 2003 to current – Director & Board Chairman Reset Investments
Q. April 2004 to current – Director & Board Chairman Highdraw Marketing
R. January 2009 to current – Director & Board Chairman IPGZ

Author Profile 3

Prof **Kenneth Kamwi Matengu** (born 1978, Katima Mulilo) is a Namibian professor. He was Pro-Vice Chancellor for Research, Innovation and Resources Mobilization at the University of Namibia from 2016 to 2018. On 29 June 2018, Matengu was appointed as the third Vice Chancellor of the University of Namibia becoming the youngest person to assume the position.

Prof. Matengu did his high school at Caprivi Senior Secondary. He holds a Certificate in International Relations from the University of Tampere, Bachelor's degree in Geography and Sociology from the University of Namibia, Doctor of Philosophy, Ph.D (exemia cum laudar) in Innovation Diffusion and Development from the University of Eastern Finland. He has published 50 peer review articles, books and book chapters, as well as international conference papers.