

A Methodical Approach to Health and Sanitation Integration

**Report to the
Water Research Commission**

By

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on behalf of

The Mvula Trust

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EXECUTIVE SUMMARY

The provision of safe water and adequate sanitation services to communities is necessary to reduce the risk of disease and to contribute to socioeconomic development. However, if water and sanitation delivery is not integrated in a methodical way with health education and hygiene awareness, the sanitation facilities provided may fail to reduce disease or improve livelihoods, due to misuse and poor operation and maintenance by recipient communities. The failure to operate and maintain facilities is sometimes attributed to an unwillingness to pay but might be due to an inability to pay for these services. Thus even where a methodical approach is used for health and hygiene on sanitation projects, it must be based on a thorough understanding of the target communities' strengths in the form of assets, weaknesses and their vulnerabilities or it will have little impact on their socioeconomic development, livelihoods and their ability to pay for services.

The study explored the hypothesis that a methodical approach to health and hygiene implementation on rural sanitation projects can potentially address current gaps in methods of health and hygiene delivery by sanitation service providers. It also began a preliminary exploration of the hypothesis that a livelihoods approach to water and sanitation delivery can potentially enhance the direct and indirect impact of water and sanitation on livelihoods and the recipient communities' ability to pay, thus ultimately increasing the pace of services delivery.

The study objective was to develop a community based methodical approach to the integration of health and hygiene with sanitation projects and to evaluate current ways service providers carry out health and hygiene on sanitation programs in an attempt to relate the gaps thus identified with the gaps the community based method seeks to address. It also aimed to contribute to an increase in the pace of delivery by assessing the potential role of livelihoods approach in optimizing the socioeconomic impact of water and sanitation delivery on the recipients. Specifically, the objectives were to:

- Develop a methodical approach for health and hygiene programs (planning, training, promotion, monitoring, evaluation and motivation of community based educators on sanitation projects).
- Evaluate the health and hygiene methods used by selected service providers in the Eastern Cape and Limpopo provinces in relation to the developed model; publish findings as a basis for advocating for the institutionalization of the model.
- Carry out a livelihoods and Knowledge, Attitude, Practices assessment of a typical rural area in order to provide service providers with information about factors that affect target communities' ability to contribute towards services provision; publish findings as a basis for advocating for the use of the livelihoods approach in water and sanitation delivery.

The study developed a Community Based Health and Hygiene Model (CBHHM) with an attendant implementation kit and evaluated methods used by service providers on rural sanitation projects in the Eastern Cape and Limpopo provinces in relation to the developed model. An integrated livelihood and Knowledge Attitude and Practices (KAP) assessment was also carried out in Lushinton, a rural community in the Eastern Cape Province of South Africa and a report produced.

The two mini- studies were descriptive in nature. For the evaluation of methods used by service providers, a convenience sampling method was used to select the study provinces, Limpopo and Eastern Cape, based on the work location of the principal

researcher and co-researchers. A random sampling method was then used to select the study district municipalities from the selected provinces. Each selected municipality i.e. the Capricorn district municipality in Limpopo and the OR Tambo district municipality in the Eastern Cape provided a list of sanitation service providers from which a total of twelve (12) service providers who also carry out institutional and social development were selected. The evaluation was based on the most recent projects carried out by these service providers and were twelve in total and were all rural sanitation projects.

A convenience sampling method was used to select the rural community, Lushinton for the livelihoods and KAP study using criteria such as its location in one of the study provinces, the Eastern Cape and it being a water and sanitation project site of The Mvula Trust. A simple random sampling method was then used to select the study households in Lushinton.

A total of 50 households were selected for inclusion in the study, however it is pertinent to note that the sample size increased from 50 to 329 in cases where the study questions were not about households or the main respondent but about all individual members of the 50 households. Thus the sample size was 50 at inter household level and 329 at the individual intra household level.

Questionnaires were developed for both studies. In the evaluation of methods used by service providers, items of information were sought in relation to methods used for health and hygiene planning, training, promotion, monitoring and evaluation. The livelihoods questionnaire obtained information on livelihoods assets, strategies, vulnerability context, knowledge, attitudes and practices of Lushinton residents in relation to water, sanitation, health and hygiene.

The outputs of the project include a report which identifies impact reducing gaps in the current methods of health and hygiene delivery on sanitation projects and a model, the Community-Based Health and Hygiene Model (CBHHM) which aims to address these identified gaps.

The CBHHM and its implementation kit provide structured guidance and tools for all stages of health and hygiene programs, clarify roles and responsibilities for optimal utilization of scarce human and financial resources and optimize socio-economic development through skills transfer and remuneration for work done. The third output of the study is an integrated livelihoods and Knowledge, Attitude and Practices (KAP) report.

The study findings indicate that there are significant impact reducing gaps at all stages of the health and hygiene programs as currently carried out by the twelve service providers. The study results indicate that health and hygiene budgets are only 2% of sanitation project budgets and house to house method of health and hygiene promotion is only used in 11(33.9%) of cases.¹, community based workers (CBWs) are paid R80 per toilet whilst project agents and consultants earn R273 and R172/hour respectively.

The use of between 5 and 20 PHAST tools by 9 (75%) i.e. the majority of the service providers during health and hygiene training has the potential of confusing the community and reducing the actual time spent during training identifying problems, solutions and developing a demand responsive health action plan as an output of the training. During promotion, there was only an average of 8 contact sessions in average

¹ Multiple responses obtained, total number of responses = 28

project duration of 10 months, impacting negatively on the programs' ability to achieve 100% household coverage during promotion.

Relatively fewer consultants measured the impact of health and hygiene programs when compared to those that carried out pre intervention surveys (8 or 66.7% ; 11 or 91.7% respectively), and less money was spent on post intervention surveys in comparison with pre-intervention surveys R34, 231.65 and R101, 347.02 respectively.

Only 19% of service providers indicated that their most recent project had led to a transfer of problem solving skills to the trainees and 26% to the use of PHAST tools by the trainees. Although 8 (66.7%) were of the opinion that they contributed to local economic development of the local communities by remunerating community based workers, there is room for improvement. Only 17% had tools for reporting by village health worker and 33% tools for measuring impact of health and hygiene on projects. The majority of the service providers realize the value of the CBBHM with 11 (91.7%) of them indicating that they will use it in future projects.

Service provider perceptions about the challenges to effective promotion and monitoring were those which the CBHBM was designed to address. E.g. issues of budget limitations, non involvement of the health department and lack of human resources in the pertinent government departments to carry out health and hygiene at the household level. Recommendations were made to relevant stakeholders based on the study findings.

The results of the Lushinton livelihoods and KAP assessment indicate that Lushinton is an extremely vulnerable community with only 11 (22%) of the 50 study households (22%) falling above the World Bank category of the extremely poor, furthermore of the 329 members of these 50 households, 134 persons are economically active with 68 (51%) of the economically active² being unemployed. Pensioners account for more than half of the total income of the households (R19, 760 or 51%). Only one household head reported completing grade 12 (2%). The social capital at communal level was no different with no identifiable community collective action over services. In terms of physical capital, no respondent had electricity connection or a telephone connection although 5 (10%) had cell phones. All services except policing and education were perceived by the respondents as bad or appalling (electricity was rated as appalling by 50 or 100% of households; water by 45 or 90% of households).

In terms of the respondents' knowledge, attitude and practices in relation to health and sanitation, there was a high level of awareness about the relationship between faeces and disease with 47 (95%) and 50 (100%) of respondents making the correct linkages between disease and animal faeces and disease and human faeces respectively. Although most respondents 49 (98%) viewed VIPs as a viable sanitation option, over one in ten households 7 (14%) thought flush toilets were the most appropriate option and a high percentage 46 (92%) were of the view that toilets caused mosquitoes and in that respect were a health hazard. There was also a high unawareness about the transmission of HIV/Aids by 22 (44%) households, which when viewed in the context of the seasonality induced household food insecurity, the poor human physical and financial capital worsens the vulnerability of this community and highlights its need for external support to achieve livelihood outcomes.

² Economically active exclude scholars and pensioners n=134

However the necessary support cannot be provided using the usual community based approach alone as study findings indicate that Lushinton like all human societies is not homogenous and is differentiated between households and between genders into rich, middle income, poor and very poor households in terms of access to sources of income, food, housing, water sources and water uses, the absence or presence of migrant or pensioner. For example despite the fact that females make up 38(58%) of the 66 (11%) persons involved in financial decision making within the study households, and form 61.8% of those that contribute to domestic labor, there is a significant difference in access to resources between genders . While male cattle owners number only slightly more than their female counterparts (19 or 53% males, 17 or 47% females), their share of total cattle is significantly higher with males contributing 196 cattle or 73% and females 72 cattle or 27%). Relatedly although almost the same number of men as women contributes to monthly household income, when expressed as a percentage of the total community, men contribute 56% of the total income.

Financial capital is mainly in the ownership of livestock and males account for 100% of all wealthy cattle owners i.e. those that own more than ten cattle. In terms of productive assets, ownership patterns for agricultural equipment and tools indicate that men are more likely to own and operate ploughs, plowing oxen and cultivators or planters. Slightly more women on the other hand own farming implements such as hoes, spades and forks. Of the unemployed economically active persons, more women reported that they were looking for work and females account for 19 (52.8%) of the total migrants (36) in the community.

Even within this predominantly poor community, there are relative levels of wealth between households. For example though the most significant form of savings is in livestock ownership, not all households own live stock and significant differences exist between the numbers and type of livestock which households own and 16(32%) of households report that they do not own any cattle. Houses range from large brick built farmhouses with tiled roofs to wattle and mud built huts plastered with cow dung, with zinc roof sheets. Some of the poorer households hire out their labor for food.

In view of the above inter household and gender differences; it is no wonder that the study found evidence in Lushinton of the failure of various development projects to achieve their objectives i.e. a continued and sustainable provision of services. The use of the livelihood approach will ensure that intra and inter-household and gender related differences in terms of ownership and access to resources are identified so that projects can make the desired impact on the livelihoods of the recipient communities with particular emphasis on the most vulnerable. Furthermore, if Lushinton is a typology of low socioeconomic communities where the mean monthly expenditure is R454 (range R31 – R849) and 11 (22%) of households run on deficit (expenditure exceeds income), it is imperative that the developmental approach to services delivery targets improvement of livelihoods, thus leading to a realization of livelihood outcomes and an increased ability to pay for services.

The livelihoods study will provide local government, non governmental organisations such as Mvula Trust, other development oriented organisations as well as external support agencies with information which will enable them maximise poverty reduction in Lushinton and similar communities through service delivery, thus increasing the community's ability to pay.

The report on evaluation of methods used by current providers in relation to the proposed methodical approach will systematically highlight the potential of the community based approach to integrate health and hygiene with sanitation delivery whilst at the same time addressing current gaps in sanitation related health and hygiene delivery.

An analysis of the results of the two mini studies and the CBHHM indicate that a community based approach to health and hygiene promotion on sanitation projects is integral to achieving maximal impact.

However, if the community based approach used in development projects such as water and sanitation projects is not integrated with the livelihoods approach, the long term goals of sustainable integrated development namely socioeconomic development, sustainable institutions and sustainable environment through services delivery will not be met.

Recommendations are made to policy makers for the use of livelihood approaches in community water and sanitation delivery to ensure that projects are better able to identify, target and impact maximally on the livelihoods of the poor and vulnerable, thus ultimately increasing their ability to pay for services and enhancing the sustainability of such projects. There is a critical need to institutionalize and promote the Community Based Health and Hygiene Model (CBHHM). Pertinent stakeholders should fund projects which make use of the CBHHM on sanitation projects in a bid to demonstrate the strengths of the model.

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List of Abbreviations and Definitions

ABET	:	Adult Basic Education Training
CBHHM	:	Community Based Health and Hygiene Model
CBW	:	Community Based Worker
Demand Responsive Approach	:	Provision of services is based on the need defined by the target group
DWAF	:	Department of Water Affairs and Forestry
EHO	:	Environmental Health Officer
HAP	:	Health Action Plan
Health Promoting Team	:	Composed of all role players in a specific health and hygiene program (Department of Health, municipalities, Department of Education, Service provider, CBW, PSC, local clinic etc)
JMP	:	Joint Monitoring Program
M&E	:	Monitoring and Evaluation
NGO	:	Non Governmental Organization
PAs	:	Project Agents
PHAST	:	Participatory Hygiene and Sanitation Transformation
Project Agent	:	Individual or organization that has contractual responsibility to the service provider
PSC	:	Project Steering Committee
Service Provider	:	Organization which has direct contractual responsibility to the funder for service provision
VHW	:	Village Health Worker

CHAPTER ONE

1. General Introduction

1.1 billion people in the world have no access to safe water i.e. about one sixth of the world's population and 2.4 billion people worldwide have inadequate access to sanitation i.e. about two fifths of the worlds population. It is estimated that \$1050 billion dollars will be required to provide water, sanitation and hygiene for all (WSSC, 2001).

The United Nations has set Millennium Development Goals, which has as its tenth target, halving by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation. In order to do this, the United Nation estimates that there will be a need to provide 1.5 billion people with access to safe water and 2 billion people, access to basic sanitation facilities between 2000 and 2015. Developing countries have embarked on accelerated programming in a bid to meet the Millennium Development Goals. There is however a huge backlog of people which need to be served in order to meet these targets.

South Africa, for example in 1994, had a backlog of 15.2 million people (12 million of whom lived in rural areas) who lacked access to basic water supply³ and 20.5 million lacked basic sanitation (WSP, 2001).

At the beginning of 2001, the national backlog of persons without access to adequate sanitation facilities was estimated to be 8 million or 3 million households. The majority of persons falling in this category live in rural areas, peri-urban areas and informal settlement areas. It is estimated that up to 26% of urban households and 76% of rural households have inadequate sanitation (DWAF, 2002).

The Strategic Framework for Water Services indicates that Water Services Authorities with the support of Department of Water Affairs and Forestry (DWAF) have targets which include access to a functioning basic sanitation facility for all people in South Africa by 2010, the eradication of all bucket toilets by 2006 and the practice of safe sanitation by 70% of the households with access to at least a basic sanitation facility (DWAF, 2003).

There are however several challenges which impact negatively on the water sectors ability to meet these targets and some of these challenges affect health and hygiene education delivery in particular. Onabolu (2002) notes that the challenges include the huge number of unserved, paucity of sector skills, a fledging Water Service Authority, abject poverty of the target group, non standardized delivery methods, inefficient institutional arrangements for procurement, planning and management

She further notes that more specific to the health sub-sector are the unrealistic time frames, limited budgets, and non-involvement of health practitioners in planning and management of water and sanitation projects, absence of indicators to measure impact, inadequate facilities for public health officers and unskilled service providers.

³ In South Africa, basic water supply is defined as 25 liters per person per day, within 200 meters of the home, and of acceptable quality. Basic sanitation is defined as a ventilated improved pit latrine or equivalent.

According to DWAF (2003), The Strategic Framework for Water Services was developed to address the challenges faced by the water sector; the vision, goals and targets of the water services sector; the planning framework for water services and its integration with municipal integrated development planning.

The pace of sanitation delivery is hampered by many challenges, some of which are related to the absence of a methodical approach to health and hygiene implementation on sanitation projects and the failure of service providers to integrate livelihoods with sanitation delivery.

DWAF (2001) further notes in its Water Services Development guidelines that the water services sector aims to address sectoral gaps/challenges by ensuring that the three main goals of integrated development planning are achieved through water services delivery. These goals are socioeconomic development, sustainable institutions and sustainable environment.

In view of these goals and attendant challenges, this study identified the need to address these gaps by developing a methodical approach to health and sanitation integration and initiating a process of optimizing the use of water and sanitation services as a catalyst for the improvement of livelihoods with the ultimate aim of increasing the pace of sanitation delivery.

1.1 Overview of the Livelihoods Approach

Frankenberger (2000) traced the evolution of the approach as from when development practitioners in the seventies put measures in place to address the famine in Africa and Asia by increasing food supplies globally particularly through crop research. However, it was discovered in the eighties that though national food security had been attained, many houses still did not have food at the household level because they lacked resources to buy the food. In response to this gap, the developmental focus shifted to household food security through research into farming systems which focused on the production activities and consumption styles of poor households.

In the mid eighties to the early nineties, this focus was expanded to a livelihoods approach to try and strengthen the capacity of the households to produce or access resources to obtain their own food. From the mid nineties to date the livelihoods perspective has been continually widened and attempts made to integrate it into project planning, implementation and monitoring.

The sustainable livelihoods approach is a way of thinking about the objectives, scope and priorities for development. It has the broad objective of increasing the impact of developmental projects on poverty directly or indirectly. It does this by building on the strengths of the communities through a holistic assessment of the factors that impact on the community's access to resources, synthesizing this information as a basis for ensuring that services are delivered in a manner that reduces the community's vulnerabilities, whilst impacting optimally on the community's abilities to achieve their livelihood outcomes.

The DFID framework (refer to Fig 1) provides an indication of the factors that affect household access to resources ,which should be assessed and addressed to ensure that services impact on recipients livelihoods and are more sustainable.

These factors include:

1. Livelihoods assets which comprise human, social, financial, natural, physical resources or capital. Other relevant resources include the community's capabilities (things which the community has the ability to do) and activities (things which the community does).
2. Transforming structures and processes, which refer to organizations, policies, legislation and established institutions in the form of customs and beliefs which impact on access to resources.
3. The vulnerability context which refers to the external environmental factors which impact significantly on local livelihoods. The most significant aspects of the vulnerability context include trends, shocks and seasonality. E.g. economic trends, Aids pandemic and seasonality in demand for certain types of skills.
4. Livelihood strategies are related to the decisions including reproductive decisions that people make in order to achieve their livelihood outcomes.

The sustainable livelihoods approach used by DFID and Care International is based on common principles which include holistic diagnosis and analysis of all factors in the framework (See Fig. 1) and a people centered approach to the reduction of poverty by assessing these factors from the target person's perspective. Other principles include the need for a two way information flow between the micro and macro levels in order to ensure that the environment supports the targeted people in building up their own strengths. Partnership formation between private, public and non governmental sectors is a critical principle which ensures the synthesis of information, resources and strategies for livelihoods assessment. All these principles are founded on a core principle i.e. the understanding that the sustainable livelihoods approach is not cast in stone, but recognizes that people's livelihoods strategies and outcomes change in response to environmental, financial, social and institutional factors.

