

Knowledge and information for improved water, sanitation and hygiene

Revealing the factors that are complicating the flow and use of knowledge and information on water and sanitation in Uganda.



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1. Introduction

A clean water and proper sanitation situation is an important enabler of development. The burden of diseases that is created if clean water and sanitation are not ensured will cost the community a large amount of time and money. In Uganda, diseases that can be prevented cause eighty percent of the hospital intakes. Worldwide, 2.4 million people die because of diarrhoeal diseases, which are largely derived from contaminated water and inadequate sanitation. A too high number of these victims are Ugandans.

At the moment, 63% of the people in Uganda have access to clean water while the latrine coverage is 59%. In order to increase these indicators of the water and sanitation situation in Uganda, the national government shares knowledge and information with the district levels of government. The district levels of government use this knowledge and information, or pass it on to the sub-county levels of government who serve the communities. Prior to the research it had been observed that the national level sends knowledge and information such as guidelines, manuals and policy documents to the districts, but these do not always reach the target groups. On top of this it was also feared that even when received the knowledge and information may remain unused. These challenges complicate the improvement of the water and sanitation situation in Uganda, and therefore deserve to be researched. Hence, the objective of this research:

To gain understanding of the problematic factors that influence the flow and use of (WASH) knowledge and information in Uganda.

2. The research

The research consisted of three different stages. First, literature has been explored in order to discover factors that can complicate the flow and use of knowledge and information. In addition to this literature study, three interviews with experts in the field of knowledge and information management have been conducted. The factors that resulted from these activities have been used to structure the field interviews in the second stage of the research.

In the second stage of the research data on the factors that can influence the flow and use of knowledge and information have been collected during a five month stay in Uganda.

The third stage of the research contains the analysis of the data that has been collected in the second stage of the research. In this report the findings and conclusions that resulted from this research are being presented.

3. Dissemination and use of knowledge and information in the water and sanitation sector in Uganda

The process of disseminating knowledge and information on water and sanitation goes through several different levels of government. Besides these different levels of government, at each level, different department are concerned with different aspects of the issues about water and sanitation. At each level of government, and in each department different issues can contribute to the challenges mentioned above. Figure 1 shows the global structure of the water and sanitation sector in Uganda.