Sustainable livelihoods framework

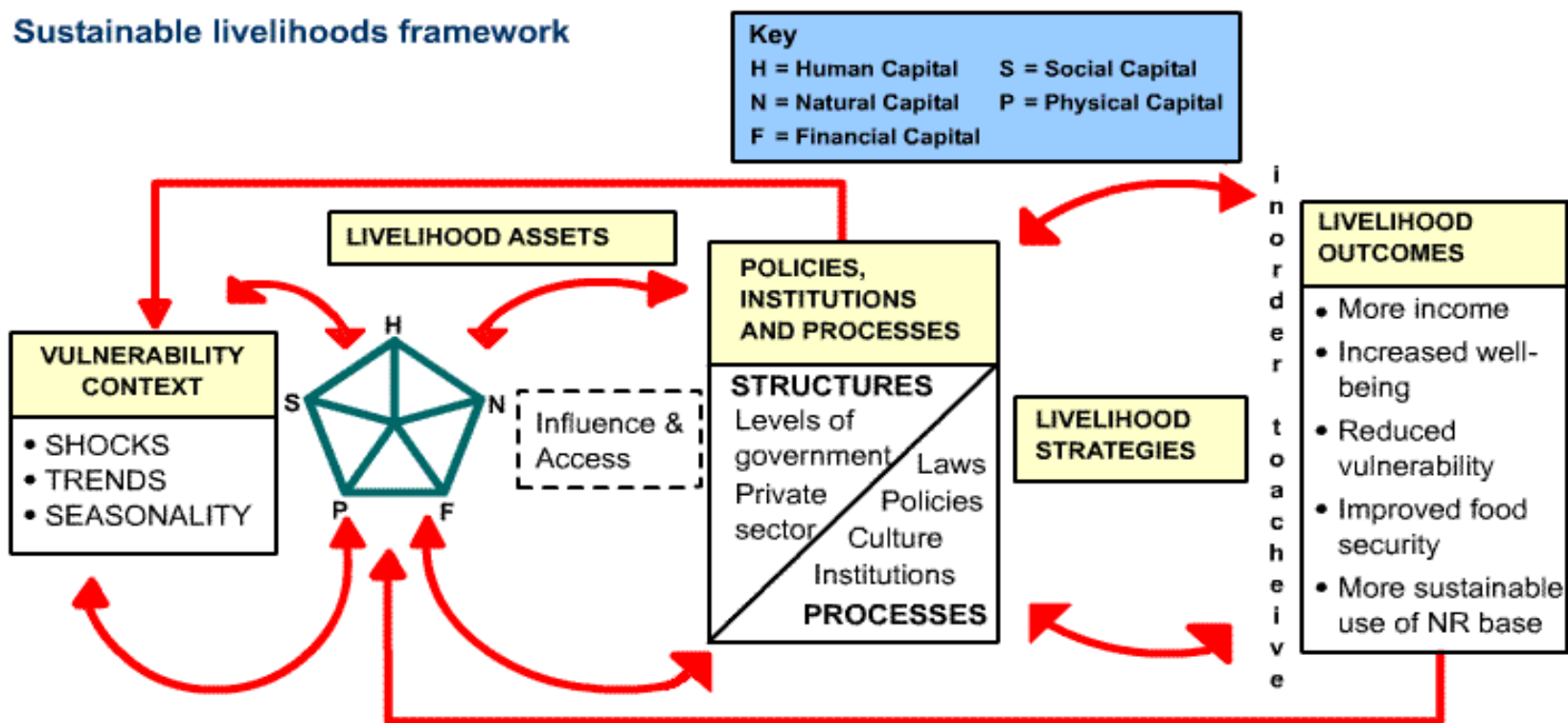


Fig.1 Sustainable Livelihoods Framework Source: DFID

1.2 Application of Sustainable Livelihoods Approach

Attempts have been made by the water and sanitation sector to use the livelihoods approach for services delivery with an aim of alleviating poverty at national, regional and local levels. An example is The World Bank, Karnataka community based tank management project which aims to revitalize 2000 existing tank systems in poor sub districts by returning sponsored capacity and responsibility for water tank development to village level groups, and to ensure that 1.5 million rural households benefit from the project in the process. Economic benefits will be in agriculture, horticulture, production fisheries, forestry, livestock and time saved in fetching water. Crop production is expected to increase from 25,000 to 800, 000 tons per annum with the major increases in crops such as groundnut, potato and green gum. The project will also boost manual removal of silt deposits in tank systems.

The sector has made attempts to promote appropriate integration of water supply and sanitation within watershed development programs. Based on action research in South Africa and India, Whirl project (Water, Households and Rural Livelihoods) aims to promote better institutional and operational solutions for rural water supply through research and integration of rural water supply projects and coordination between water shed development, thus ultimately improving the access of poor people to safe water supplies for domestic uses (both drinking and productive).

The use of the Sustainable Livelihood Approach in the South African water services sector has been minimal. It can be argued that the separation between livelihood objectives and services delivery has the potential to impact negatively on achieving the sector's goal of socioeconomic development through services delivery.

There is therefore a need to carry out a livelihood assessment of a typical rural area with the hope that the study results will demonstrate the need and potential benefits of a livelihoods approach to water and sanitation delivery.

1.3 Water, Sanitation and its Relationship with Health and Hygiene Education

There are differences in opinion about exact figures of disease reduction attributable to improved water and sanitation provision. There is however agreement in the sector that to achieve improved and sustainable health benefits, improved water supply and improved sanitation must be integrated with better hygiene.

According to Salim Ahmed Salim, Water Ambassador for Africa 'water and hygiene are vital components of sustainable development and alleviation of poverty' (WSP, 2001) and the improved hygiene can only be achieved with health and hygiene education (Kerr, 1990).

In recognition of the critical role hygiene education plays in achieving the objectives of water and sanitation projects, the Water Supply and Sanitation Collaborative Council (WSSC) has launched the WASH campaign (water, sanitation and hygiene), which aims to increase awareness and to promote hygienic sanitation practices.

The following facts and figures from WASH demonstrate the critical need for integration of water, sanitation, and hygiene provision.

- I. Some 6,000 children die every day from diseases associated with lack of access to safe drinking water, inadequate sanitation and poor hygiene an equivalent of 20 jumbo jets crashing every day.
- II. 2.2 Million People in developing countries, most of them children, die every year from diseases associated with lack of access to safe drinking water inadequate sanitation and poor hygiene.
- III. At any time 1.5 billion people suffer from parasitic worm infections stemming from human excreta and solid wastes in the environment, in spite of the fact that intestinal worms can be controlled through sanitation, hygiene and water. These parasites can lead to malnutrition, anemia and retarded growth depending on the severity of the infection.

Provision of water supply alone without sanitation cannot address health related problems satisfactorily. Experts agree that not only must water, sanitation, and hygiene be integrated, proper health and hygiene practices have a critical role to play in disease reduction. According to WSSC (2000) the simple act of washing hands with soap and water can reduce diarrhoeal disease by one third and following the introduction of the Guatemalan hand washing initiative in 1998, nationwide, there were 322,000 fewer cases of diarrhoea amongst the 1.5 million children under five in the country's lowest income groups.

1.4 Challenges to Water, Sanitation and Hygiene Provision

In spite of the sector agreement and knowledge about the critical role integrated water, sanitation and hygiene provision plays in disease reduction, The Joint Monitoring Program for Water Supply and Sanitation (JMP) reports that in 2000, 1.1 billion people globally were without access to an improved water supply (which amounts to 2 human beings out of 10), and notes that nearly 290 million were in Africa (JMP, 2004). The WSSCC (2003) projects that by 2025, the number of people living in water stressed countries will increase to 3 billion, though today 470 million people live in regions where severe shortages exist. The JMP (2004) further notes that 2.4 billion people are without access to improved sanitation i.e. 4 people out of 10.

Various experts have proffered reasons for the sectors past and present failure to provide all persons with access to improved sanitation. Murkerjee (2000) carried out a study of myths versus reality in sanitation promotion in East Asia and the Pacific and her key findings include, the prioritisation or stronger demand for water supply over sanitation by communities,

Use of willingness to pay as an indicator for demand for sanitation and the use of number of toilets constructed as an indicator of sanitation coverage.

The reasons are not different in Africa and in addition to those above, Muller (2002) notes that some of the challenges facing sanitation provision in South Africa include the absence of a system for promoting sanitation at community level and the weakness of government skills in household focused sanitation provision in relation to government capacity for community based water provision.⁴

Onabolu (2002) notes other South African challenges such as the huge number of unserved, paucity of sector skills, fledgling Water Service Authorities, abject poverty of the target group, non standardised delivery methods, and inefficient institutional arrangements for procurement, planning and management.

Challenges particularly related to hygiene promotion include the absence of an effective programme in South Africa to address sanitation problems of individual households and to promote health and hygiene awareness; the futility of using educational approaches to change behaviour without the concomitant translation into understanding, conviction and practice and the lack of integration between the construction/O&M of facilities, sanitation related issues & hygiene promotion (Murkerjee, 2000; Muller, 2002 and Onabolu 2002)⁵.

In a paper presented at the AfricaSan conference, DWAF (2002) also concurs with this observation by noting that social issues are often not considered or properly integrated into sanitation programmes. These challenges are not applicable to South Africa alone but common to developing countries in Africa, Asia and the Pacific. Murkerjee (2000) summarizes these common challenges by noting that 'sanitation projects need very different timeframes, planning and implementing procedures and skill mixes among implementing agency personnel. Institutional appreciation of the special requirements of sanitation programs and institutional capacity to manage the non- technical aspects of sanitation are still very limited'.

In spite of the WASH fact that the simple act of washing hands with soap and water can reduce diarrhoeal disease by one- third, the challenges to adequate hygiene promotion on sanitation projects still prevent the realisation of sanitation delivery targets and the attendant health benefits.

⁴ According to Mike Muller 2002, 'progress in sanitation has been much slower. This reflects both the lower priority attributed to it by the people and the government, and the perceived difficulty of working at the household level'

⁵ (Murkejee also notes that people who received toilets did not receive explanation about operation and maintenance and thus were not aware of the function of the water seal, thinking it was dirty water they cut off the seal, resulting in the toilets having bad odour and the owners sealing them.

In South Africa, the Department of Water Affairs and Forestry noted that although by early 2002, an excess of 7 million people had been provided access to water supply at a basic level of service, only half a million people had been positively impacted by the National Sanitation programme (DWAF, AfricaSan 2002). Furthermore, its National Cholera statistics indicated 117,147 reported cases of cholera nationally (DWAF, 2002).

Clearly, decades of traditional methods of 'education has failed to achieve sustained improvement in hygiene practices on a large scale' (Murkerjee, 2000). There is an urgent need to address the challenges to sanitation and hygiene promotion which can only be achieved by the inclusion of certain key elements in sanitation and hygiene programmes.

These include:

1. Development of a system for promoting improved sanitation and community level, which is household-focused, Muller (2002)
2. The need to monitor sanitation implementation against key indicators which focus on outcomes rather than inputs, these indicators must demonstrate the impact of sanitation improvement programmes on the health of the community (DWAF, AfricaSan, 2002)
3. The critical involvement of the community in all stages of sanitation provision, demand responsive approaches are indispensable to sanitation. There seem to be no alternatives to community-by-community demand assessment before deciding supply interventions (Murkerjee 2002).

1.5 The Community Based Health and Hygiene Model

Many sector experts agree that a community refers to group of individuals living together in some form of social organisation with cohesion in planning and operation and/or manifesting some unifying trait or common interest (Wotjczak, 2002). Relatedly if development is a process which enables a community to provide for its own needs, beyond former levels, with dignity and justice, the most sustainable way to deliver services to a community would be through an approach which involves the community at all stages, hence the term community based approach (Urbana, 2005).

There are various examples of the community based approach to services delivery within and outside Africa some of which include community based water resources management. According to Hirsch (2005) the key findings of a study funded by the International Development Research Centre (IDRC) were that the environmental degradation of Laos Nam Ngum watershed should be addressed first at the community rather than at the national level, and the need to raise awareness at all levels of the need for a community based approach to resource management.

The Environmental Protection Agency recognises the place of humans in ecosystems giving rise to its Community Based Environmental Protection (CBEP). The CBEP is a creative approach to solving environmental problems using consensus based solutions with communities, governments and diverse stakeholders collaborating to identify needs and take action to improve quality of life.

In relation to health, it is indicated that educational and community based programs have played an integral role in the attainment of Healthy People 2000 objectives and will continue to contribute to the improvement of health outcomes in the United States by the year 2010.

Breslin (1999) reporting on a workshop to train health professionals in KwaZulu-Natal on a participatory approach to community based HIV/AIDS awareness , notes that community involvement could help in developing household coping strategies and highlighting ways health care professionals can provide support at a community level.

In relation to the use of the community based approach in the water sector, Mvula Trust South Africa, developed a community based model for water supply which was based on an evaluation in 1996 of over 20 projects. The model was reviewed in 1998 based on another evaluation of 60 projects with an objective of providing greater understanding of reasons for slow pace of project implementation. The analysis of the study findings resulted in a new model for the development of sustainable water supply services for small (less than 5000 people) rural communities (Rall, 1998). Critical elements of this model are the demand responsive approach, the empowerment of consumers to make informed choices in relation to technology, service level and cost as well as method of project implementation. Other elements include an intensively participatory planning process, management of funds and project by Mvula and community and the involvement of social consultants as opposed to technical consultants for community training.

According to DWAF (2004) community based sanitation delivery approach still offers the best way to meet the objectives of the white paper, however it notes that most projects are not designed for community based approaches leading to failure of such projects. The IRC (2004) concurs that though community management has become the leading concept for rural water supply implementation, yielding significant achievements, it has had challenges leading to little success in large scale sustainable water supply systems.

In recognition of the challenges facing the sanitation related health sector and the pivotal role a well planned health and hygiene education program plays in the achievement of the targeted accelerated delivery, The Mvula Trust with funding from the Water Research Commission has developed a Community Based Health and Hygiene model which addresses these challenges.

It attempts to do this by inculcating the principles of local economic empowerment, community participation, peer education, partnerships, skills transfer, cost effectiveness and the review of PHAST utilisation in all phases of a health and hygiene programme (training , promotion, monitoring and evaluation) (Onabolu, 2002).

The CBHHM model has been used on some Mvula Trust EU and Ausaid funded projects e.g. The Pambili Water and Sanitation Project (PWSP).

The CBHHM model utilizes the most important community resource i.e. the people, in a manner that encourages ownership and sustainability of the water and sanitation projects. Gender mainstreaming, income generation, partnerships and support to overstretched, understaffed government facilities are additional benefits of this method. Integral to the model is the training and **utilization of community members** to carry out **household level** health and hygiene promotion and the **remuneration** of the community based health workers. For further details on the CBHHM, reference can be made to “The WRC Community Based Health and Hygiene Model and Implementation Kit”, WRC TT 264/06.

Table 1 Gaps in Current Methods and Ways in Which Community Based Health and Hygiene Model Addresses These Gaps

Stage in H&H program	Gaps in Current Methods as Identified from Mvula Field Experience	Community Based model
Planning	H&H budget often a much smaller proportion of the construction budget, but the manner of allocation between stages and possible role players is not cost effective or efficient.	Improved cost efficiency and improved impact on local economic empowerment . (H&H promotion budget utilized as CBW stipends rather than to project agents). Project agent play and are paid to train and mentor the CBWs.
Training	Non demand responsive as health and hygiene promotion plan developed by external parties – project agents	Development of action plan by CBWs fosters ownership and empowers CBWs to develop linked initiatives. Time bound Health Action Plan also facilitates monitoring and evaluation as a few problems are chosen, solutions implemented and then reviewed periodically.
	Training by social consultants of CBWs on <u>many</u> PHAST tools rather than on water and sanitation does not foster the needed clarity to enable the community identify and prioritize their problems and solutions.	Training of village health workers on water and sanitation using PHAST tools as relevant. This method, saves time and cost. The method also means that CBWs are capacitated and able to utilize the same tools if necessary when carrying out promotion.
Promotion	Reduced impact as H & H promotion carried out by PAs at community level through 1-3 workshops.	Maximal impact as H&H carried out by dedicated CBWs on a household level through out the period of intervention
	Government official participation difficult (coverage of large areas, no transport, under stocked clinic etc)	Partnerships and linkages are formed at early stage of process (Government EHOs, Clinics and CBWs etc), roles and responsibilities allocated giving each role player adequate time to perform optimally. PA train & mentor, EHOs monitor, CBW promotes.
	Inadequate mentoring of village health workers and skills transfer not incorporated when Project Agents carry out health and hygiene promotion.	Skills transferred to CBW during training & Project agents rather than carry out promotion themselves, are able to mentor CBW through the provision of tool kit and regular evaluation meetings.
	Separate process from water or sanitation implementation e.g. CBWs usually said to be behaviour change agents without much involvement in sanitation training, construction etc	Health workers are water or sanitation promotion agents. Involved in sanitation training, sanitation construction e.g. communication of pit dimensions , subsidy and household commitments etc
M&E	Difficulty in measuring impact of health and hygiene interventions	Simple pre and post intervention observational checklist developed. Simple reporting sheets, disease incidence register and evaluation visits constitute a robust community based M&E system
Other	Unskilled project agents	Use of the CBHHM with its guiding framework and tools provide project agents with a form of on –the- job mentoring.

Source: Onabolu, 2002

CHAPTER TWO

2. Methodology (Livelihoods and KAP Assessments)

An integrated livelihoods and KAP study was carried out in the four villages of Lushinton community using quantitative and qualitative methods to obtain information about the livelihoods context of the people in the community in relation to their assets, vulnerabilities, livelihood strategies and transforming structures and processes as well as their knowledge, attitudes and practices in relation to water and sanitation use patterns and sanitation, water and disease.

The livelihoods and KAP assessments were combined in a single process. This process consisted of a training workshop, questionnaire administration and participatory assessments using participatory tools in the community. The training workshop was facilitated by CARE South Africa with participation from service delivery and development oriented organizations whose scope of work included Lushinton or similar communities in the Eastern Cape. Some of the participating organisations included The Eastern Cape Coalition secretariat, Amatole District Municipality, Rural Support Services, National Development Agency, Care South Africa and the Mvula Trust amongst others. The Village Health Workers of the Lushinton water and sanitation projects also participated in the assessments.

2.1 Description of Study Area

Lushinton is located in the Nkokobe Local District Municipality of the Eastern Cape 26°46' 32°39'. It is made up of four villages Elundini, Ekuphumleni, Khayelitsha and Elukhanyisweni which are linked by the road from eDikeni to Seymour. Lushinton was part of the Ciskei whose administration and boundaries were dissolved with processes of democratization in the 1990's.

The people of Lushinton are predominantly Xhosa. The area is typical of many rural areas and lacks adequate amenities to support environmental health. Migrant labor is a dominant form of employment in Lushinton and like many other rural areas in the Eastern Cape, Lushinton was structurally linked to the migrant labor system as a reservoir of cheap labor, serving mainly the needs of the mining industry and later (after World War II) also those of the manufacturing sector. Lushinton is bordered by three rivers, namely The Cangca, Valela and the Hoek.

2.3 Sampling and Data Collection Method

Lushinton community was chosen because it is located in one of the study provinces. The households included in the study were selected from the four villages that make up Lushinton namely Elundini, Ekuphumleni, Khayelitsha and Elukhanyisweni. Working from opposite ends of the village, a total sample of fifty households was selected (Table 2) and as much as was possible the most senior person in the household was interviewed. However if the most senior person in the house was out at the time of the interview the most senior person at home at that time would be interviewed (Table 3).

Table 2 Survey Sample

Village	No. of Households Sampled	% of Total Sample
Elukhanyisweni	16	32
Elundini	23	46
Khayelitsha	4	8
Ekuphumleni	7	14
Total	50	100

Table 3 Demographic Characteristics of the Fifty Respondents at Household Level

Age of respondents		
	#	%
27-30 years	1	2
31-40 years	6	12
41-60 years	25	50
61-91 years	18	36
Total	50	100
Gender of respondents		
	#	%
Male	26	52
Female	24	48
Total	50	100
Position within household		
	#	%
Head	44	88
Spouse of head	4	8
Child of head	2	4
Total	50	100

However it is important to note that within these fifty households, there were questions which sought to obtain information about the other members of the fifty households.

There were thus two levels of assessments and responses, the first at household level, targeted the most senior respondent, the second at intra-household level, was about other members of the household. In cases where the questions were about other members of the 50 households, the sample size increased to three hundred and twenty nine (329). Thus results are reported as percentages of the 50 households or percentages of the 329 individuals within these 50 households in the study sample.

Data was collected using the following method:

1. Interviewer administered questionnaires which were designed to obtain information on the Knowledge Attitudes and Practices of the households in relation to health, sanitation, water and hygiene issues and to examine livelihood issues relating to households and individuals within the household (See Appendix ii).
2. Participatory assessments: In addition to the questionnaire, the livelihood assessments employed participatory tools such as Differentiation, Venn diagram, Resource and social map, Local economic profile, Seasonal Calendar and Case Studies.

Fieldworkers were trained in questionnaire administration and group translation of the questionnaire into Xhosa. The questionnaire was pre-tested and corrected before administration.

The data was captured, coded and analyzed using SPSS statistical package.

CHAPTER THREE

3. Results of the Integrated Livelihood and KAP Assessments

The results of the livelihood assessments are presented in this section in relation to the demographic and socioeconomic characteristics, human, social, natural, financial and physical capital in the community as well as its vulnerability context.

3.1 Demographic and Socioeconomic Characteristics

The assessment of the age distribution of the fifty households made up of the respondents and their household members⁶ indicate that Lushinton is made up of a generally youthful population with 213(65%) of the study population aged 17 years or younger. The pensionable age group in this sample of 329 persons account for about 9% (30) of the local population. There is a very high level of unemployment i.e. 51% of the economically active are unemployed. 30 (60%) of the fifty households have at least one pensioner residing in the household. 169 (51%) of the 329 persons living within the fifty households are males and 160 (49%) female. More than three quarters of this study population reported that they are single 254 (77%).

3.2 Human Capital

The assessment of human capital was in relation to labour (household size and structure, household heads) educational levels, vocational status, skills, knowledge and awareness of water, sanitation and health related issues and the findings are presented in this section.

3.2.1 Household Size/structure

30 (60%) households fall within the extended family size of six or more members whilst 20 (40%) households can be classified as nuclear⁷ having less than six members. Significantly, there were no reports of non-family members residing within households.

3.2.2 Household Decision making and Division of Labour

Less than one quarter of the 329 household members i.e. 66 (20%) are involved in household financial decision making. Over half, 38 (58%) of the household members involved in financial decision making are female. The majority of household members who are involved in financial decision making are older than 40 years (55 or 83.3%).

⁶ 329 persons

⁷ parent and children

More than half i.e. 177 (53.8%) of the larger study population is involved in domestic labour with majority of the contributors being female (59% or 105). Of the 177 household members involved in domestic labour more than one third are younger than eighteen i.e. 65 (37%). The age category 18 -30 account for a further one third 56(32%).

3.2.3 Migrants and Pensioners Contribution to Household

Due to the significant contribution of migrants and pensioners to household income it was considered important to assess human capital in terms of the presence or absence of these groups with households.

Three fifths of the fifty study households, 30 (60%) reported at least one pensioner as a household member while only one third of households included a migrant who sent remittances (17 households or 34%). Over a quarter of households (14 or 28%) had neither a pensioner nor a migrant residing in them.

Migrants who reside elsewhere for part of the year make up one in ten of the larger study population (36 or 11%) Surprisingly slightly higher numbers of females account for the migrant population (19 migrants or 53%). Reasons for migrating vary from looking from work, working or to stay with family (Table 4)

Table 4 Profile of Migrants and Reasons for Migration

Household members who migrate						
	Male		Female		Total	
	#	%	#	%	#	%
Do not migrate	153	51.9	142	48.1	295	89.1
Migrate	17	47.2	19	52.8	36	10.9
Reasons for migrating						
	Male		Female		Total	
	#	%	#	%	#	%
Work	13	56.5	10	43.5	23	63.9
Looking for work	4	80.0	1	20.0	5	13.9
Schooling/family	-	-	8	100.0	8	22.2
Total	170	51.4	161	48.6	331	100

3.2.4 Profile of Household Heads

Three quarters of the 50 household heads were male (30 or 60%). 44 (88%) of the 50 heads were aged over 40years. One in ten household heads were younger than 40 years (5 household heads or 12%). Most of those younger than 40 fell between within the age group 31-40 years old (10%).

3.2.5 Education/Skills levels

The education levels within the larger study population reflect an under-educated population. 16% of those aged twenty years and over had received no formal schooling, of these more than half were males (14 or 52%). Only one in five 33 (19%) of this study population over twenty years had achieved a grade twelve, two thirds of these were female (22 or 67%). No one in the study population had tertiary qualifications.

Very few of the 50 household heads reported completing grades 10 and 11 (4 or 8%) with only one having completed grade 12. It is important to note that there is a view within the community that even those who are educated have extremely limited opportunities locally.

Farming was a skill that almost everyone in Lushinton had, although difficult to quantify, the social mapping exercise, revealed that some training has been received in brick making, dress making, basic business skills, and brick laying and ABET.

3.2.6 Vocational Status

One tenth of the larger study population (33 or 10%) reported being retired or pensioned. Of these the majority was female (19 or 58%). This one sector of the population also, ironically, accounts for more than half of the total income for all households (refer to section 3.4.3.1). Of the 134 (40.7%) economically active of the larger study population (those excluding scholars, children and pensioners) almost two-thirds were unemployed (83 or 62%) with slightly more of the unemployed females reporting that they were looking for work (Table 5).

3.2.7 Health Trends, Knowledge and Awareness

Some of the encouraging trends observed include the following: Respondents indicated high levels of awareness that both animal and human faeces can cause disease 47 respondents (95%) and 50 respondents (100%) respectively. Overall 48 (98%) respondents were aware that hand washing reduced the risk of disease due to contamination from human faeces. Similarly, all 50 respondents were aware that sanitation practices such as washing hands with soap and water after defecating and using a toilet could reduce the health risks from human faeces. Only one respondent disagreed with idea that the water treatment can reduce health risks associated with human faeces. Almost all households (49 or 98%) identified VIPs as a viable sanitation option, with a similar pattern emerging for simple pit latrines and burying excreta. More than one in ten households (7 or 14%) is however convinced that flush toilets are the most appropriate means of disposing of human faeces.

However, high levels of ignorance regarding HIV/Aids were recorded with just under half of all respondents i.e. 22 (44%) being unaware that HIV/Aids cannot be transmitted through contact with human or animal faeces.

Table 5 Vocational Status of Respondents

Vocational Status (pensioners, scholars and preschool out of total population)						
	Vocational Status		Vocational status by sex			
	Total		Male		Female	
	#	%	#	%	#	%
Child/preschool	38.0	11.6	17.0	44.7	21.0	55.3
Full time scholar	124.0	37.7	74.0	59.7	50.0	40.3
Retired/receive pension	33.0	10.0	14.0	42.4	19.0	57.6
Vocational status of economically active population (excluding scholars and pensioners)						
	Vocational Status		Vocational status by sex			
	Total		Male		Female	
	#	%	#	%	#	%
Home worker	16	11.9	1	6.3	15	93.8
Unemployed not looking for work*	15	11.2	9	60.0	6	40.0
Unemployed looking for work	68	50.7	35	51.5	33	48.5
Part-time employed	6	4.5	2	33.3	4	66.7
Full-time employed(informal sector)	6	4.5	5	83.3	1	16.7
Full time employed (formal sector)	17	12.7	8	47.1	9	52.9
Disabled	6	4.5	4	66.7	2	33.3
Total	134	100.0	64	47.8	70	52.2
*This category in the questionnaire refers to those within the economically active population who are unemployed and are not actively seeking employment						

3.2.8 Summary and Discussion of Human Capital

The educational levels of the larger study population i.e. 329 individual household members reflect a generally uneducated population with no tertiary qualification. The household heads were similarly uneducated in terms of formal education with only 4 or 8% having completed grade 10 – 11 whilst none had completed grade 12. It is thus not surprising that almost two-thirds of the economically active population was unemployed, with one tenth of the 329 household members being retired or pensioned. The study findings revealed that pensions contribute significantly to the household income. This study population reflects a typical low income community with poor human capital in terms of skills, formal education and income.

The study revealed that females are household financial decision makers representing 38 (58%) of all financial decision makers in this study. However though females contribute the most to domestic labor (105 out of the 177 individuals involved in domestic labor) as it is not financially remunerated, they own a proportionally lower percentage of the financial stock and physical infrastructure and contribute much less than half of the total household income (refer to section 3.4.3.1). E.g. significantly, men account for all of the more wealthy cattle owners i.e. those who possess more than ten cattle (refer to section 3.4.1). Thus even within this poor community, females are disadvantaged and form a vulnerable group, this vulnerability has far reaching implications for household members of both genders as a significant percentage of household heads 20 (40%) are female.

In terms of health trends, knowledge and awareness, respondents had a high level of knowledge about the faeco-oral route of transmission of diseases with 47(95%) and 50 (100%) respectively stating that animal and human faeces can cause disease. Most of the respondents 48 (98%) were aware that hand washing reduced the risk of disease arising from fecal contamination. However the study findings revealed that over 1 in 10 respondents regard flush toilets as the appropriate form of fecal disposal. Almost half of the respondents 22 (44%) attributed HIV/AIDS infection to contact with faeces.

If these results are viewed in the context of hygiene promotion on sanitation projects in low income rural and urban communities, it appears that the perceived relationship between HIV/Aids and faeces might result in a slow uptake of urine diversion toilets and other low cost options even though they might be the most appropriate for these communities.

3.2.9 Conclusion: Human Capital

The human capital of a community in terms of health and hygiene related knowledge and attitudes, affects the practices of the community and in turn their uptake, ownership and operation and maintenance of services such as water and sanitation facilities. Integrated water, sanitation related health and hygiene messages, should integrate cross cutting issues such as HIV/Aids. These health and hygiene messages should be based on a demand responsive health action plan i.e. developed by the communities themselves with external support as is proposed in the Community Based Health and Hygiene Model.

There are differences between genders, between households and within households in terms of access to resources, roles in household financial decision making, time spent on domestic labour and time available for voluntary work creating vulnerable groups. An awareness of these differences is critical to project planning, implementation and sustainability. The current community based approach to baseline data collection is not sensitive to these differences.

Development programs and water, sanitation, health and hygiene programs in particular should integrate livelihoods assessments with baseline surveys to ensure that disaggregated data on the needs and strengths of vulnerable groups such as women within the target community is collected and forms a basis for project planning and implementation.

3.3 Social capital in Lushinton

The social capital in Lushinton was assessed in relation to inter household relationships, local community organization, collective action and roles played in household and community water and sanitation.

3.3.1 Relationships between Households

When respondents were asked to describe the relationship between their household and others, 46 (92%) of respondents suggested that the relationship between households could be described as co-operative, friendly, trusting and supportive. There was however an even split between whether households were organized or apathetic. 26 (52%) and 24 (48%) respectively (Table 6).

Table 6 Inter-household Relations

Describe the relationship between yours and other households					
	#	%		#	%
Co-operative	46	92	Antagonistic	4	8
Apathetic	24	48	Organized	26	52
Friendly	50	100	Unfriendly	-	-
Trusting	49	98	Suspicious	1	2
Supportive	50	100	Unsupportive	-	-

3.3.2 Local Community Organization

The picture of social networks at community level as perceived by the study respondents seems to differ from their perceptions of inter- household social networks. The case study interviews reported very few community level social networks. Those reported were inter family loans, grocery buying clubs, sewing club (not in operation) neighbors/family help with house construction and Masiphe Kisane social support group.

Significantly only about 7 households (14%) had heard of any youth organization representing the youth (ANC youth league). Group savings in the form of stokvels is not a common feature as 38 (76%) respondents were unaware of any. 33 households (66%) had not heard of any women focused organizations.

The respondents reported a local presence of community based organizations such as The ANC, the local woolgrowers association, Mvula Trust and World Vision South Africa. No mention was made of the local water association.

3.3.3 Collective Action

Respondents were unanimous that there had been no collective engagement by the local community over services but were divided over whether the local community had been involved in collective action over crime/violence (Fig. 2).

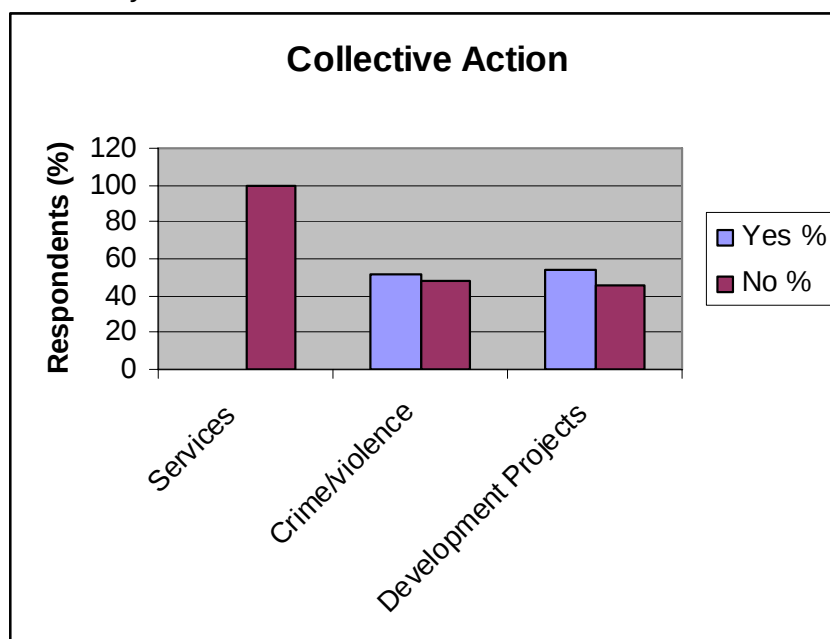


Fig 2 Collective Action

3.3.4 Roles Played in Household and Community Water and Sanitation

More than four fifths (42 respondents or 84%) of respondents reported involvement in household sanitation in ways which varied from educating younger members about hygiene, paying for construction of toilets, or contributing labour to construction. High levels of involvement were recorded for both household and community water supply. However, involvement in community water supply was predominantly financial while household roles were mainly in terms of labour such as fetching water or treating water. Contributions did not include communal responsibility for operation and maintenance.

3.3.5 Social Capital: Conclusion

The study indicates that social capital, networks and local organization appear underdeveloped at community level, though there seems to be a significant stock of social capital in terms of trust, reciprocity and shared labour at the inter-household level. There is also a perception in the community that government presence is minimal. Service delivery organizations (public, private, NGO) would therefore need to carry out intense community mobilization in the course of service delivery to ensure sustainability of projects. Operation and maintenance of services e.g. water supply system usually depends on communal level cooperation and in the absence of communal cooperation, services when provided will not be sustainable.

3.4 Financial Capital

The financial capital of the study population was assessed in relation to local stocks (bank accounts and livestock) and regular inflows of financial capital. Income and consumption patterns were also assessed.

3.4.1 Stock

The most significant form of savings is in livestock ownership, though not all households own live stock and significant differences exist between the numbers and type of livestock which households own. Differences also exist in livestock ownership between the genders. Less than one third of households i.e. 16 (32%) indicated that they did not own any cattle. Two-thirds of households, 22 (65%) that own cattle possess between two to ten cattle, whilst 18% had more than ten. On average, households that own livestock kept 16 chickens, 13 goats, 2 pigs or 8 cattle. The largest owners of goats (between 20 – 50 goats) made up one fifth of households i.e. 11 (22%), whilst over half of households i.e. 28 (56%) own between six and twenty goats. the remainder (12 or 24%) own between two and five goats.

While male cattle owners number only slightly more than their female counterparts (19 or 53% males and 17 or 47% females) their share of total cattle is significantly higher than that of women (196 cattle or 73% as opposed to the 72 cattle or 27% owned by women). Significantly, men account for all of the more wealthy cattle owners i.e. those who possess more than ten cattle.

Women tend to dominate the ownership of pigs and chickens accounting for 83% ownership of pigs and chickens. They are also more likely to own sheep (253 or 52% of sheep). Goats on the other hand are more like to be owned by men with two-thirds reported to be in male hands (122 goats or 66%), whilst men account for three-quarters of the horses owned locally (43 horses or 74%)

3.4.2 Bank Accounts or Post Office Savings

The trends here reflect limited potential savings in terms of the formal cash economy, there was little difference between genders in terms of possession of bank or post office accounts.

3.4.3 Regular Inflows

Regular inflows were assessed in relation to household income and other sources of income.

3.4.3.1 Household Income

The mean income per household is R768 per month with children accounting for one in ten (10 or 11%) of those who contribute to income, despite the relatively low value of their contributions. Migrant remittances from the formal or informal sector represent one quarter of total income (R9, 160 or 24%), whilst pensions contribute significantly to the total income of the community (R19, 760 or 51%).

Almost exactly the same number of men as women contributes to monthly household income. However, expressed as a percentage of total community income, men account for higher percentage contributions (56% of total community income).

The richer households supplement pensions with other forms of household income and a significant number of households are paid in food for labour (Table 7).

Table 7 Differentiation In Terms Of Household Income Sources

Category1 - Rich	Category2-Middle Class	Category 3-Poor	Category4 - Very poor
• Shop owners, taxi owners, teachers, nurses government employees, farmers and pensioners • 50 cows, 100 sheep, poultry and goats	• Government employees • Piece/contract work • Pensioners • 10 cows, 20 sheep	• Mostly pensioners • Migrants	• Nobody working • Some domestic labour for others more well off • Earn little cash and paid in food • Some beg for food from neighbors

Other sources of Household Income

Three-quarters of households (38 households or 76%) indicated that there was labour exchange between households in terms of farming activities and those households which could secure no financial income would exchange services (such as domestic labour, mending fences or plowing) for non-financial payments and in many instances would receive only food (Table 8).

Table 8 Other Sources of Household Income

	R	%
Contributions from non household members	350	10.2
Income from crop sales	687	20.0
Income from sales of poultry or other domestic animals (eggs, milk etc)	40	1.2
Sale of live animals	488	14.2
Income from services rendered (e.g. plowing)	865	25.2
Income from sale of other agricultural products	1000	29.2
Total	3430	100.0
Other income as % of total income	8.9	

3.4.3.2 Household Expenditure

One third of households reported a total monthly expenditure of less than R400 (17 households or 34%), a further one third recorded R400-R499 and the final one third (16 or 32%) reported spending between R500-R899. The mean monthly household expenditure is R454 per month with a minimum of R31 and maximum of R849. Community expenditure on water represents only 1% of the total expenditure and represents the monthly operation and maintenance contribution of R5.

Using the World Bank measure of one US dollar per day as an indicator for the extremely poor then only one fifth of local community members (11 or 22%) would fall above this measure in terms of income and only half of these (5 or 10%) fall above this group if expenditure per household member is used as the comparative measure.