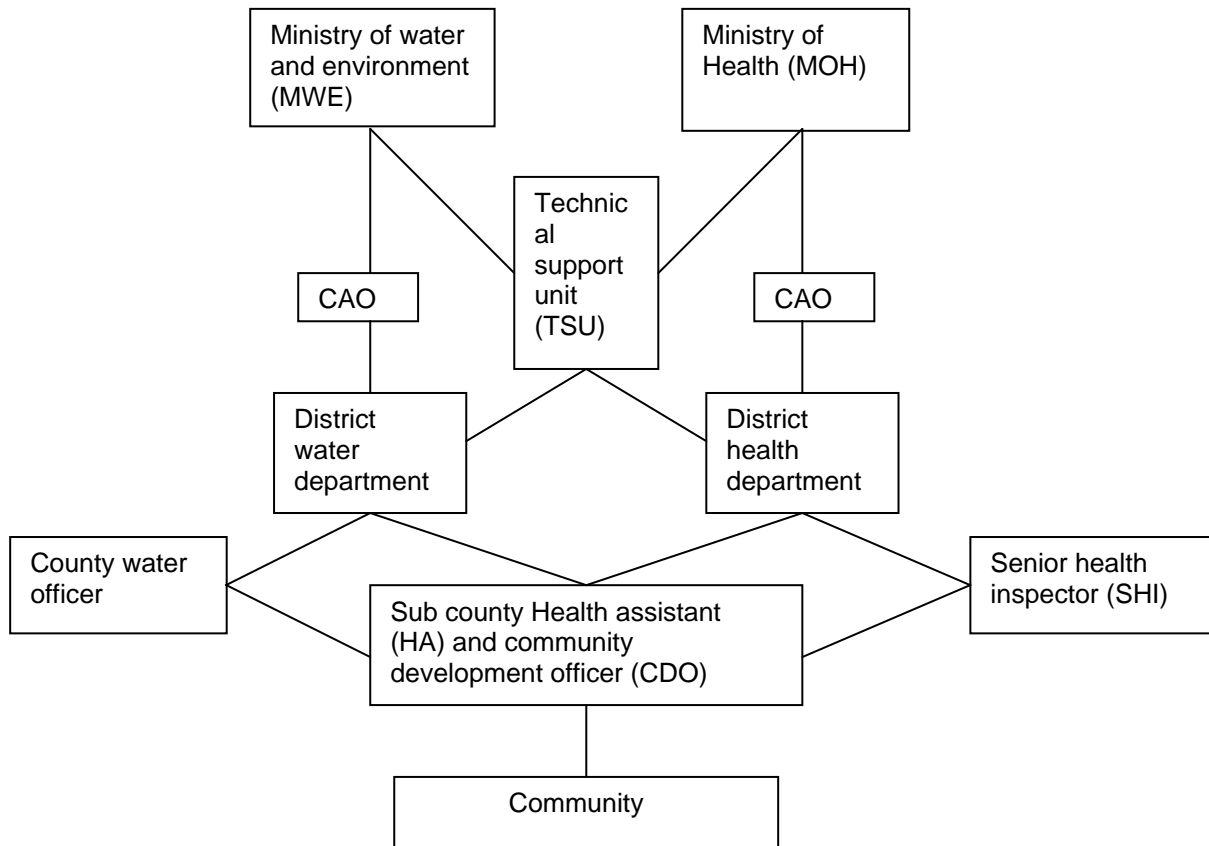


Figure 1. The structure of the water and sanitation sector in Uganda

The dissemination of knowledge and information on water and sanitation also follows the structure that is presented in figure 1. In order to validate the presence of challenges in this communication process, and to identify the causes of these challenges, interviews were held with relevant people at the different levels and the different departments. At national level, interviews have been held at the Environment Health Division (EHD) of the Ministry of health, as well as at the Directorate of Water Development (DWD) in the Ministry of Water and Environment. Two districts have been the subjects of this research: Arua and Kamwenge. In these districts interviews have been held with the deputy-Chief Administrative Officer (CAO) and in the Health and Water department. Within each district, interviews have been held in two sub counties (Arua: Vurra and Aroi, Kamwenge: Mahyoro and Nyabbani). A total of 45 interviews have been held at these different levels of government. In this report 35 of these interviews, from all levels of government, have been used to reach a conclusion. Besides this, observations have also been made during my five month stay in Uganda.

In the following paragraphs, results of these conversations have been presented per step and level in the communication process. First, an attempt is made to validate the observations that initiated this research.

4. Validating the initiating observations

The two observations that initiated the research are:

- Knowledge and information sent from the national levels to the district and sub-district levels is not always received at its destination,
- And when it reaches its destination it sometimes remains unused.

4.1. Does knowledge and information really not reach its destination? Does it flow?

From national to district level:

The results from the interviews indicate that the flow from national to district levels is very successful. From the fifteen categories of respondents, 8 indicated that the knowledge and information that is disseminated from the national level reaches the districts. None of the categories indicated that knowledge and information did not reach (6 categories did not make remarks about the flow of knowledge and information between the district and the national level, while one category stated contradicting remarks).

In order to further investigate the actual flow of knowledge and information from national level to the districts, eight knowledge and information products were provided by the Ministry of Health, and the Ministry of Water and Environment, which had been sent in written form to districts. These were:

- The water supply and sanitation handbook for extension workers (DWD)
- A community resource book for the water and sanitation sector (DWD, 2007)
- The district implementation manual for the water and sanitation sector (DWD, 2007)
- A handbook on the safe water chain (EHD)
- Water and sanitation sector performance report (DWD, 2007)
- National environmental health policy (EHD, 2005)
- The Kampala declaration of sanitation and hygiene (EHD)
- Monitoring on household sanitation (EHD)

To measure the success of the dissemination from national to district level, district staff was asked if they had received these knowledge and information products from the national government. The results of this exercise indicate that these knowledge and information products have been received by both Arua and Kamwenge district. Two products however, the community resource book for the water and sanitation sector and the water and sanitation sector performance report 2007, both did not reach the Health department in Kamwenge. This indicates that this knowledge and information on water and sanitation is not shared within the districts between water and health departments. Nevertheless, following the remarks made by the respondents and the results of this exercise, it can be concluded that the flow of knowledge and information between the national government and the districts flows.

Sub-county level

The results from the interviews indicate that the flow of knowledge and information from district to sub county levels is challenging. From the fifteen categories of respondents, 8 indicated that the dissemination from the districts to the sub counties is challenging. The other categories made statements that did not influence the judgement of the majority of the categories.