One fifth of households (11 households or 22%) run on a deficit (current expenditure exceeds income). The remaining households have positive balances between expenditure and income though this might be due to inaccuracies in recording expenditure or unanticipated expenditure (See Table 9).

Table 9 Net Income (HH income less total HH expenditure) of Households

	No.	%
Negative income	11	22
R1-R100	5	10
R100-R300	13	26
R300-R500	7	14
R100-R1000	9	18
R1000-R1500	5	10
Total	50	100

3.4.4 Summary and Discussion of Financial Capital

The most significant local financial stock is livestock, which play a significant role within the study population in terms of savings as well as emergency income in times of need. Most monetary income is attributed to state pensions and welfare grants (60%) with migrant remittances accounting for a further one quarter. Very little monetary income is derived from local productive activities and a significant proportion of household income is derived from migrants. Two thirds of household expenditure is on food. Over half of the study households fall within the World Bank category of extremely poor and it is no surprise that over one fifth of households reported negative income i.e. their basic expenses exceeded income (See Table 9).

The development sector uses willingness to pay as an indicator of demand or potential sense of ownership, however the financial stock and savings pattern of the study population indicate that Lushinton is typical of all rural communities in which existence is very survivalist and though expenditure is on the very basics necessary for existence, net income is sometimes negative and the community might not be able to pay even the meager amounts required to keep the provided services functioning.

This suggests a very strong need for development organizations to maximize opportunities for income generation within their projects. Examples of how income generation can be facilitated include the use of labour intensive methods during services delivery and supporting the provision of water for productive uses. Other methods include support of communities to sell labour as well as materials to projects. Failure to find innovative ways to translate communities' willingness to pay into the ability to pay will result in health and hygiene programs creating strong demand for services by communities who however are unable to maintain the facilities where payment, however minimal is required. E.g. contributions of R5 to buy diesel for pumps could not be made by some community members in Lushinton leading to the nonfunctioning of taps.

There is considerable difference in the financial capital between genders, as even though the same number of women and men contribute to household income, the men's contribution to total income is more than that of the women (refer to 3.4.3.1). Furthermore all the wealthier cattle owners are men i.e. those that own more than ten cattle. In the human capital assessment, more unemployed women than men indicated that they were looking for work, and women make up a higher proportion of migrant labour which contributes a quarter of the total household income (see Tables 4 and 5 and section 3.4.4.1).

There is also a difference in financial capital between households with some households owning no livestock and hiring out their labor for food.

It is important that all developmental projects employ a method such as the livelihood approach to ensure that their projects and related benefits target the most vulnerable groups within the recipient communities.

3.4.5 Conclusion: Financial Capital

A significant proportion of the study population falls within the World Bank category of extremely poor in terms of household income and expenditure. The ability to pay is weak as there is little productive activity within the community and migrant labor and pensions contribute significantly to household income. There are differences in financial capital between households and between genders. In order to improve the ability to pay for operation and maintenance of services and to ensure that the most vulnerable are reached, development organizations should employ the livelihoods approach in project planning.

3.5 Natural Capital

The results of natural capital in Lushinton are presented in relation to water resources, land and local timber in the forests.

3.5.1 Water

Three rivers, The Cangca, Valela and The Hoek provide the crucial water supplies for local agriculture and farming activities in Lushinton. They are also important for household water consumption and communities fall back on them when rain tanks or community taps run dry.

There are also community standpipes in Lushinton using groundwater sources. These are currently used for domestic purposes.

3.5.2 Land

Local land is essentially state owned communal land allocated by traditional authorities, every household has access to land, that on which their house is built and in most instances also a piece of land for growing crops. Under utilization of land seems a significant feature in the community.

3.5.3 Forests

There is currently some harvesting of wood for timber as well as domestic firewood.

3.5.4 Summary, Discussion and Conclusion: Natural Capital

The most significant natural assets in Lushinton are land, water and forests. These resources seem to be generally under-utilized mainly due to a limited local infrastructure (i.e. physical capital) but also due to a lack of institutional support as well as weak local organization.

There seems to be a significant amount of under-utilized land locally whose productivity could be improved by increased access to water for irrigation as well as support with the provision of agricultural inputs. In addition, the exploration of higher value crops as well as hardier crops for the off season could have a tremendous impact on seasonality induced household vulnerability. Improving water access would thus have a significant impact on those households who currently have to carry water from the river for irrigation. The wood resources from the forest currently harvested could be more effectively managed by developing a local resource management strategy in collaboration with the Department of Water Affairs and Forestry (DWAF).

There is no apparent difference in ownership between genders or households, however if the traditional community based approach alone is used to support the community in facilitating the productive use of these assets, there will be a tendency for only the richer and more powerful in the community to benefit. It therefore important for stakeholders including water and sanitation organizations to integrate the livelihoods and community based approaches in such developmental planning to maximize impact of their projects.

3.6 Physical Capital

The results of the assessment of physical capital in Lushinton are presented in relation to existing infrastructure and services, evaluation of infrastructure, services and productive assets.

3.6.1 Existing Infrastructure and Services

The more significant community resources and infrastructure identified by local residents was provided by the resource and social mapping exercise, which identified the following, community hall, shearing shed, four crèches. Other infrastructure include the community standpipes by The Mvula Trust in each of the villages (Elundini 13, 5 in Ekuphumleni and 4 each in Khayelitsha and Elukhanyisweni). There are also two primary and one secondary school in Lushinton, one police station, a mobile clinic and two dip tanks.

3.6.1.1 Housing

Housing, like livestock ownership is an indication of relative levels of wealth. Houses range from large brick built farmhouses with tiled roofs to wattle and mud built huts plastered with cow dung, with zinc roof sheets. The differentiation exercise provided a breakdown of housing by social groupings (See Table 10).

Three-quarters of households (36 households or 72%) fall within the poor to very poor categories (established by the differentiation exercise) whose resources limit investments in building more costly structures. The physical dwellings within which households reside are regarded as privately owned.

Table 10 Differentiation of Local Community in Terms of Housing			
Category1 - Rich	Category2-Middle Class	Category 3-Poor	Category4 - Very poor
• Face bricks • Tiled roof • Tiled floor and floor rugs	• Bricks or blocks • Floor carpeted • Roof asbestos	• Mud blocks up[ported by reeds • Polished with cow dung	
Source: derived from differentiation exercise in the study			

3.6.1.2 Transport

Local roads are in an extremely bad condition, further isolating local communities and limiting access to markets. The main road to Seymour was last worked on in 1985 although the access roads to local villages have been upgraded subsequently. More than one quarter of the larger study population generally do not use public means of transport and walk (86 or 26%); all the four vehicles owned by local residents are owned by males.

3.6.1.3 Electricity and Telecommunications

No household included in the sample could report an electricity or telephone connection, with only one in ten households (5 households or 10%) reporting that they had access to a cell phone contributing to the vulnerability of the community.

3.6.1.4 Household Energy Sources

Local communities in Lushinton are not connected to the electricity grid the local energy sources range from the harvesting of wood, generators, paraffin, candles, gas and batteries. Most households rely on a combination of energy uses depending on their use and availability of means to acquire energy sources. Access to energy is determined not only by financial resources to purchase energy but also the availability of household labour to collect firewood.

3.6.1.5 Water sources, Uses and Seasonal Variation

The source of the communal water scheme in Lushinton is groundwater which is supplied to the community through community standpipes. The service provider is The Mvula Trust. Results of the participatory assessment indicated that most households reported collecting water from the river as the taps ceased functioning in January 2002 due to the lack of diesel to pump water. There was no diesel as some households had not paid their operation and maintenance funds of R5 per month.

A number of households indicated that they had rainwater tanks, which supplied household with water for parts of the year. One household indicated

that during the water project planning some members of the community had proposed a gravity tank system, which would have reduced the reliance on the diesel pump. The results of the differentiation exercise with regards to water usage provide an idea of how local households are stratified in terms of water use (Table 11).

Table 11 Differentiation in Terms of Water Use Strategies

Category1 - Rich	Category2-Middle Class	Category 3-Poor	Category4 - Very poor
• Most have water tanks • Use taps when water tanks empty • Use river when taps not working	• Some have tanks • Use taps • Use river when taps not working	• Do not have tanks • Use communal taps • Use river when taps not working • Poor households who cannot afford O+M costs often reside great distances from the taps	

The KAP survey provides a more detailed overview of water sources, uses and seasonal variation. The main trends are as follows:

Overall a wide variety of water sources were recorded including taps, stream/river, dams, rain and springs. Household water strategies varied depending on the season, usage and availability of different sources. This suggests that local communities' water use strategies, change noticeably throughout the year.

Water for farming purposes was accessed from the river throughout the year by an average of 23 households (46%). During winter a small number of households, 5 (10%) reported the use of a dam for farming purposes although this usage tapered off towards summer.

Despite the local water project, almost three quarters of local respondents 36 (74%) indicated that their source of water during the past month was the local river/stream. Very few households, 8 (16%) relied on the public taps and even fewer harvested rainwater (5 households or 10%).

3.6.1.6 Sanitation

The positive impact of sanitation provision on the local community in Lushinton is evident from the fact that most households have an excretal disposal system, in most cases a pit latrine. The KAP survey indicated that although the vast majority of respondents are in favor of toilets, majority indicated 46 (92%) that toilets are a potential health hazard because they perceived them as causes of mosquitoes.

Two thirds of local households (32 respondents or 64%) seemed receptive to cost recovery strategies for providing toilets while the rest either disagreed or were not sure.

3.6.2 Perceptions of Respondents of Infrastructure and Services

All services were perceived as bad or appalling, the only exceptions were policing and education which were both rated by two-thirds of respondents (32 or 64%) as fair or excellent (See Table 12).

3.6.3 Productive Assets

Ownership patterns for agricultural equipment and tools indicate that men are more likely to own and operate ploughs, plowing oxen and cultivators or planters. Slightly more women on the other hand own farming implements such as hoes, spades and forks. Only one block making mould was recorded and eight sewing machines. In most instances women owned these although two males were recorded as owning sewing machines.

Table 12 Rating of Services as Perceived by the Community

	Excellent		Fair/OK		Bad		Appalling	
	#	%	#	%	#	%	#	%
Water ⁸	2	4	2	4	45	90	1	2
Electricity	-	-	-	-	-	-	50	100
Sanitation	-	-	12	24	36	72	2	4
Toilets/sewerage	-	-	2	4	27	54	21	42
Health	-	-	16	32	29	58	5	10
Community facilities	9	18	24	48	6	12	11	22
Education	14	28	21	42	15	30	-	-
Policing	22	44	10	20	7	14	10	20
Sports facilities	-	-	1	2	31	62	18	36
Public transport	-	-	5	10	45	90	-	-
Local commercial outlets	-	-	-	-	12	24	38	76

3.6.4 Summary and Discussion of Physical Capital

The core features of physical capital in Lushinton include the following i.e. there is a significant degree of local neglect which is reflected in the underdeveloped service infrastructure locally. While some community infrastructure exists, such as schools, community hall and shearing shed there is no other services related infrastructure.

The state of the roads, the absence of electricity and telecommunications infrastructure, the presence of a very rudimentary and irregular health services amongst other indices reflect an impoverished rural community with extremely limited basic services infrastructure.

⁸ the low rating received by water is related to the non functioning of taps due to non payment of O&M costs by some community members

The community's physical capital features emphasizes the importance of linking services delivery with a livelihoods approach, which includes a holistic assessment of the various types of capital available in the community, the factors hampering access to capital and the formation of partnerships between different stakeholders to address these challenges during the various stages of services delivery e.g. planning, technology choice and design etc.

Study findings show various examples of ways that the absence of a livelihood approach impacted negatively on the desired outcomes of the project. Local residents generally perceived local services including water unsatisfactory (See Table 12), the participatory assessments reveal that the dissatisfaction with the water relates to the non - functioning of the community stand pipes due to non payment of operation and maintenance funds by some community members. Though the O&M amount seemed meager (R5/month/household) it is not surprising that most households could not afford the payments as the livelihood study showed that most households spent only on essentials and even then a significant proportion were spending more than they were generating (See Table 9). The participatory assessments also showed that households had suggested a gravity fed scheme which would have no need for diesel.

It is important to note that even the choice of sanitation technology was perceived by the study respondents to adversely affect health (breeding grounds for mosquitoes).

Productive assets such as block making moulds could have been linked to sanitation projects where the community supplies bricks to the sanitation projects. Study results showed that some stakeholders had invested in training the community in dressmaking and brick making, however these resident skills were not linked to any projects and were thus not productive e.g. brick making on sanitation projects.

As with human and financial capital, study results showed that there is a differentiation between households and between genders. E.g. in relation to water use strategies, richer households could use rainwater tanks , or communal taps, whilst the poorer households did not use rainwater tanks but relied on community taps when they worked but often had to work long distances to the rivers. Women owned very few productive assets e.g. Men owned ploughs and the only transport in the study population.

3.6.5 Physical Capital: Conclusion

The study population reflects a community which is under - resourced in terms of physical infrastructure and external support. There is a difference between households and genders in terms of types of housing, water use strategies, ownership of productive resources. There is a need for all stakeholders including local government to assess the physical resources within this community and to support the community in using these resources such as

the water and sanitation infrastructure for productive uses. It is important to use a livelihood approach to explore the differences in ownership and to target the most disadvantaged.

3.7 The Vulnerability Context

The results of the vulnerability context are presented in relation to shocks and seasonality as perceived by the respondents.

3.7.1 Shocks

Events perceived as shocks by the respondents include the death or loss of income of household members who either received a pension or were employed. Stock theft, robbery and vandalism in the wealthier households who had multiple strategies were also perceived as shocks.

The widespread levels of misconception and ignorance of the transmission of the HIV/Aids disease which is locally evident from the KAP survey suggest a potential threat to the local communities.

The fluctuations in the fortunes of regional and national labour markets (mining, industry and urban markets as well as international markets for wool for example) are important factors in the vulnerability context of local communities and beyond their immediate control.

Though low levels of general crime was reported, it is significant that stock theft was reported as the most frequently occurring crime with over one fifth of households (22 households or 44%) ranking stock theft as high and thus representing a significant threat to local livelihoods.

3.7.2 Seasonality

While the core contributors to household income in the form of pensions/grants are relatively stable (assuming efficient and regular state disbursements) this is not the case with agriculture, stock farming or migrant remittances. Seasonal fluctuations result in insecurity in terms of agriculture. During certain times of the year, greater labour (planting and tending crops) and resource requirements are placed on local households. Crop harvesting for various crops also occurs at different times during the year.

As many households rely on subsistence farming, household food security is potentially affected by agricultural sensitivity to the seasons.

3.7.3 The Transforming Structures and Processes

The transforming structures and processes refer to organizations, policies and customs which influence access to resources. The participatory assessments reveal that the study respondents are of the view that the local community of Lushinton suffer significantly from neglect. There is very little meaningful

interaction between the community and various levels of government i.e. local, provincial and national. The most significant interventions within the local area have largely been those associated with local NGO's (See Table 13). It would appear that organizations such as the Mvula Trust, World Vision and GTZ are perceived by the community to play the most significant roles.

Table 13 Study Households' Perceptions Of Stakeholder Relationship With Local Community

	Supportive		Antagonistic		No relationship		Missing		Total	
	#	%	#	%	#	%	#	%	#	%
Local (commercial) farmers	7	14	2	4	41	82	-	-	50	100
Local business	17	34	4	8	28	56	1	2	50	100
Provincial government	15	30	14	28	21	42	-	-	50	100
Local government	1	2	25	50	24	48	-	-	50	100
National government	20	40	16	32	14	28	-	-	50	100
Financial institutions	1	2	25	50	22	44	2	4	50	100
NGO's	40	80	2	4	7	14	1	2	50	100

3.7.4 Livelihood Strategies in Lushinton

Most households are involved in subsistence farming mainly maize and vegetables with very few of these households actually selling their produce. It is to be noted that farming is secondary to the pensions /welfare grants, with 21 (43%) and 3 households (6%) relying on pensions/grants and farming respectively. Very few productive activities are evident locally (See Table 14).

Table 14 Main sources of Support for Household Including Multiple Sources		
Single sources		
	#	%
Wages from local employment	3	6.1
Remittances	4	8.2
Pensions and grants	21	42.9
Selling crops	2	4.1
Selling animals or animal products	1	2.0
Multiple sources		
Local wages and pension/grant	1	2.0
Local wages and selling crops	1	2.0
Remittances and pension/grants	12	24.5
Remittances and selling animals or animal products	1	2.0
Pension/grants and selling crops	1	2.0
Pension grants and selling animals and animal products	1	2.0
Selling crops and animal products	1	2.0
Total	49	100

3.7.5 Summary, Discussion and Conclusion of Vulnerability, Transforming Structures and Processes, and Livelihood Strategies.

Essentially the livelihoods system in Lushinton is characterized by heavy dependence on state welfare inflows in terms of pensions/grants. This is complemented by some migrant remittances which however seem to be on the decline as opportunities for un/semiskilled jobs particularly in the urban labor markets are shrinking. There is a dearth of basic services and local economic activities within Lushinton which is extremely significant particularly in the context of integrated sustainable rural development objectives. The study population presents a picture of a community vulnerable to seasonality in the demand for migrant labor in mines and farms; the ignorance about HIV/Aids which presents a potential threat to the community's human capital. Local households are engaging in essentially defensive or survivalist household livelihood strategies with very little government interaction. There is a need for the provision of basic services to this community, and this must be carried out in a manner which ensures that the productive uses of these services are maximized and benefit those who are most vulnerable and disadvantaged.

3.8 Towards a Typology of Livelihoods in Lushinton

The survey data revealed that the most significant elements determining local livelihoods in Lushinton are whether households have access to a pension or other welfare grant, access to remittances from migrants, whether or not they own livestock and whether or not they are involved in agriculture (See Table 15).

Table 15 Typology of Household Livelihood strategies in Lushinton																											
Household access to pension/grant?																											
Yes (30 or 60%)												No (20 or 40%)															
Household access to migrant remittance/s?																											
Yes (11 or 22%)								No (19 or 38%)								Yes (6 or 12%)								No (14 or 28%)			
Household Livestock ownership?																											
Yes (9 or 18%)			No (2 or 4%)			Yes (17 or 34%)			No (2 or 4%)			Yes (5 or 10%)			No (1 or 2%)			Yes (11 or 22%)			No (3 or 6%)						
Household involved in Agriculture?																											
Yes (8) T1		No (1)	Yes (2)		No (0)	Yes (13) T2		No (4)	Yes (1)		No (1)	Yes (4)		No (1)	Yes (0)		No (0)	Yes (9) T3		No (2)	Yes (1)		No (2)				

Household subsistence farming is by far the most significant local productive activity. However, returns from crop farming are realized in financial terms by only a small number of households. For the vast majority of households engaging in crop farming the returns are less readily quantified but represent a significant contribution to household food consumption.

From the above range of livelihoods, three dominant types emerge which account for 30 households (60%). The broad characteristics of these livelihood types are summarized in Table 16.

Table 17 provides a synthesis of the livelihood strategies in Lushinton, their strengths, weaknesses, opportunities and potential, thus providing information which stakeholders can make use of in Lushinton and other similar communities to ensure planned interventions impact on livelihoods thus enhancing their sustainability potential.