To further measure the success of the dissemination from district to sub-counties, the sub-counties' staff was asked if they had received the above mentioned knowledge and information products from the districts. In this case we were looking at seven documents since the district implementation manual for the water and sanitation sector was not expected to reach the sub counties. This produced the following results:

- The water supply and sanitation handbook for extension workers: This handbook has been received by all four sub counties that are under investigation (=100%).
- A community resource book for the water and sanitation sector: This manual has only been received by Joshua, the SHI and HA of Nyabbanani sub county (= 25%).
- A handbook on the safe water chain: This handbook has also been received by all the sub counties that are being considered in this research (=100%).
- Water and sanitation sector performance report: This report has been received in Mahyoro and in Nyabbanani sub county, both these sub counties are located in Kamwenge district (= 50 %).

- National environmental health policy: This policy document has been received by both the SHI of Nyabbani and of Aroi. These persons are positioned at the county level of which these two sub counties are part. Since Joseph, the HA in Aroi has not received the document, it cannot be stated that the policy document has been received in Aroi. Since Joshua is both the SHI, as the HA of Nyabbani sub county, it is evident that it has also reached Nyabbani sub county. Thus only one sub county has received this document (=25%).
- The declaration of Kampala: The declaration of Kampala has been received in three of the four sub counties. However, I have this far only included the CDO of Mahyoro, it is possible that the HA of this sub county received the declaration of Kampala (= 75%).
- Monitoring on household sanitation: The monitoring document has been received in Vurra, Aroi and Mayhoro (=75%).

As can be seen several written knowledge and information managed to reach down to the sub counties. However, there are some that were not received. Therefore it is justified to state that the dissemination of knowledge and information between the district and the sub county is challenging.

Community level

The knowledge and information received by the sub-county staff, is meant for use to educate the communities about the importance of clean water, sanitation and hygiene. In doing this the sub county staff disseminates knowledge and information to the people in the communities. The communication down from the sub-counties to the communities is presented in figure 2:

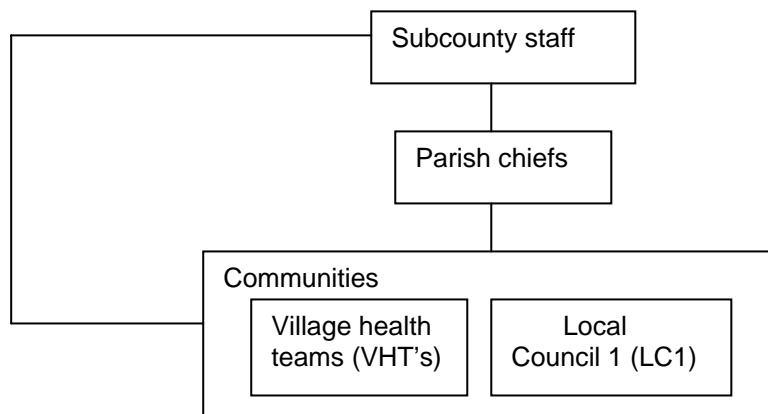


Figure 2. Communication structure from sub-county down to the community

No data were collected in the communities. The following remarks on knowledge and information flow between sub-counties and communities, have been based upon statements by the respondents at non-community levels. Therefore, no conclusion can be drawn on an explicit volume of the communication between sub-county and communities.

Because both the sub county, the village health teams (VHT's) and the parish chiefs are sending knowledge and information to the communities, the categories of respondents have made remarks about the successfulness of both these steps in the communication process. Concerning the flow of knowledge and information from the sub county to the communities, 10 of the 15 categories of respondents indicated unanimously that the flow of knowledge and information is challenging. Only one category stated that the flow of knowledge and information from the sub county to the community was unchallenging. The dissemination of knowledge and information from the sub county to the community therefore does not flow.

Concerning the dissemination of knowledge and information from the parish chiefs and the VHT's to the communities, 8 categories of respondents stated that this is challenging. Again, only one category claimed this link in the process of dissemination to be unchallenging. Therefore I consider the

dissemination of knowledge and information from the parish chiefs and the VHT's to the communities challenging.

A district health inspector (DHI) mentioned that dissemination becomes more difficult from the sub-county level down to communities. Similar remarks are made by an assistant district water officer (ADWO) for mobilisation stating that district staff manage to disseminate knowledge and information to sub-counties, but admitting that there are challenges remaining concerning communication between sub-county and community. At the environmental health division (EHD) it was stated that dissemination of knowledge and information in general is probably poor. A TSU staff member stated: *"Even our health staff in the communities might not be able to reach the households"*.

These results have been nicely summarised by a DHI who states that: *"the flow down, somehow, is limited"*.

Conclusions concerning the flow knowledge and information:

From national level to district the dissemination of knowledge and information is successful. From district to sub-counties, the success of the flow and use of knowledge and information varies and is challenging. From the sub-counties down to the communities the dissemination is problematic.

As has been shown in the previous paragraph, these conclusions are in line with specific statements made by the respondents. Besides this the flow between the national and district level of government, and the flow between the district and sub county government, have been tested as well.

The next paragraph concerns the use of knowledge and information.

4.2. Does knowledge and information really remain unused when it has reached its destination?

The DHI in Arua states: *"the knowledge and information reaches, but that implementors do not use them"*.

To determine if the knowledge and information received is also used, it was asked which knowledge and information government staff at district and sub-county actually use. To test the use of knowledge and information the difference is measured between what they use and have received. When the respondent claimed to use knowledge and information it was also asked how it was used. Besides this, the statements that are made by the respondents about the use of knowledge and information on the district, sub county and community level, are also used to determine the use of knowledge and information at the different levels.

The DHI in Arua states that they mainly use knowledge gained during their professional education

District level use:

None of the respondents at district level listed spontaneously the knowledge and information products that they had received from the national government. Besides this the knowledge and information that is used, is mainly used as a reference, less for direct use in their daily work.

The statements that have been made on the use of knowledge and information at the district level also indicate that the use is low. Six of the categories of respondents made remarks that indicate a low use of knowledge and information at the district level of government. Two have provided positive remarks to the use of knowledge and information at district level, these two categories are both positioned at the district level of government. Altogether it can be stated that the use of knowledge and information that is provided by the national government, is low at district level.

Sub-county use:

At sub-counties particularly manuals and handbooks are being used. Policy documents are used less. Some health assistants (HAs) indicated the use of selected sections of manuals according to the appropriateness in a certain situation. Other HAs did not mention any of the knowledge and information documents that they had received.

The statements that have been made on the use of knowledge and information at the sub county level also indicate that the use is low. Six of the categories of respondents made remarks that indicate a low use of knowledge and information at the sub county level of government. None of the categories of

respondents stated that the use of knowledge and information is high at the sub county level of government. The use of knowledge and information at sub county level can thus also be considered low.

Community use:

The remarks that have been made by the respondents concerning the use of knowledge and information in the communities indicate that the use is also challenging at this level. 8 of the 15 categories of respondents made statements which indicate that the use of knowledge and information at community level is low. The respondents in the remaining seven categories did not make explicit remarks about the use of knowledge and information at the community level.

Conclusions concerning the flow knowledge and information:

Overall, the respondents unanimously state that the use of knowledge and information is at all concerned levels of government is low, with a few exceptions.

The apparent challenges concerning the flow and use of knowledge and information justify the investigation of the causes of these challenges. The results of this investigation are presented in the following paragraph.

5. Factors creating challenges in flow and use of knowledge and information in the water and sanitation sector

As mentioned in paragraph 2, causes of the in paragraph 3 validated challenges, can be at every level of government. During the interviews several factors at different levels were measured, which, according to the literature and experts in the field of knowledge and information management can complicate the dissemination and use. In doing this flexibility has been incorporated for new insights provided by the respondents in Uganda. This paragraph describes per level of government the factors that are considered problematic by the respondents in the research, as well as by, when available, observations about a specific variable.

From the interviews and observations, a large amount of problematic factors have resulted. Not all these factors are of the same importance, and several of them influence each other. The problematic factors that are not being influenced by other problematic factors (independent factors) can be considered the most interesting for the dissemination and use of knowledge and information. In order to identify the problematic factors that are independent, I have, with help of the conceptual model that was constructed before the actual measurement in Uganda and remarks that have been provided by the respondents, constructed conceptual models with the problematic factors at each level of government. In the following description only the independent problematic factors are being considered, for the other problematic factors the annexes can be consulted.

*5.1. Complicating factors at the **national level** of government*

In Annex 1, I have presented the conceptual model of problematic factors at the national level of government. In this model it is shown that the following independent factors are problematic at the national level of government:

- Appreciation of water, sanitation and hygiene:
It has been stated that the appreciation of sanitation and hygiene is low, especially in the Ministry of Health. Within the ministry of health the focus is mainly on the curative aspect of health, which results in low appreciation for preventive health like sanitation and hygiene. This is been observed in the case of technocrats as well as politicians.
- Awareness and appreciation of knowledge and information management:
The awareness does not appear the problematic aspect of this variable, however the appreciation is. Several respondents have mentioned that the appreciation of knowledge and information management is low because people are being judged on short term tangible outcomes and are therefore less inclined to focus on knowledge and information management. The Ministry of Water and Environment however, shows good initiative with the construction of the TSU's. So has the Ministry of Health by installing the VHT's.