The study showed that in many instances the objectives of developmental organizations working in the community would have been achieved if the livelihood principle of partnership formation had been used during project implementation. E.g. though an organization had provided agricultural training to the community, agriculture was secondary to pensions and grants as a means of income and practiced only on a subsistence basis. An SLA approach during planning would have indicated the need to involve local government to address the issues of the bad access roads.

Amongst others the SRL (sustainable rural livelihoods) program of the provincial department of Agriculture and the RULIV (Rural Livelihoods) program in the Office of the Premier are existing programs which linkages should have been formed with.

The concept of integrated development is one in which the communities themselves become socio-economically sustainable as an outcome of the resources expended in them through projects or the provision of services. In spite of the funds and resources committed by the stakeholders to these projects. This is not being achieved in Lushinton and perhaps in many other rural areas as well. Livelihood strategies of Lushinton and similar communities can be enhanced and objectives of developmental objectives be better met, using the livelihood approach and integrating its core principles into service delivery.

Table 16 Averages of Various Indicators of Livelihood Types

	All study respondents	Type1	Type 2	Type 3
Cattle	7.6	7.3	13	5
Chickens	16.2	13	23	8.7
Goats	12.7	12	21.8	4.3
Pigs	2	0	3	1
Sheep	43	78	73	19.5
Income	R768	R1265	R811	R286
Net income	R314	R807	R287	VeR82
Expenditure	R454	R457	R524	R367
Expenditure on farming inputs	R22.3	R22.4	R25.2	R17

Expenditure in food	R309	R331	R356	R242
Household size	6.6	8.6	6	5.9
Income per person	R154	R177	R175	R72
Expenditure per person	R94	R60	R116	R85
Productive asset*	6	-	2	3
Household labour in farming	2.5	2.1	3	2.9
Domestic labour	3.6	3.8	3.8	3.7
Sell maize	3	1	-	1
Sell vegetables	9	2	2	3
No. under 15	2.3	2.8	2	1.9
Percentage under 15	33	29	34	28
Vulnerable to stock theft	11	1	8	1
* Sewing machines, block making moulds				

Table 17 Assessment of Productive Activities (excluding agriculture/farming)

	Description of Activity	Strengths	Weaknesses	Potential
Selling Mine Timber	- Timber is harvested from the local forest for use by the mines on the reef - Labour is organized locally into groups of about five people who sell the blocks to timber merchants	- Sustainable source of local employment - Potentially sustainable local resource - Markets - Some skills development in terms of timber harvesting	- Intermediaries (merchants) limit value accruing locally - Limited knowledge of value chain and access to final markets - Resource constraints in investing in machinery	- Develop direct linkages with final markets - contracts with mining houses - Basis for developing community based forestry - Explore downstream opportunities in terms of carpentry and other woodworking
Selling vegetables	- Community vegetable gardens funded by World Vision - Women, men and youth participate in project - WV supplies seeds and helps with marketing, supplying transport to Seymour, Alice and Fort Beaufort - Local labour organizes farming	- Labour intensive and capacity for including large numbers of local community members - Local water supply - Gardening also contributes to household food security - Building social capital in terms of collective involvement in project	- Reliant on WV for seeds and transport - Breakdown in irrigation piping - Limited resources for investing in enhancing productivity and improving marketing	- Explore high value crops and other agribusiness opportunities - Enhance water productivity in terms of investments in irrigation systems - Explore upgrading dams for irrigation further away from river
Block Making	- Relatively new activity with some blocks produced but not yet sold - More details unknown	- Labour intensive and use of local resources - Relatively high value adding	Access to markets, unclear local market potential	- Investments in block making moulds - Develop business plan based on feasibility study - Develop marketing strategy which does not

	Description of Activity	Strengths	Weaknesses	Potential
				rely on purely local markets
Wool Growers	- Fledging co-operative for local wool growers established 1997 - Co-coordinated shearing and transporting of wool to markets 30 members - R50 joining fee	- Support from BKB for breeding - access rams - Training received improved productivity - Significant source of income	- Income realized only during September-October when shearing takes place - High costs of immunization, sterilization and vets - Stock theft	- Potential for creating employment - Extend water access points (repair existing dams and extend)
Leather Work	- Local people have been trained in leatherworking - No significant activity since training due to limited finance	Local skill development	- Markets - Resources for investing in raw materials	- Develop business plan and conduct feasibility study - Marketing strategy - Linkages with tanneries
Sewing	- Two groups of women involved in sewing project - Training received through Triple Trust - Access to sewing machines but no material	- Skills development - Access to sewing machines - Available local markets schools (uniforms and tracksuits)	- Start-up capital to kick-start business - Marketing strategy	- Access start up capital - Explore further markets
Retail	- One grocery shop, three spaza shops and ten shebeens currently operate locally - Men mainly shopkeepers and women mainly shebeens	- High levels of local demand - Opportunities for women	High cost of goods and transport means local prices high	Explore co-operative for bulk buying, bring down prices and increase local demand
Public Transport	One taxi owner operates a taxi service locally	- Transport crucial to access outside world - High demand	State of roads prohibitive for expanding transport services	Community based roads infrastructure development
Sale of livestock	- Local livestock owners sell on local and outside markets - Alice, Seymour and East London - Limited bargaining power and thus sellers do not always realize good prices	- Livestock sales an important source of finance, food and local security as well as saving - Local river water plentiful to sustain livestock farming	- Water supply for dipping tanks inadequate - Marketing strategy, transport and prices	- Local water security sufficient to sustain livestock farming - Explore collective marketing - Muddy dams need to be cleared or rebuilt
Source: developed from LED profile				

CHAPTER FOUR

4. Summary of the Livelihoods and KAP Study

Lushinton, a typical rural community is a very vulnerable and extremely fragile community characterized by high unemployment rates, low educational levels, income and expenditure patterns which hinder the access to resources and place a significant number of residents in the category of extremely poor as defined by the World Bank. There is a need to provide support to these communities in order to improve their socioeconomic situation and improve their ability to pay for services thus enhancing the sustainability potential of projects.

Lushinton like other human communities is not homogenous, there is inter household and gender differentiation in relation to sources of income, access to food, types of housing, ownership of agricultural implements and livestock. There is a need to complement the usual community based approach with the livelihood approach during services delivery. This will increase sensitivity of baseline data collection tools to these differences and ensure disaggregation of baseline data in order to ensure that projects impact on the well being of the poor, vulnerable and the disadvantaged gender in Lushinton and low income rural communities similar to it.

The study highlights various examples of projects which were neither successful nor sustainable due to mistakes which are consistently made by development oriented organizations. I.e. lack of partnerships in project delivery and the implementation of projects as non related discrete parts rather than parts of a whole i.e. integrated development. The inculcation of the livelihood principles into services delivery has the potential of forestalling these mistakes, thereby enhancing the sustainability of development projects.

The current development approach considers community participation as critical to project success and sustainability. The approach directs community mobilization efforts at the communal level. The study however indicated that cohesion and collective action at the communal level is not necessarily present in rural communities, thus suggesting the need to build inter household networks in order to achieve successful community participation and enhance communication with the project.

There is a high awareness of water related diseases and their health implications in Lushinton, however, the conversely low level of HIV/AIDS awareness threatens the health and thus the ability of residents of Lushinton and similar communities to pay for services.

Against the above background, the following recommendations are made:

1. Whilst the study does not recommend that every potential stakeholder should carry out a livelihoods study, it recommends that each district municipality should regularly commission livelihoods studies which prospective stakeholders can access as a basis for integrating the sustainable livelihood approach with the community based approach for project planning and implementation within the geographical area.
2. The use of the Livelihoods Approach should be promoted by relevant institutions to ensure socioeconomic development through sustainable service delivery.
3. The Water Research Commission should commission projects which use the livelihoods approach to sanitation delivery as a basis for comparing impact with projects which do not use this approach.
4. The Department of Water Affairs and Forestry should explore local resource management strategies which allow small communities such as Lushinton to access resources like water and forest based resources for sustainable productive use.
5. The Mvula Trust and other water and sanitation related organizations should link livelihoods with WatSan directly and facilitate the translation of willingness to pay into ability to do so. Examples of ways to achieve this include:
 - i. The development of community skills within the project (project management, financial training, bookkeeping)
 - ii. The use of labor intensive methods on the projects (health promotion, pipe installation, toilet construction, M&E) and ensuring that community members are contracted and remunerated.
 - iii. The facilitation and use of local suppliers (e.g. buy bricks from the community through a brick making initiative).
 - iv. Investigate the productive and domestic uses of water using a livelihoods approach and through participatory processes find ways for the community to pay for and maintain received services.
 - v. Including HIV/Aids awareness training in hygiene education training.
6. The Mvula Trust and other water and sanitation related organizations should link livelihoods with WatSan indirectly and facilitate the translation of willingness to pay into ability to do so. Examples of ways to achieve this include:
 - i. Mvula Trust and other similar organizations can use their comparatively greater access to transforming structures and processes, to advocate for pertinent changes e.g. the integration of HIV/Aids in water, sanitation, health and hygiene messages thus reducing the community's vulnerability.

- ii. Enhancing communication between the local government and the community to increase responsiveness by the local authorities to the needs of the community, e.g. about poor access road, absence of clinics etc. this can be included in Mvula's activities of setting up customer service desks which necessitates liaising with the local authorities about the water supply in the community.
 - iii. Maximizing efficient use of resources by partnering with other organizations to achieve outcomes which though outside Mvula's scope of work are related to Mvula's core developmental objectives. E.g. partnering with skills based organizations to train community in brick making skills which can be used to supply bricks to Mvula for a sanitation project.
7. Developmental organizations should explore ways in which local vegetable farming, livestock farming, wool farming or block making associations might become the point of payment for 'productive' uses of water rather than individual households. In this way contributions for water become the responsibility of associations who represent the interests of those who use it. These associations would then enter into agreements similar to the communal O&M contribution agreement. This implies that interventions promoting the productive uses of water need to include investments in developing local organizational capacity.

CHAPTER FIVE

5. Evaluation of Methods Used by Service Providers for Health and Hygiene programmes on Rural Sanitation Projects

Service providers do not use a coherent method to plan, train, promote, implement and measure impact of health and hygiene programs thus leading to serious impact reducing gaps in the current ways health and hygiene programs are implemented by service providers on rural sanitation projects. The community based health and hygiene model has the potential to address these gaps.

5.1 Objective

Part of the study aimed to examine the methods used by health and hygiene service providers and highlight impact reducing gaps in an attempt to provide information which demonstrates the potential of the community based health and hygiene model to address the identified gaps. It aimed to specifically:

- Examine the methods used by service providers on sanitation projects for health and hygiene planning, training, promotion, monitoring and evaluation and highlight impact reducing gaps
- Examine the possession of tools by service providers for health and hygiene implementation and discuss findings in relation to the community based health and hygiene model
- Assess the transfer of skills, formation of linkages and local economic development during health and hygiene implementation by service providers
- Document perceptions of service providers about challenges to effective health and hygiene promotion and impact measurement.

5.2 Methodology

This chapter attempts to give an overview of the study area, study design, data collection methods and materials.

5.3 Description of Study Area

The evaluation of health and hygiene methods used by service providers was carried out in two provinces namely The Eastern Cape in OR Tambo District Municipality and Limpopo Province in the Capricorn District Municipality.

Limpopo Province is the most northern province of South Africa, the capital of which is Polokwane city, which is located 275km north of Pretoria.

Description of Capricorn District Municipality – DC 35

The Limpopo province is made of five district municipalities one of which is the Capricorn District Municipality (DC35). The municipality is situated in the centre of the Limpopo province sharing its borders with four other district municipalities namely: Bohlabela (South East), Mopani (East) Sekhukhune (South) Vhembe (North) and Waterberg (West). The capital of the province Polokwane city is located in this municipal area. Capricorn District Municipality (CDM) covers an area of 16,970km² and has five local municipalities under its jurisdiction.

The people of Limpopo speak Sepedi, Tshivenda and Afrikaans. The population is predominantly black due to the establishment of rural areas. The HIV prevalence among pregnant South African women is 15.6% and 13.89% for Limpopo Province and the CDM respectively (DOH, 2003). 42.3% of CDM's population does not have the reconstruction and development program (RDP) levels of water supply, whilst 69% of households in the CDM do not have minimum RDP levels of sanitation (CDM, 2005).

Description of OR Tambo District Municipality DC- 15

OR Tambo District Municipality is located in the Eastern Cape on the South Eastern tip of the country. It is made up of seven local municipalities. It is one of the poorest provinces in South Africa with an unemployment rate of 60.6%. It has a population of over one and a half million people (1, 505, and 411); it is one of only two regions in the Eastern Cape Province with a population of more than one million. The major languages spoken are Xhosa, Afrikaans and English. The residents of this area have generally low levels of water provision with only 5% of households having yard connections. With regard to sanitation, 48% of residents have no excretal disposal facilities. It has a 17.5% HIV/Aids prevalence (OR Tambo, 2000)

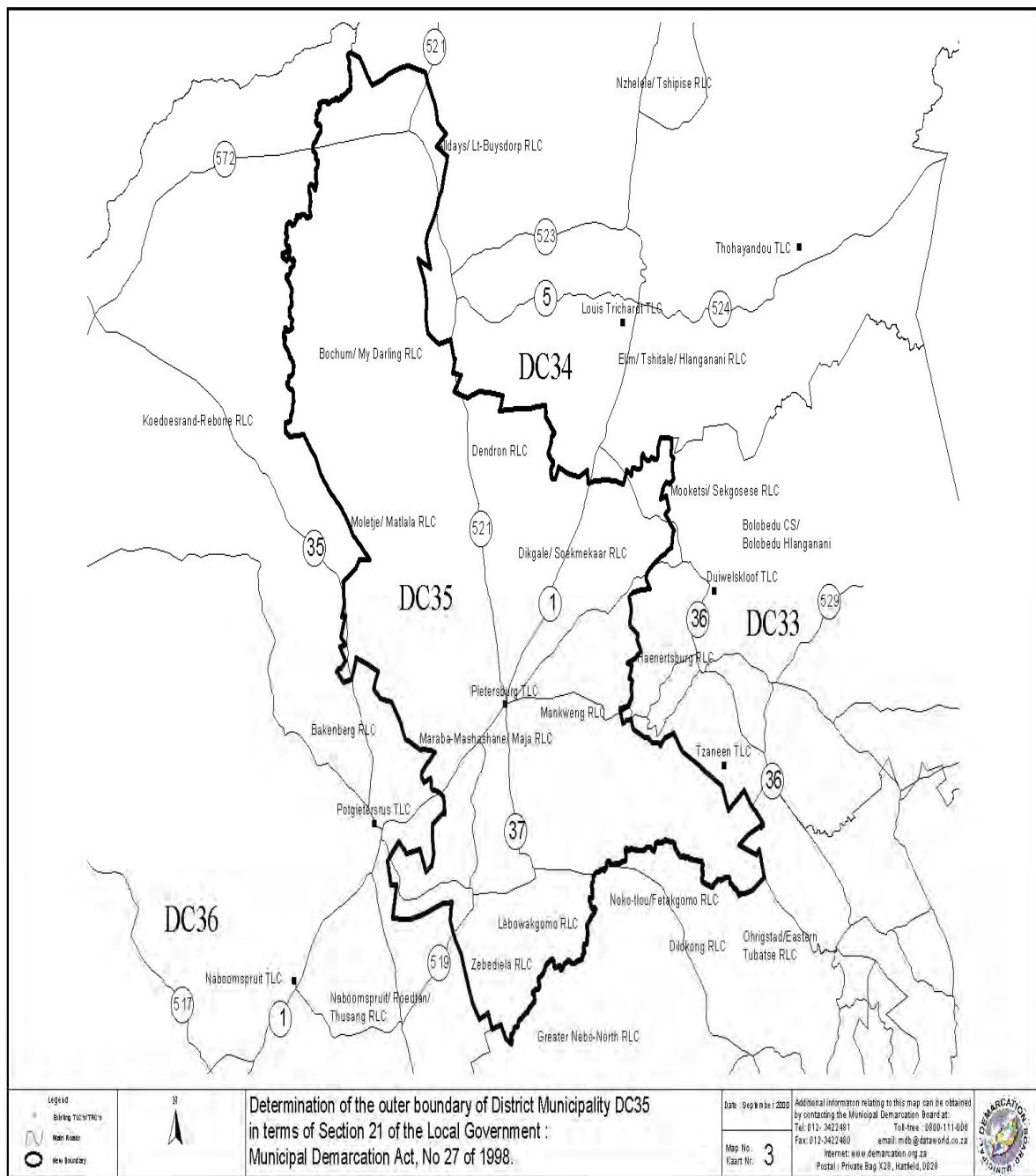


Fig. 3 Outer boundary of DC 35 Capricorn District Municipality

5.4 Data Collection and Sampling method for Evaluation of Health and Hygiene Methods

Data was collected using the following:

A questionnaire was administered to selected service providers to examine gaps in their methods of planning, training, promoting and monitoring and evaluating health interventions in relation to the Community Based Health and Hygiene Model (CBHHM) (see appendix iii).

An observational checklist was attached to the questionnaire to investigate the possession or absence of health and hygiene tools by the service providers. Table 19 shows the information the questionnaire and observational checklist attempted to collect from respondents and related indicators.

A convenience sampling method was used to select two provinces i.e. the criteria used was not random but based on the location of the research students and principal researcher. The relative poverty of the selected provinces was also a consideration. A simple random sampling was thereafter used to select one district municipality from each of the provinces.

Each selected district municipality then compiled a list of their service providers and the questionnaire was administered to social service providers who are responsible for health and hygiene implementation on sanitation projects. The sampling frame was the social service providers in the selected district municipalities and the sampling unit was service provider organizations. Using the above method, nine service providers were thus selected from the OR Tambo District Municipality and three from Capricorn DM giving a total sample of twelve service providers. The study examined their most recent rural sanitation projects which were twelve (12) in total.

5.5 Data Analysis

Data was coded, captured and analyzed using epi –info and other appropriate statistical packages.

Table 18 Indicators Used To Assess Methods Used In the Different Stages of Health and Hygiene Program

Health and Hygiene Stage	Indicators
Health and hygiene planning	❖ Duration of health and hygiene in relation to total project duration ❖ Total number of man hours allocated to health and hygiene program ❖ Total health and hygiene budget in relation to the construction budget ❖ Total health and hygiene budget in relation to the total sanitation budget
Health and hygiene Training	❖ Demand responsiveness of health and hygiene training ❖ Duration of health and hygiene training ❖ No of PHAST tools used in health and hygiene training ❖ Aspects of sanitation covered by training in comparison to the total number
Health and hygiene promotion	❖ Duration of planned promotion ❖ Number of contact session in relation to duration of planned promotion ❖ Method of promotion in relation to effective coverage ❖ Cost of promotion in relation to sanitation promoter ❖ Coverage of sanitation aspects in relation to total number possible ❖ Use of tools e.g. to report disease incidence ❖ Communication between local clinic and health promoter
Health and hygiene monitoring and implementation	❖ Presence or absence of Pre – intervention survey ❖ Duration of pre –intervention survey ❖ Cost of Pre – intervention survey ❖ Presence of post intervention survey ❖ Timing of post intervention survey in relation to project commencement ❖ Cost of post implementation survey ❖ Type of post implementation survey ❖ Involvement of community in Monitoring and evaluation of sanitation impact
Skills transfer, linkages, local economic development	❖ Perceived skills transfer as a result of the project ❖ Linkages formed as a result of the health and hygiene promotion ❖ Remuneration of community members in relation to the health and hygiene promotion
Possession of health and hygiene tools by Service Providers	❖ Number provided in comparison of optimum number of tools
General	❖ Use of community based model in future ❖ Barriers to effective h & h promotion ❖ Perceived barriers to effective measurement of H & H impact

Table 19 List of Service Providers whose Methods on Most Recent Project were Evaluated

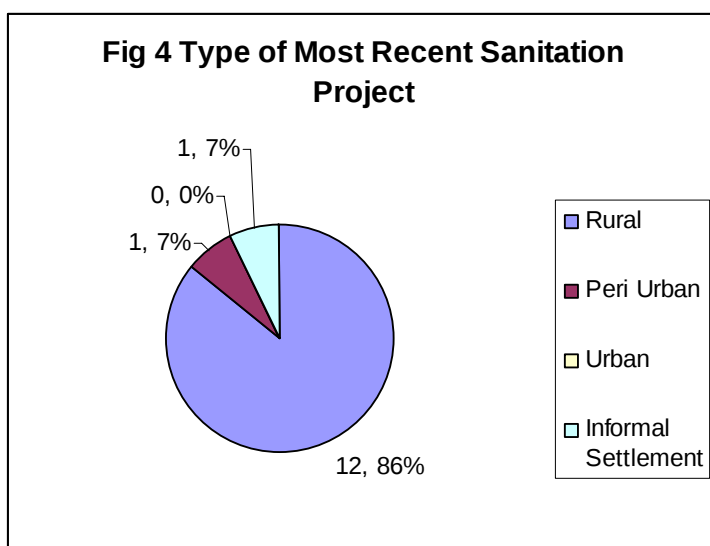
	Name of Service Provider	Province
1	Mvula Trust	Limpopo
2	In Touch	Limpopo
3	Infabro	Limpopo
4	ECATU	Eastern Cape
5	RDA	Eastern Cape
6	Mvula Trust	Eastern Cape
7	EBCT	Eastern Cape
8	CETI	Eastern Cape
9	Mvula Trust	Eastern Cape
10	LUDICO	Eastern Cape
11	Africon	Eastern Cape
12	Boloka Development	Eastern Cape

n = 12 service provider organizations and their most recent projects.

CHAPTER SIX

6. Results of Evaluation of Methods used by Service providers

The findings of the impact reducing gaps in current ways of health and hygiene implementation by service providers on sanitation projects are presented in this section. Six hundred and three (603) projects in total have been carried out in the past three years by the twelve service providers, and four hundred and twenty five (425) of these utilized village health workers. This study examined the methods used on their most recent projects, which were rural sanitation projects (Fig. 4) (Note multiple responses). The study focused on the twelve rural sanitation projects.



6.1 Health and Hygiene Program Planning by Service Providers

Summary measures were calculated for the sanitation project budget, the health and hygiene budget and the construction budget in order to facilitate comparison. E.g. the sanitation budgets of the twelve projects were summed up and an average of this calculated. A similar calculation was carried out for both the health and hygiene budgets and the construction of facilities budget. The average sanitation budget was R14, 165, 5603 whilst the average health and hygiene budget was R314, 420 i.e. 2% of the average sanitation budget. The average construction budget was R1, 484,165 i.e. The average health and hygiene budget was 21% of the average construction budget.

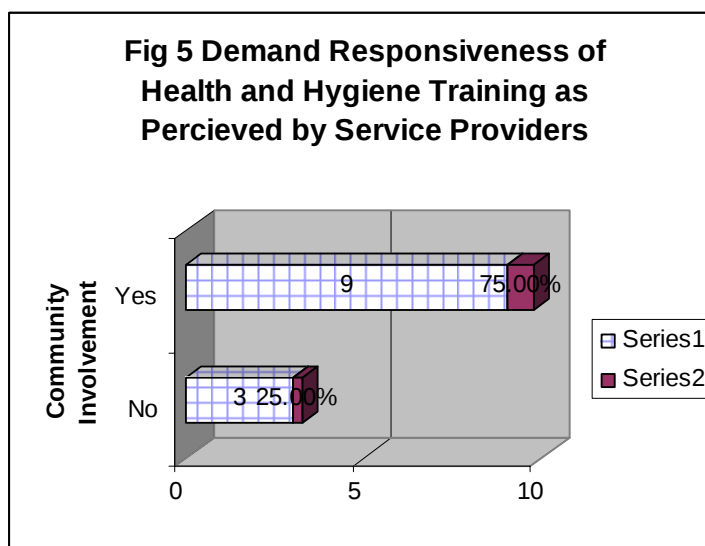
6.2 Health and Hygiene Training by Service Providers

Average duration of the health and hygiene training of the 12 projects was 5 months (note this does not reflect the actual contact time but the spread of training within the

project schedule), with 9 (75%) of service providers indicating a duration of between 1 and 6 months on their most recent projects.

Majority of service providers 9 (75%) use between 5 and 20 PHAST tools with only 2 (16.7%) using less than 3 tools during training.

None of the sanitation issues which should ideally be covered during health and hygiene training on an integrated sanitation project was covered by all service providers. 29% of them touched on contamination routes and barriers, 28% on operation and maintenance of facilities, 25% on informing the households about expected household contributions to the project and 13% covered communication of technical issues such as dimensions of pits during training, the remaining 5% covered some other aspects.



The majority of service providers 9 (75%) indicated that the community was involved in determining the training needs and was thus perceived by the service providers as demand responsive (Fig 5).

6.3 Health and Hygiene Promotion by Service Providers

The study findings indicate that the average number of planned contact sessions is only 8 in average promotion duration of 10 months and house to house method of promotion Was only used by 11(39.3%⁹) of the service providers though this is the optimal method for effective rural sanitation delivery (Table 20). When village health workers carried out promotion, the average cost is R80 per toilet unit constructed, whilst charges for senior consultants and project agents are R123 per hour and R 272 per hour respectively.

⁹ Multiple responses obtained, total number of responses = 28

9 (47.4%¹⁰) service providers indicated that they engage the services of village health workers to carry out health and hygiene implementation (Table 21).

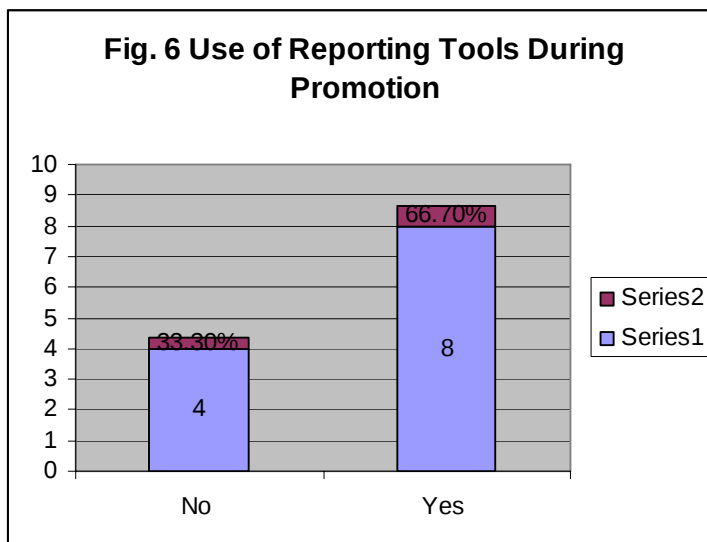
Table 20 Method of H-H Promotion Used By Service Providers

Method of Promotion	Frequency	Percent
House to house	11	39.3%
Workshop	7	25.0%
Group	9	32.1%
Any Other	1	3.6%
Total	28	100.0%

Table 21 Type of Health Promoting Agent Used By the Service Providers

Health Promoting Agent	Frequency	Percentage
Project Agent	2	10.5%
WSA (EHO)	0	0.0%
VHW	9	47.4%
Trainer	0	0.0%
Social Consultant	4	21.1%
Other	4	21.1%
Total	19	100%

8 (66.7%) of the service providers said that they made use of reporting tools reporting disease incidence and a majority 9 (75%) indicated that they ensured that there was communication between the local clinic and the health promoting agent during the promotion (Fig. 6).



¹⁰ Multiple responses obtained, total number of responses = 19

6.4 Monitoring and Evaluation by Service Providers

Only 8 (66.7%) carried out a post intervention survey even though (11) 91.7% of service providers carried out a pre-intervention survey, indicating that service providers less emphasis on the need to measure impact of their programs (see Table 22).

Table 22 Presence or Absence of Pre-Intervention Survey In Relation To Post-Intervention Survey in H-H Programs

Pre-Intervention Survey			Post-Intervention Survey		
Presence	Frequency	Percent	Presence	Frequency	Percent
Yes	11	91.7%	Yes	8	66.7%
No	1	8.3%	No	4	33.3%
Total	12	100.0%		12	100.0%

Service providers budgeted less money for impact measurement; the average cost for the pre-intervention survey was R101 347.02 whilst the average cost of the post intervention survey was only R34 231.65

Those service providers that carried out post impact surveys used different methods .some methods that had been used included observational checklist, by 3 (25%) and Knowledge attitude and Practices by 3 (25%), two of the service providers did not indicate what methods they use.

With regard to community involvement in monitoring and evaluation on their sanitation projects, 11 service providers (68%¹¹) indicated that community members where involved either by participating directly in the post impact survey or through the filling of the disease incidence forms by the village health workers (Table 23).

Table 23 Involvement of Community in Monitoring and Evaluation

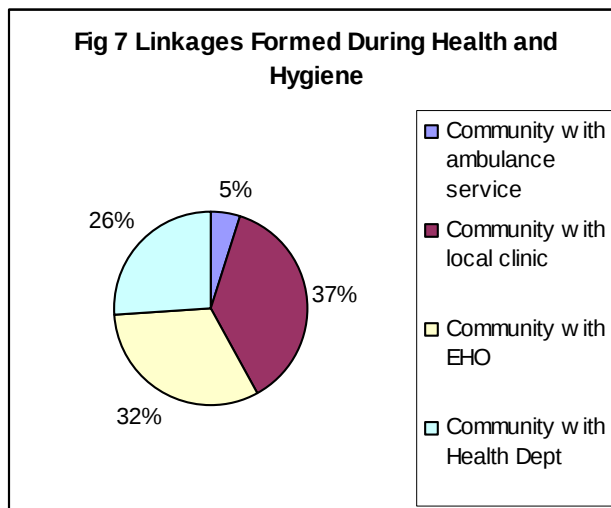
Community involvement	Frequency	Percent
H-H Incidence register	5	31.3%
VHW participated in post-impact survey	6	37.5%
No Involvement	1	6.3%
Other	4	25.0%
Total	16	100.0%

6.5 Skills Transfer, Partnerships and Local Economic Development on Health and Hygiene Programmes

37% of service providers indicated that they had formed linkages between community & local clinics, 32% with Environmental Health officers, 26% with the

¹¹ Table 23 Multiple responses: Total no. =16

Department of Health, whilst only 5% indicated that they had formed linkages with the ambulance services (Fig.7).



With regard to perceived skills transfer, 19% of service providers indicated that the program had led to structured reporting skills, a further 19%) the development of health action plan and 26% to the usage of PHAST tools. 19% of service providers indicated that their most recent project had transferred problem solving skills to the community and 17% the ability to treat simple water related ailments during health and hygiene implementation.

Majority of service providers i.e. 8 (66.7%) indicated that they had contributed to local economic development by paying some form of remuneration to the community members for services carried out during health and hygiene implementation (Table 24).

6.6 Results of Evaluation of Possession of Health and Hygiene Implementation Tools by Service Providers

In spite of the importance of tools to the success of health and hygiene programs during stages such as promotion and the monitoring, the study indicated that the majority of the service providers did not have tools for all the required stages. Only 8% had disease incidence reporting tools, 17% had VHW reporting tools, whilst less than half (42%) had pre impact assessment tools. An even lower percentage (33%) had post impact assessment tools.

Table 24 Remuneration of Community Based Workers during Health and Hygiene Promotion

Payment Made to Community in relation to H-H promotion	Frequency	Percent	Cum Percent
No	4	33.3%	33.3%
Yes	8	66.7%	100.0%
Total	12	100.0%	100.0%

6.7 Perceptions of Service Providers about Barriers to Effective Promotion, Monitoring & the Community Based Health and Hygiene Model

Majority of respondents i.e. 11 (91.7%) indicated they would use the community based health and hygiene model in future, no service provider was unaware of the method (Table 25).

When asked what barriers they perceived to prevent effective health and hygiene promotion, the most common answer given by the service providers i.e. 3 (25%) was the inadequate budget. Other answers include non remuneration of VHWs, low involvement of relevant government departments, a higher demand for construction in comparison to the Health and Hygiene , absence of health and hygiene manual each was given by 1 (8.3%) service provider. 2 (16.7%) service providers attribute the time needed to understand health and hygiene by community as an impact reducing factor.

When asked what barriers they perceived to impact negatively on the effective measurement of impact of health and hygiene, the two most common answers given by 6 of the service providers were low budgets & uncooperative attitudes of households i.e. 3 (25%) in both cases. The next most common answer given by 2 (16.7%) of the service providers was in relation to challenges faced in house level measurements (Table 26).

Table 25 Future Use of Community Based Health and Hygiene Model by Service Provider

Future use of community-based H-H method by Service Provider	Frequency	Percent
Yes	11	91.7%
Will Not Use	1	8.3%
Haven't Heard Of	0	0.0%
Total	12	100.0%

Table 26 Barriers to Effective Measurement of H-H Impact

Barrier	Frequency	Percent
Budget Constraints	3	25.0%
Attitudes from households	3	25.0%
Interviewers threatened by dogs when doing house-to-house visits	2	16.7%
No continuation of H-H by VHW	1	8.3%
Change of statistics on visits to clinic	1	8.3%
Low nutritional or income status	1	8.3%
Missing Respondents	1	8.3%
Total	12	100.0%

CHAPTER SEVEN

7. Discussion of Methods used by Service Providers on Health and Hygiene Programmes In Relation to the Community Based Health and Hygiene Model

The study findings are discussed in this chapter in relation to the community based health and hygiene model.

Health and Hygiene Planning Stage

The study results indicate that health and hygiene budgets are only 2% of sanitation project budgets, which indicates the critical importance of maximizing this budget. The CBHHM assists in maximizing the budgets by advocating for the use of community based workers for promotion thus reducing the cost of promotion (the study results showed that community based workers (CBWs) are paid R80 per toilet whilst Project agents and consultants R273 and R172/hour respectively). The reduced cost translates to an increase contact with the community through house to house promotion. Furthermore, the community will be more receptive to local health promoters and thus less time and money is spent on fostering community participation as would be the case if external parties such as project agents carry out the promotion.

Health and Hygiene Training Stage

The study results indicate that there are clear time and budgetary constraints to health and hygiene programs, which have the potential of impacting negatively on health and hygiene implementation. The CBHHM has the potential of addressing these gaps with its provision of training plans and tools which have been developed to suit the context of the time and budgetary constraints for health and hygiene on most sanitation projects.

The use of between 5 and 20 PHAST tools by 9 (75%) i.e. the majority of the service providers during health and hygiene training has the potential of confusing the community and reducing the actual time spent identifying problems, solutions and developing a health action plan as an output of the training.

The CBHHM provides guidance on the optimal use of PHAST tools during training and the use of some these tools by the trained community based workers during house to house promotion. The CBHHM further assists in addressing the budgetary and time constraints by providing guidance on how the training stage can be used to identify and priorities problems and solutions and the development of a clear time bound health action plan.

Health and Hygiene Promotion Stage

The study findings indicate that there are very few contact sessions between the project agent and community during the promotion stage i.e. an average of 8 contact sessions in duration of 10 months. The limited number of contact sessions potentially prevents the programs from achieving 100% household coverage during promotion.

The use of CBWs as proposed in the CBHHM at the comparatively lower rates of remuneration will stretch the project budget and allow a higher coverage of households through house to house promotion. It is pertinent to note here that no project reported the involvement of government officials such as Environmental Health Officers in health and hygiene promotion perhaps due to the time and resource constraints of government (Table 22). The CBHHM recognizes this limitation and thus addresses it by proposing that roles are allocated to stakeholders on the basis of their time and resources realities. The model proposes that community carries out promotion, project agents train and mentor them, whilst project monitoring and evaluation is carried out by the community, government and project agents.

Health and Hygiene Monitoring and Evaluation Stage

The study results indicate that relatively fewer consultants measured the impact of health and hygiene programs when compared to those that carried out pre intervention surveys (8 or 66.7% ; 11 or 91.7% respectively) , and that less money was spent on post intervention surveys in comparison with pre-intervention surveys R34, 231.65 and R101, 347.02 respectively. This might be related to time or budgetary constraints or paucity of skills.

The CBHHM aims to address these gaps by providing a simple pre and post intervention observational checklist and a community based monitoring and evaluation system which allows the easy monitoring of the impact of health and hygiene promotion within the realities of current skills, budgetary and time limitations.

Opportunities for Skills Transfer, Local Economic Development and the Formation of Linkages

The results indicate that no service provider had formed linkages with all the partners necessary for a sustainable health and hygiene program, The CBHHM proposes to address this gap by providing processes and tools in the implementation kit which provide service providers with guidance for the development of role-player partnerships and linkages.

The potential for skills transfer to the community was not fully realized by the service providers. Only 19% of them indicating that their most recent project had led to a transfer of problem solving skills to the trainees and 26% to the use of PHAST tools by the trainees. Skills transfer is one of the core objectives of services delivery as highlighted in the integrated development planning guide. The use of the CBHHM will ensure that opportunities for skills transfer to communities during health and hygiene programs are maximized.

Although 8 (66.7%) of service providers were of the opinion that they contribute to local economic development of the local communities by remunerating community based workers, there is room for improvement. The use of the CBHMM which advocates for the engagement and remuneration of community based workers will not only improve project impact but will also facilitate household economic development.

Possession of Tools by Service Providers

The study results indicate that most service providers did not possess tools for use on their most recent projects with only 17% reporting that they had tools used by village health worker for reporting on household visits and 33% indicating that they had tools for measuring impact of project.

The CBHMM attempts to address this gap by providing tools and relevant documents for each stage of the health and hygiene program in its implementation kit. E.g. Training plans and disease incidence registers are available for the training stage, CBW reporting tools for the promotion stage. The model also provides a simple pre and post intervention observational checklist for the monitoring and evaluation stage of the program.

Future Use of CBHMM and Impact Reducing Factors of Effective Health and Hygiene Promotion and Monitoring as Perceived by the Service Providers

The study findings indicate that the majority of the service providers realize the value of the CBBHM with 11 (91.7%) of them indicating that they will use it on future projects.

Their perceptions about the challenges to effective promotion and monitoring are those which the CBHMM was designed to address. E.g. issues of budget limitations, non involvement of the health department and lack of human resources in the pertinent government departments to carry out health and hygiene at the household level (Table 27). These are addressed in the CBHMM through structured and appropriate allocation of roles with attendant provision of required support to carry out these roles.

Table 27 Impact Reducing Gaps and Potential Ways that CBHHM Addresses Gaps

Stage In H&H Program	Gap In Current Ways	Potential Ways That CBHHM Model Can Address Current Gaps
Planning	Health and Hygiene budgets often a much smaller proportion of the construction budget – but the manner of allocation between stages and possible role players not cost effective or efficient resulting in project agents spending less than optimum time on H&H programs.	Improved cost efficiency and improved impact on local economic empowerment. (H&H promotion budget utilized as stipends to VHW rather than to consultants) consultants play other important roles in the H&H program.
Training	Non demand responsive as health and hygiene promotion plan developed by social consultants	Development of action plan by village health workers during training fosters ownership and empowers village health workers to develop linked initiatives
	Social consultants training of village health workers on all PHAST tools rather than on water and sanitation does not foster the needed clarity to enable the community identify and prioritize their problems and solutions.	Training of village health workers on water and sanitation using PHAST tools as relevant. This method, saves time and cost.
Promotion	Non demand responsive as health and hygiene promotion plan developed by social consultants	Development of action plan by village health workers fosters ownership and empowers village health workers to develop linked initiatives in their villages
	Reduced impact as H & H promotion carried out by consultants at community level through 1-3 workshops.	Maximal impact as H&H carried out by dedicated VHWs on a household level through out the period of intervention

Stage In H&H Program	Gap In Current Ways	Potential Ways That CBHHM Model Can Address Current Gaps
	No government official participation difficult in service provider projects during promotion (coverage of large areas, no transport, under stocked clinic etc)	Partnerships and linkages are formed (Government EHOs, Clinics and VHW), e.g. local clinics ask MT for assistance with including VHWs on pay roll of department.
	Inadequate mentoring of village health workers due to limited contact time and budget.	Village health workers are mentored through the Provision of tool kit and regular evaluation meetings.
	Separate process from water or sanitation implementation e.g. very little training of village health workers on technical issues pit dimensions, household contributions.	Health workers are water or sanitation related promotion agents. Involved in sanitation training, sanitation construction e.g. communication of pit dimensions, subsidy and household commitments etc
Monitoring & Evaluation	Measurement of impact of health and hygiene intervention a concern	Simple monitoring and evaluation system built into model to facilitate measurement of impact

CHAPTER EIGHT

8. Conclusion and Recommendations of Evaluation of Methods Used By Service Providers for Health and Hygiene

Based on the investigations, the following are some of the findings:

- **Planning:** Budgets for H&H promotion are small (2% of the average sanitation budget). Budgets can be used more effectively by allocating health and hygiene promotion centered roles to community-based health workers.
- **Training:** PHAST tools are over-utilized; training fails to focus on core areas and integrate these into demand responsive action plans. Development of action plans by community health workers rather than social consultants fosters ownership and empowers workers; use of only relevant PHAST tools focuses training on crucial areas
- **Promotion:** H&H awareness by consultants is relatively costly and contact with the community at a workshop level inadequate. Maximal impact through active roles played by dedicated village health workers on a household level in partnership with government agents and clinics.
- **Monitoring and Evaluation:** Not a priority, with less time and money spent on post- than pre-intervention evaluation. A simple built-in monitoring and evaluation system assists with mentorship and facilitates measurement of impact
- **Service provider perceptions:** Service providers perceive that low budgets, low level of government involvement and absence of house-to-house promotion impact negatively on H&H programs. The community-based H&H model provides structured guidance and tools for each stage of the H&H program, clarifies roles and responsibilities for optimal utilization of human and scarce financial resources, optimizes socio-economic development through skills transfer and remuneration for work done thus addressing these impact reducing perceptions.

The following recommendations are made to improve Health and Hygiene Education Programs

1. The study establishes that the current way health and hygiene programs are carried out by service providers has limitations or gaps which have a negative effect on all stages of health and hygiene (planning, training, promotion, & monitoring). These gaps are similar to those which the community based health and hygiene method was developed to address.

2. It is recommended that the report be presented to the various stakeholders, District and Local Municipalities, Department of Water Affairs, Department of Health and used as supporting evidence to advocate for the institutionalization and promotion of the Community Based Health and Hygiene Model.
3. The Water Research Commission should fund projects which use the CBHHM and its attendant tools in an attempt to further validate the study findings.

CHAPTER NINE

9. Summary, Discussion and Conclusion

The goal of integrated development is socioeconomic development, sustainable institutions and a sustainable environment. The water and sanitation sector attempts to meet these objectives by enhancing socioeconomic development through service delivery, building up strong water services authorities and providers and managing the water resources sustainably. There are however various challenges facing the sector in meeting these goals. Water services delivery is not only about providing infrastructure, it is also about ensuring that this infrastructure is desired and properly maintained by the recipients, hence the use of a demand responsive community based approach to services delivery. This must be accompanied by appropriate health and hygiene education to create demand and facilitate health supportive behaviour in the operation and maintenance of these facilities.

The study however revealed that there are gaps in the way health and hygiene programs on rural sanitation projects are planned and implemented by service providers. Some of these gaps include the inefficient use of the relatively smaller budgets i.e. though the average health and hygiene budget was 2% of the average sanitation budget and 22% of the construction budget (refer to section 6.1) service providers mostly preferred to employ project agents or consultants to carry out health promotion rather than village health workers. This was in spite of the fact that consultants were paid R272/hr and village health workers earned R80 per unit constructed when used. It is thus not surprising that the house to house method of promotion was only used by 11(39.9%¹²) of service providers and that the average number of contact sessions during health promotion was 8 in a 10 month period (refer to section 6.3)

Other gaps include the poor use of the training period with no provider covering all the issues that should be covered during the training period e.g. contamination routes and barriers, operation and maintenance of facilities. Furthermore, in spite of the limited budget, service providers used training hours inefficiently by training the community on between 5 and 20 PHAST tools. In addition to the time and budget wasted, this training on many PHAST tools may also confuse the community rather than increase their awareness. The training section also did not integrate sanitation promotion with health and hygiene education as few service providers used the training period to communicate sanitation facilities related information.

Some of the sanitation related facilities information include expected household contributions, discussions about pit dimensions, this has the potential of causing a dissonance in communication between technical personnel who build and the creation of demand within the community i.e. the responsibility of the health and hygiene personnel (Refer to section 6.2).

¹² multiple responses about types of promotion methods used

The study findings revealed that not all service providers carried out a post impact survey on their most recent projects (8 or 66.7%) and that there was no methodical approach used, with 3 reporting that they used observational checklists and 3 KAP surveys whilst 2 were unsure of the method they used (refer to section 6.4).

The potential of socioeconomic development and building up sustainable institutions through services delivery was not optimally maximized as only 19% of service providers indicated that the program had led to structured reporting skills, a further 19% the development of health action plan and 26% the ability to use PHAST tools. 19% of service providers indicated that their most recent project had transferred problem solving skills to the community and 17% the ability to treat simple water related ailments during health and hygiene implementation (refer to section 6.5). Furthermore, not all service providers indicated that they had remunerated any community based worker on their most recent project. Furthermore the concept of strengthening existing institutions, maximizing budgets through partnerships was apparent as only 37% of service providers indicated that they had formed linkages between community & local clinics, 32% with Environmental Health officers, 26% with the Department of Health, and only 5% indicated that they had formed linkages with the ambulance services (refer to section 6.5).

From the study findings it was apparent gaps perceived by service providers where those which the CBHHM (the second output of the project) was developed to address, furthermore service providers where of the view that they would use the CBHHM in future (refer to section 6.7).

The CBHHM and its attendant implementation kit are based on the following principles.

1. Health and hygiene programs are limited in terms of time and budget and therefore need to be maximized e.g. By providing guidance on allocation of roles in a cost and time efficient manner. CBWs carry out promotion, external agents train and mentor the CBWs, whilst EHOs and relevant government departments maintain an oversight through community based monitoring.
2. Health and hygiene programs must be demand responsive and thus Health Action Plans should be developed by the CBWs with support from the external agents.
3. Training should be standardized to cover the relevant aspects of water and sanitation and should only use a maximum of 3 PHAST tools.
4. Water, Sanitation and Health and Hygiene programs should lead to socioeconomic development through the transfer of skills and remuneration for work done.
5. Creation of demand for sanitation facilities is an objective of water, health and hygiene promotion on sanitation projects, therefore relevant parts of the sanitation facility messages must be inculcated into the training of CBWs.
6. The community is a very important resource and should be involved in all aspects of health and hygiene programs, training, promotion and monitoring and evaluation.

The first and second objective of the study are based on the premise that to create demand and thus increase the pace of sanitation delivery a methodical approach to sanitation and health and hygiene integration is necessary. However the third objective of the study is based on the premise that there is a difference between creating the desire for the facility, the attendant willingness to pay and the actual ability to do so. A failure to explore the factors which might impact on the ability to pay will either slow the pace of delivery down or lead to improper operation and maintenance of the facilities.

The livelihood study findings revealed that two thirds of study households (32 respondents or 64%) seemed receptive to cost recovery strategies for providing toilets, indicating a willingness to pay. However, expenditure for community water and sanitation was 1% of the study respondents' monthly expenditure (refer to section 3.4.3.2). This is not surprising as the assessment of the human, physical and financial capital of the study respondents reveal that a significant proportion of them fall into the World Bank category of extremely poor in terms of expenditure and income (refer to section 3.4.3.1 – 3.4.3.1.2) and thus would need an improvement in their livelihoods to ensure that the willingness to pay and desire for facilities is accompanied by an ability to pay. Thus the demand created by health and hygiene education needs to be buttressed with a livelihoods approach to facilitate income generation and sustainable services delivery. The livelihoods approach when used in conjunction with the community based approach in water and sanitation services delivery will ensure that these services are used as a catalyst either directly or indirectly for livelihoods enhancement e.g. the productive uses of water or involvement of the community in brick making for sanitation projects. The livelihoods approach, unlike the community based approach is able to identify and target those that are most vulnerable and are in greatest need of external support.

The need for a livelihoods approach is also related to equity in water services delivery.

The study revealed a differentiation into rich, middle income, poor and very poor households on the basis of access to sources of income, food, housing, water sources and water uses, the absence or presence of migrant or pensioner. These differences also exist between genders in the study population e.g. though females form the highest proportion of those that contribute to domestic labor (105 out of 177 persons), make up over half (38 out of 66) of household financial decision makers (section 3.2.2) and though almost exactly the same number of men as women contribute to monthly household income, when expressed as a percentage of total community income, men account for higher percentage contributions (56% of total community income). If the usual community based approach which is insensitive to these differences is used for water and sanitation delivery, the most vulnerable of these communities will neither have a voice nor be able to exercise their power of choice as in most communities, gender and wealth play a role in power relations.

In relation to sound project planning in water and sanitation delivery the use of a livelihood approach will improve the ability of the project to make use of the available human capital in the target communities thus enhancing project success.

E.g. the livelihoods study revealed that females contribute most to domestic labor, thus an effort to involve the community in the project must be aware of the work load of the women and take this into consideration in a way that ensures the involvement of the women in the project without being detrimental to their perceived household responsibilities or adding to their work load.

The community based approach to water, sanitation, or health and hygiene education is not sufficient on its own to achieve the objectives of sustainable development in relation to water services delivery. e.g. A community based approach to health and hygiene and sanitation integration can create demand for sanitation, however it cannot facilitate the translation of that demand into an ability to pay. Further more community based approaches are insensitive to inter-household and gender differences in terms of access to resources for socioeconomic development. In order for the development sector in general and the water and sanitation sector in particular to use services delivery as a means of sustainable integrated development, the community based approach must be integrated with the livelihoods approach .

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Appendix I Integrated KAP and Livelihoods Questionnaire and Observational Checklist

INCREASING THE PACE OF SANITATION DELIVERY SUSTAINABLY

HOUSEHOLD LIVELIHOOD AND WATSAN KAP SURVEY OF LUSHINTON COMMUNITY

Interviewer (Name)	
Village	
Questionnaire check	

1. Mention as many ways that you know by which our rivers can be made unhealthy? <i>(read out all options and record answer for each)</i>		
<i>1=true</i> <i>2=false</i>		
Leaving faeces exposed on the ground	1.1.	
Leaving faeces exposed on the ground of the toilet	1.2.	
Bathing and washing in or near them	1.3.	
Throwing refuse in them	1.4.	

2. Which diseases do you think a person can get from Animal's faeces			
<i>1=true</i> <i>2=false</i>			
2.1. None		2.6. Cholera	
2.2. TB		2.7. Diarrhoea	
2.3. Aids		2.8. Cutaneous larvae migrans	
2.4. Malaria		2.9. Dysentery	
2.5. Bilharzia		2.10. I don't know any, but they cause disease	
2.11. Other (Specify)			
3. Which diseases do you think a person can get from Human faeces? (read out all options and record answer for each i.e. 1 for true, 2 for false)			
<i>1=true, 2=false</i>			
3.1. None		3.6. Cholera	
3.2. TB		3.7. Diarrhoea	
3.3. Aids		3.8. Cutaneous larvae migrans	
3.4. Malaria		3.9. Dysentery	
3.5. Bilharzia		3.10. I don't know any, but they cause disease	
3.11. Other (Specify)			

4. Which diseases do you think a person can get if hands are not washed with soap and water when:

4.1 They defecate (read out all?)

Read out all options and record answer for each

1=true,
2=false

4.1.1. None		4.1.6. Cholera	
4.1.2. TB		4.1.7. Diarrhoea	
4.1.3. Aids		4.1.8. Cutaneous larvae migrans	
4.1.4. Malaria		4.1.9. Dysentery	
4.1.5. Bilharzia		4.1.10. I don't know any, but they cause disease	
4.1.11. Other (Specify)			

4.2 They clean child's faeces

(read out all options and record answer for each)

1=true, 2=false

4.2.1. None		4.2.6. Cholera	
4.2.2. TB		4.2.7. Diarrhoea	
4.2.3. Aids		4.2.8. Cutaneous Larvae migrans	
4.2.4. Malaria		4.2.9. Dysentery	
4.2.5. Bilharzia		4.2.10. I don't know any, but they cause disease	
4.2.11. Other (Specify)			

4.3 Before eating

(read out all options and record answer for each)

1=true,
2=false

4.3.1. None		4.3.6. Cholera	
4.3.2. TB		4.3.7. Diarrhoea	
4.3.3. Aids		4.3.8. Cutaneous Larvae migrans	
4.3.4. Malaria		4.3.9. Dysentery	
4.3.5. Bilharzia		4.3.10. I don't know any, but they cause disease	
4.3.11. Other (Specify)			

4.4 How can you prevent human excreta from causing diseases to human beings?

(read out all options and record answer for each)

1=true
2=false

4.4.1. does not cause disease		6. use toilet	
-------------------------------	--	---------------	--

4.4.2. bury excreta		4.4.7. treat water	
4.4.3. use the veldt		4.4.8. I don't know I don't know any, but they cause disease	
4.4.4. throw faeces in river		4.4.9. any other please specify	
4.4.5. wash hands with soap & water after defecating			

5. Mention the different ways human faeces can be disposed of?

Circle all that are appropriate

5.1. VIP		5.6. river	
5.2. Simple pit latrine		5.7. water closet	
5.3. pour flush		5.8. bury	
5.4. veldt		5.9.. I don't know any	
5.5. pail			
5.10. Other (Specify)			

6. I am going to read you a number of statements, Please indicate whether you agree, disagree or are not sure

Flush toilets are the only good types of toilets	6.1	
It is not important for each house to have a toilet	6.2	
Toilets are a cause of mosquitoes	6.3	
Members of the community should not contribute towards toilets	6.4	
Members of the community should not contribute towards water	6.5	
Rainwater is not good for drinking and cooking	6.6	
		1=Agree, 2=disagree, 3=not sure

PLEASE USE TABLE BELOW TO ANSWER QUESTIONS 7

7.

1. What are your household's major sources of water during the winter season?
2. What are your household's major uses for the various sources?
3. How long does it take you to get to the various sources?

Sources in Winter	USES (Identify up to five uses)					Time
Sources	7.1 UseA	7.2 UseB	7.3 UseC	7.4 UseD	7.5 UseE	7.6 Time taken to collect
1. Public tap	1:	1:	1:	1:	1:	1:
2. Private tap	2:	2:	2:	2:	2:	2:
3. Dam-watering Pond	3:	3:	3:	3:	3:	3:
4. Stream/river	4:	4:	4:	4:	4:	4:
5. Well	5:	5:	5:	5:	5:	5:
6. Commercial	6:	6:	6:	6:	6:	6:
7. Rain	7:	7:	7:	7:	7:	7:
8. Other (specify)	8:	8:	8:	8:	8:	8:
	1=drink; 2=Cook; 3=Wash; 4=Toilet; 5=Other (Specify)					Record minutes for any water source used

PLEASE USE TABLE BELOW TO ANSWER QUESTION 8

8

1. What are your household's major sources of water during the Spring season?
2. What are your household's major uses for the various sources?
3. How long does it take you to get to the various sources?

Sources in Spring	USES (Identify up to five uses)					Time
Sources	8.1 Use1	8.2 Use2	8.3 Use3	8.4 Use4	8.5 Use5	8.6 Time taken to collect
1. Public tap	1:	1:	1:	1:	1:	1:
2. Private tap	2:	2:	2:	2:	2:	2:
3. Dam-watering Pond	3:	3:	3:	3:	3:	3:
4. Stream/river	4:	4:	4:	4:	4:	4:
5. Well	5:	5:	5:	5:	5:	5:
6. Commercial	6:	6:	6:	6:	6:	6:
7. Rain	7:	7:	7:	7:	7:	7:
8. Other (specify)	8:	8:	8:	8:	8:	8:
	1=drink; 2=Cook; 3=Wash; 4=Toilet; 5=Other (Specify)					Record minutes for any water source used

PLEASE USE TABLE BELOW TO ANSWER QUESTION 9

9

1. What are your household's major sources of water during the Summer season?
2. What are your household's major uses for the various sources?
3. How long does it take you to get to the various sources?

Sources in Summer	USES (Identify up to five uses)					Time
Sources	9.1 Use1	9.2 Use2	9.3 Use3	9.4 Use4	9.5 Use5	9.6 Time taken to collect
1. Public tap	1:	1:	1:	1:	1:	1:
2. Private tap	2:	2:	2:	2:	2:	2:
3. Dam-watering Pond	3:	3:	3:	3:	3:	3:
4. Stream/river	4:	4:	4:	4:	4:	4:
5. Well	5:	5:	5:	5:	5:	5:
6. Commercial	6:	6:	6:	6:	6:	6:
7. Rain	7:	7:	7:	7:	7:	7:
8. Other (specify)	8:	8:	8:	8:	8:	8:
	1=drink; 2=Cook; 3=Wash; 4=Toilet; 5=Other (Specify)					Record minutes for any water source used

10. What has been the MAJOR source of drinking water in the last one month	
(circle only one response)	
Public Tap	1
Private Tap	2
Watering Pond	3
Stream/river	4
Well	5
Commercial	6
Rain	7

11. Do you treat the water in your household before drinking?	11.	
		1=yes 2=no 3=D/K

11a IF yes , please indicate how you treat your water <i>(indicate up to three methods if applicable)</i>		
23a1.Treatment A	11a.1	
23a2.Treatment B	11a.2	
23a3.Treatment C	11.3	
		1=chlorinate (Jik); 2=boil; 3=add Alum; 4=expose to sun; 5=filter; 6=nothing; 7=D/K 8=other (specify)

11b Does the water you drink have :		
1.An odour	11b.1	
2.A colour	11b.2	
3. A taste	11b.3	
		1=yes 2=no 3=D/K

Instruction to Interviewer: For Question 12, show standard cup that has been provided for the project

12.How many of this type of cup of water do you the respondent drink in a day?	
One to 2 cups	1
Three to Four cups	2
Five to six cups	3
> 6 cups	4

Instruction to Interviewer: For question 13 Validate respondent's answer by asking to see if answer is yes. Use observational checklist at appropriate time

13. Do you have a stool disposal facility in your yard	13	
		1=yes 2=no 3=D/K

13.1Where do you defecate?

- 1 veldt
- 2 My household's Pit Latrine
- 3 Neighbour's Pit latrine
- 4 My Household's Water closet
- 5 Neighbour's Water closet
- 6 Dig a hole
- 7 Any other Please specify _____

13.2 Where does your young child (0-6) defecate?

1. I don't have a child that age
2. veldt
3. My household's Pit Latrine
4. Neighbour's Pit latrine
5. My Household's Water closet
6. Neighbour's water closet
7. Dig a hole
8. any other please specify _____

14a. Do you play any role concerning your household faecal disposal	
	1=yes 2=no

14b. What roles do you play concerning your household faecal disposal?

1. Empty pit
2. Build toilets
3. Teach children/communities to keep latrines/surroundings clean
4. Teach children/communities to wash hands
5. Pay for building of latrine
6. Pay for emptying of pit
7. None
8. Any other please specify _____

15.1 Have you heard of compost?	15.1	
15.2 Would you eat food grown with compost?	15.2	
	1=yes 2=no 3=not sure	

If **yes** go to question 16.2, if no go to question 16.1

16.1 If no, give reason why not _____

16.2 Where do you pour your household's wastewater?

1. In the household sink
2. Outside on the ground
3. In a pit
4. Any other specify _____

What roles do you play concerning your household water supply?

1. Fetch Water
2. Keep surroundings of tap/well/pond clean
3. Treat Water
4. Teach children/household how to keep water clean
5. Provide money for tariff payment,
6. Provide money for Water treatment
7. None
8. Any other Please specify _____

What roles do you play concerning your community water supply?

1. Fetch Water
2. Keep surroundings of tap/well/pond clean
3. Treat Water

4. Teach children/household how to keep water clean
5. Provide money for tariff payment,
6. Provide money for Water treatment
7. None
8. Any other Please specify _____

19. Do you know your ward councillor	
	1=yes 2=no

20. Who is your ward councillor _____?

OBSERVATIONAL CHECKLIST		
21.1Is there a stool disposal facility in the yard	21.1	
21.2Evidence of use of latrine? (e.g. paper; free from cobwebs etc)	21.2	
		1=Yes 2=No,
21.3 Type of disposal facility	21.3	
		1=None 2= pit latrine 3=ventilated pit latrine 4=water closet 5=urine diversion 6=Other (specify)
21.4 If simple pit or ventilated indicate type	21.4	
		1=mud built 2=zinc 3=prefabricated 4=ferrocement 5=other (specify)

Code for HH member	22. Approximate age next birthday in years	23. Gender 1= Male 2= Female	24. Marital Status 1= Single 2= Married 3= divorced 4=living together 5=widowed 6=other (specify)	25. Relationship of resident to head 1=Head 2=Spouse of head 3= Child of Head 4=Sibling of head 5= Parent of head 6= other relative 7= lodger/tenant 8=other (specify)	26. Highest school Grade <u>passed</u> 99=no formal schooling For Grade 1 to Grade 12, enter grade	27. Highest tertiary qualification <u>passed</u> 1 = Certificate 2 = Diploma 3 = Bachelors Degree 4 = Post Graduate Degree X = Other	Vocational status 1=Child/preschool 2=Full time scholar 3=Homeworker 4=retired/receive pension 5=Unemployed not looking for work 6=Unemployed looking for work 7=Part-time employment (less 20 hours/week) 8=Full time employed (informal sector) 9=Full time employed (formal sector) 10=Own business (specify) 11=disabled 12=Other
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Code for HH member	28. Does [...] contribute to household income <i>1=yes 2=no</i>	29. Does [...] live elsewhere for part of the year? <i>1=yes 2=no</i>	30. If yes why? <i>1=Work 2=Family 3=Marriage/partner 4=Other (Specify)</i>	31. How much income does [...] contribute to household? <i>Specify income in rands</i>	32. Who makes financial decisions <i>1= yes 2= no</i>	33. Who is involved in domestic labour (excluding farming) <i>1=yes 2= no</i>	Who is involved in farming <i>1=yes 2= no</i>	Who makes decisions concerning farming (e.g. when to plough, sow etc) <i>1=yes 2= no</i>
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

Code for HH member	34. What form of transport do members of your household use most often <i>1=walk 2=Bicycle 3=Own Car 4=Friends (Car) 5=Taxi 6=Bus 7=Other</i>	35. Have any members of your household been victims of crime since January 2001 (record all if more than one) <i>1=Assault 2=Robbery(burglary) 3=Robbery (personal) 4=Rape/Sexual violence 5=Other (specify)</i>	36. Where is home? <i>1=Here 2=Other Eastern Cape (specify) 3=Other SA (Specify) 4=Other</i>
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Do any household members own or have any of the following If yes please specify number (e.g. 2goats							
Code for HH member	37. Motorised vehicle <i>Specify</i>	38. Bicycle	39. Agricultural implements (including plough, tools, seeds etc) <i>Please specify</i>	40. Any machinery/tools used for income generation (e.g. sewing machine, brickmaking moulds, etc) <i>Please specify</i>	41. Cattle <i>Indicate number</i>	42. Goats/sheep/pigs <i>Please specify and indicate number e.g. 2goats, 1 sheep etc</i>	43. Donkeys/horses <i>Please specify and indicate number</i>
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Do any household members own or have any of the following If yes please specify					
Code for HH member	44. Bank account <i>(specify whether bank, post office etc)</i>	45. Pension fund, insurance policy etc	46. Bank loan <i>(specify amount)</i>	47. Loans from informal lenders (skoppers etc) <i>Specify amount</i>	48. Savings with stokvel etc <i>Specify amount</i>
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Household Dwelling

49. What type of house do you live in? (<i>Circle appropriate response</i>) 1= Brick and mortar house 2= Traditional materials (mud, brick) 3= Shack 4= Other specify	
--	--

50. Does this household own the building/structure? 1=yes 2=no	
---	--

Household Income, Expenditure and productive activities

51. What are the two main sources of support for your household? 1=wages from local employment 2= remittances 3= pensions and grants 4= selling crops 5=selling animals or animal products 6= other (please specify)	51.1 One:
	51.2 Two

52. How much does your household spend on the following items per month (Please specify in R) Estimate if exact figure cannot be given.	
Item	Amount (R)
52.1.1. Food	R
52.1.2. Phone (<i>any use of phones</i>)	R
52.1.3. Water	R
52.1.4. Rent	R
52.1.6. Transport	R
52.1.7. Energy (Wood, paraffin etc)	R
52.1.8. Electricity	R
52.1.9. Clothing	R
52.1.10. Hire Purchase	R
52.1.11. Personal debts/loans	R
52.1.12. Education	R
52.1.13. Entertainment	R
52.1.14. Farming implements (seeds, hoes etc)	R
52.1.15. Savings (bank)	R
52.1.16. Insurance policies, pension fund	R
52.1.17. Other (<i>specify</i>)	R

53. Please record monthly income amounts if received from the following sources	
<i>Indicate amount in Rand</i>	
	Rands
53.1. Contributions from NON household members	R
53.2. Crop sales	R
53.3. Income from sales of poultry or domestic animals (eggs, milk etc)	R
53.4. Sale of live animals	R
53.5. Income from services rendered (e.g. ploughing)	R
53.6. Income from sale of other agricultural products or inputs (e.g. manure)	R

54. Please indicate where you do most of your household purchases			
<i>Please Circle appropriate response</i>			
	Local Spaza shop	Local shop	Nearest town
54.1 Food	1	2	3
54.2 Household goods (other than food)	1	2	3
54.3 Furniture etc	1	2	3
54.4 Clothing	1	2	3
54.5 Other (Specify)	1	2	3

55. Please indicate household energy uses						
<i>Circle as many as applicable</i>						
	Electricity	Paraffin	Wood/charcoal	Battery	Gas	Candles
55.1 Lighting	1	2	3	4	5	6
55.2 Heating	1	2	3	4	5	6
55.3 Cooking	1	2	3	4	5	6
55.4 Other (tv, radio etc)Specify	1	2	3	4	5	6

56.1 Is your household involved in agriculture?	
If yes please specify crops grown	
1=yes 2=no	
56.2. Maize	
56.3. Vegetables (specify all)	
56.4. Other grain (e.g. Sorghum, millet)	
56.5. Fruit (specify)	
56.6. Other (specify)	

57. If any crops are grown, please specify when planting occurs

Circle appropriate response

	Maize	Vegetables (specify all)	Other grain (e.g. Sorghum, millet)	Fruit (specify)	Other (specify)
Summer	1	1	1	1	1
Autumn	2	2	2	2	2
Spring	3	3	3	3	3
Winter	4	4	4	4	4

58. If any crops are grown, please specify when harvesting occurs

if all year round mark all appropriate

	Maize	Vegetables (specify all)	Other grain (e.g. Sorghum, millet)	fruit (specify)	Other (specify)
Summer	1	1	1	1	1
Autumn	2	2	2	2	2
Spring	3	3	3	3	3
Winter	4	4	4	4	4

59. Please indicate whether crops grown are for household consumption or sold on local markets

	Maize	Vegetables (specify all)	Other grain (e.g. Sorghum, millet)	fruit (specify)	Other (specify)
Household consumption only	1	1	1	1	1
Household consumption and sold on market	2	2	2	2	2
Sold on market only	3	3	3	3	3

Services and organisational infrastructure

60. Does your household have access to the following

1=yes
2=no

60.1. Electricity	
60.2. Telephone connection	
60.3. Cell phone	

61. How would you rank the following services?
(Circle appropriate response)

	Excellent	Fair/OK	Bad	Appalling
61.1 Water	1	2	3	4
61.2 Electricity	1	2	3	4
61.3 Sanitation	1	2	3	4
61.4 Toilets/sewerage	1	2	3	4
61.5 Health	1	2	3	4
61.6 Community facilities (Hall, library etc)	1	2	3	4
61.7 Education	1	2	3	4

61.8 Policing	1	2	3	4
61.9 Sports facilities	1	2	3	4
61.10. Public transport	1	2	3	4
61.11. Local commercial outlets	1	2	3	4
61.12. Other (specify)	1	2	3	4

62. Are there any organisations in the local community, which represent the following?

Circle appropriate response

	Yes	No	If YES Specify/Describe briefly
62.1 Women	1	2	
62.2 Youth	1	2	
62.3 Community	1	2	
62.4 Group Savings /stokvels	1	2	
62.5 Burial societies	1	2	
62.6 Religious organisations	1	2	
62.7 Other (Specify)	1	2	

63. Since 2000 has your local community worked together around any of the following issues?

Circle appropriate response

	Yes	No	If YES, briefly describe
63.1 Services (e.g. rent/ services boycott)	1	2	
63.2 Crime/violence	1	2	
63.3 Development projects	1	2	
63.4 Other (specify)	1	2	

64. Rank the following incidents of crime in terms of your area

(Circle appropriate response)

	High	Average	Low	Non existent
64.1 Assault/physical violence	1	2	3	4
64.2 Murder	1	2	3	4
64.3 Hijacking	1	2	3	4
64.4 Car theft	1	2	3	4
64.5 Robbery (burglary)	1	2	3	4
64.6 violent robbery (weapon)	1	2	3	4
64.7 Rape/sexual violence	1	2	3	4
64.8 Other (Specify)	1	2	3	4

65. How would you rate the following in terms of their relationship with the local community

Read out and circle appropriate response

	Supportive	Antagonistic	No relationship
65.1. Local farmers (commercial)	1	2	3
65.2. Local businesses	1	2	3
65.3. Provincial government	1	2	3
65.4. Local government	1	2	3

65.5. National government	1	2	3
65.6. Financial institutions	1	2	3
65.7. NGOs	1	2	3
65.8. Police	1	2	3
65.9. Clinic			
65.10. Schools			
65.11. Other (<i>specify</i>)	1	2	3

66. How would you generally describe the relationship between your and other households?

Choose those that apply from each pair

66.1 Co-operative	1	Antagonistic	2
66.2 Apathetic	1	Organized	2
66.3 Friendly	1	Unfriendly	2
66.4 Trusting	1	Suspicious	2
66.5 Supportive	1	Unsupportive	2

67. Do members of the local community ever work together (without financial reward) on any of the following?

1=yes

2=no

67.1. Building houses	
67.2. Building or maintains household sanitation infrastructure	
67.3. Building or maintaining community infrastructure/facilities	
67.4. Helping with household farming/livestock	
67.5. Road construction/maintenance	
67.6. Other (Specify)	

Household Member code	Name of Household Member (include all those regarded as part of household and begin with household head)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

Appendix II Evaluation of Service Provider Methods Questionnaire

Name of interviewer: _____

Date: _____

Title: Assessment of Health & Hygiene Methods used in Sanitation Projects

We are from the, we have come to gather information from you on issues related to the implementation of rural sanitation projects towards our common goal of better water and sanitation facilities and therefore better health for rural communities in South Africa.

Please bear with us, as some of the questions might be delicate but needed. All information given is confidential. We appeal to you to provide answers to the questions we ask as forthrightly as possible, so that we can all see the results of our efforts. Thank you.

Notes to Interviewer: Please circle corresponding answer or answers given by respondents clearly except where other instructions are given

Questionnaire No: _____

Province: _____

How many sanitation projects have you (as an organization) implemented in the past 3 years _____?

How many of these projects have utilized village health workers to carry out health and hygiene promotion? _____

What type of community was your most recent project implemented in?

Rural

Peri-urban

Urban

Informal settlement

3b. Name of the most recent project

What Role did you play on the project?

Water service authority

Project Agent

Programme manager

Trainer

Use the Table below to answer questions about your most recent sanitation project

H & H PLANNING (time frame, cost etc)

When did the project start?	When did project end?	Planned duration of the project	Total number of Man hours or time allocated to Health and Hygiene programme	Total number of planned toilets	Total project budget	Total construction budget
5	6	7	8	9	10	11
Enter row date	Enter row number Date	Enter row number ... daysMthsyrs	Enter row number hrs ...days ...Mthsyrs	Enter row figure 	.enter row figure R.....	Enter row figure R.....

12.What was the total health and hygiene budget ?

H & H TRAINING

Who trained the selected community members in H& H?	Was the health promotion plan developed in conjunction with the community?	How many days did the H&H training Of those community members take?	Was PHAST used as a method of training?	How many PHAST tools were the community trained in	What aspects of sanitation did the H&H training specifically cover? Circle as many are relevant.
13	14	15	16	17	18
1 = no training given 2 = project Agent 3 = trainer 4 = WSA- 5 = Any other	1 =No 2 =Yes	Enter raw number ...daysMthsyrs	1 = yes 2 = no X= No training 4 = any other	Enter raw number Or 0 = none	1 = contamination routes and barriers 2 = operation and maintenance of sanitation facilities 3 = Household material contributions 4 – pits dimensions 5 = any other specify

H & H PROMOTION

Who carried out the H & H promotion?	How long was the planned H& H promo (months)	How many contact sessions are planned?	What type of promotion method was used?	Cost per hour as paid to promoter Fill where applicable according to the unit of payment	What aspects of sanitation did the H&H promo cover specifically? Circle all that are relevant	Were there any reporting tools specifically used to report disease incidence?
19	20	21	22	23	24	25
1 = Project Agent 2 = WSA(EHO)) 3 = VHW 4 = Trainer 5 = Social consultant 6 = any other please specify	Enter raw number ...daysMthsyrs	Enter raw figure	1 = House to house 2= workshop 3 = group 4 = any other	Enter raw figure VHW cost ----- Per unit VHW cost ----- Per toilet Social consultant ----- -----Per hour Project agent ----- ----- per hour	1 = contamination routes and barriers 2 = operation and maintenance of sanitation facilities 3 = Household contributions 4 – pits dimensions 5 = any other specify	1 = Yes 2 = No

26. Was the Health Promoter in this project (i.e the social consultant or the village health workers) a source of information for the local clinic with regard to disease incidence?

1. Yes
2. No

H & H Monitoring and Evaluation

Was a baseline survey carried out in relation to KAP before intervention?	How long did this take?	How much did it cost	Was a post implementation H&H survey carried out?	How many months after commencement of the project did post implementation H&H survey take place	What type of survey was it?	How much did this survey cost?
27	28	29	30	31	32	33
1 = Yes 2 = No	Enter raw number ...days Mths yrs	Enter raw figure R.....	1 = Yes 2 = No	Enter raw figure Enter raw number days Mths yrs	1 = KAP 2 = observational checklist 3 = any other please specify X no post impact survey	Enter raw figure R.....

34. How was the community involved in M & E of the H & H / sanitation impact of the project? (either planned or actual)

- 1 = H& H incidence register was used by the VHW & VWC
- 2 = Village Health workers participated in the post impact survey
- 3 = there was no community involvement
- 4 = Any other please specify

SKILLS TRANSFER, LINKAGES, LOCAL ECONOMIC DEVELOPMENT

What perceived skills were transferred as a result of the H&H promotion?

- 1 = Problem solving
- 2= Health action plan development
- 3 = PHAST tool use in the community
- 4 = structured reporting?
- 5 = treatment of simple water related ailments

36. What linkages were formed as a result of the health and hygiene promotion?

- 1= community with ambulance service
- 2 = community with local clinic
- 3 = community with EHO
- 4 = community with Department of Health
- 5 = any other please specify _____

37. Were the community Health workers paid any stipend in relation to the H& hygiene promotion?

- 1 = Yes
- 2 = No
- 3 = community health workers were not involved in promotion

38. Would you in future projects use the Community Based Health and Hygiene Method?

1 = Yes

2 = No

3. = We haven't heard of it

From your experience what barriers do you identify to effective H & H promotion?

What barriers do you identify to effective measurement of the impact of H & H programmes?

Observational checklist

In the space below record the tools that the respondent shows you and obtain copies of such tools.

Tools seen by interviewer	1 = yes , 2 = No
VHW reporting tool	
Disease incidence reporting tool	
Pre impact tool (questionnaire, observational checklist etc)	
Post impact tool (questionnaire, observational check-list etc.)	
Programme of vhw training	
VHW contract showing detailed job description	

List any other tools provided