- Reward system:
There is no reward system at national level to provide extra incentives to disseminate knowledge and information to the districts, neither are punishments present (It can be doubted if this is necessary since the flow of knowledge and information from national level to the districts has proved to be successful).
- Procedural efficiency:
The procedures for releasing documents or sending documents from the national level to the districts are very time-consuming.

5.2. Complicating factors at the **district level** of government

In Annex 2, I have presented the conceptual model of problematic factors at the district level of government. In this model it is shown that the following independent factors are problematic at the district level of government:

- Appreciation of water, sanitation and hygiene:
It has been stated that the appreciation of sanitation and hygiene is low, especially in the Health department. Within the health sector the focus is mainly on the curative aspect of health, which results in low appreciation for preventive health like sanitation and hygiene. In the communities sanitation and hygiene is not appreciated very much, this makes it difficult for politicians to appreciate the matter. After all they are dependent on the communities for their votes.
- Appreciation knowledge and information management:
The awareness does not appear the problematic aspect of this variable, however the appreciation is. Several respondents have mentioned that the appreciation of knowledge and information management is low because people are being judged on short term tangible outcomes and are therefore less inclined to focus on knowledge and information management. This is been observed in the case of technocrats as well as politicians.
- Cultural barriers:
An issue that has been raised on several occasions is the poor reading culture in Uganda. Besides this the poor attitude of people in the local government has been mentioned to be cultural. Examples have been given that people are supposed to be in office, but that you will not find them there the whole afternoon. It has also been mentioned that relations in Uganda are very hierarchical and that people do not want to lose their face. Since the feedback possibilities and participation have not been considered problematic, the implications of this for the effectiveness of feedback and participation should be considered.
- Storage:
The storage of written forms of knowledge and information is very poor in the district.
- Staff turnover:
A lot of knowledge and information gets lost because large amounts of technocrats leave office and take the knowledge and information that they possess with them.
- Not invented here syndrome:
People in the districts do not want to be bothered by projects that have been constructed at the national level of government.
- Addressee:
Key people in the field of water and sanitation do not always attend the meetings in which knowledge and information concerning water and sanitation is being disseminated.
- Reward system:
There is no system to provide incentives to the technocrats in the district to use knowledge and information to the sub counties. Besides this there also are no punishments if these activities are not being performed.

5.3. Complicating factors at the **sub- county level** of government

In Annex 3, I have presented the conceptual model of problematic factors at the sub county level of government. In this model it is shown that the following independent factors are problematic at the sub county level of government:

- Storage:
The storage of written forms of knowledge and information is very poor in the sub county.
- Cultural barriers:
An issue that has been raised on several occasions is the poor reading culture in Uganda. Besides this the poor attitude of people in the local government has been mentioned to be cultural. Examples have been given that people are supposed to be in office, but that you will not find them there the whole afternoon. It has also been mentioned that relations in Uganda are very hierarchical and that people do not want to lose their face. Since the feedback possibilities and participation have not been considered problematic, the implications of this for the effectiveness of feedback and participation should be considered.
- Staff turnover:
A lot of knowledge and information gets lost because large amounts of technocrats leave office and take the knowledge and information that they possess with them.
- Work pressure:
There are a lot of people in the sub county that go for further studies, and there are only two people in the sub county (CDO and HA) which are confronted with a lot of projects.
- Addressee:
In the communities people are often not present when there are advocacy meetings.
- Appreciation and awareness knowledge and information management:
It has been stated that the appreciation of sanitation and hygiene is low, especially in the Health department. Within the health sector the focus is mainly on the curative aspect of health, which results in low appreciation for preventive health like sanitation and hygiene. This is been observed in the case of technocrats as well as politicians.
- Appreciation water, sanitation and hygiene:
The awareness does not appear the problematic aspect of this variable, however the appreciation is. Several respondents have mentioned that the appreciation of knowledge and information management is low because people are being judged on short term tangible outcomes and are therefore less inclined to focus on knowledge and information management. In the communities sanitation and hygiene is not appreciated very much, this makes it difficult for politicians to appreciate the matter. After all they are dependent on the communities for their votes.

5.4. Complicating factors in the **communities**

In Annex 4, I have presented the conceptual model of problematic factors at the community level of government. In this model it is shown that the following independent factors are problematic at the community level of government:

- Receivers' capabilities:
It has been mentioned that people in the communities have problems with understanding all the knowledge and information that has been send to them. Besides this it is difficult to change behaviour that has been practiced for generations.
- Presence of resources:
There is a lot of poverty in the communities, besides this local materials are also not always available.

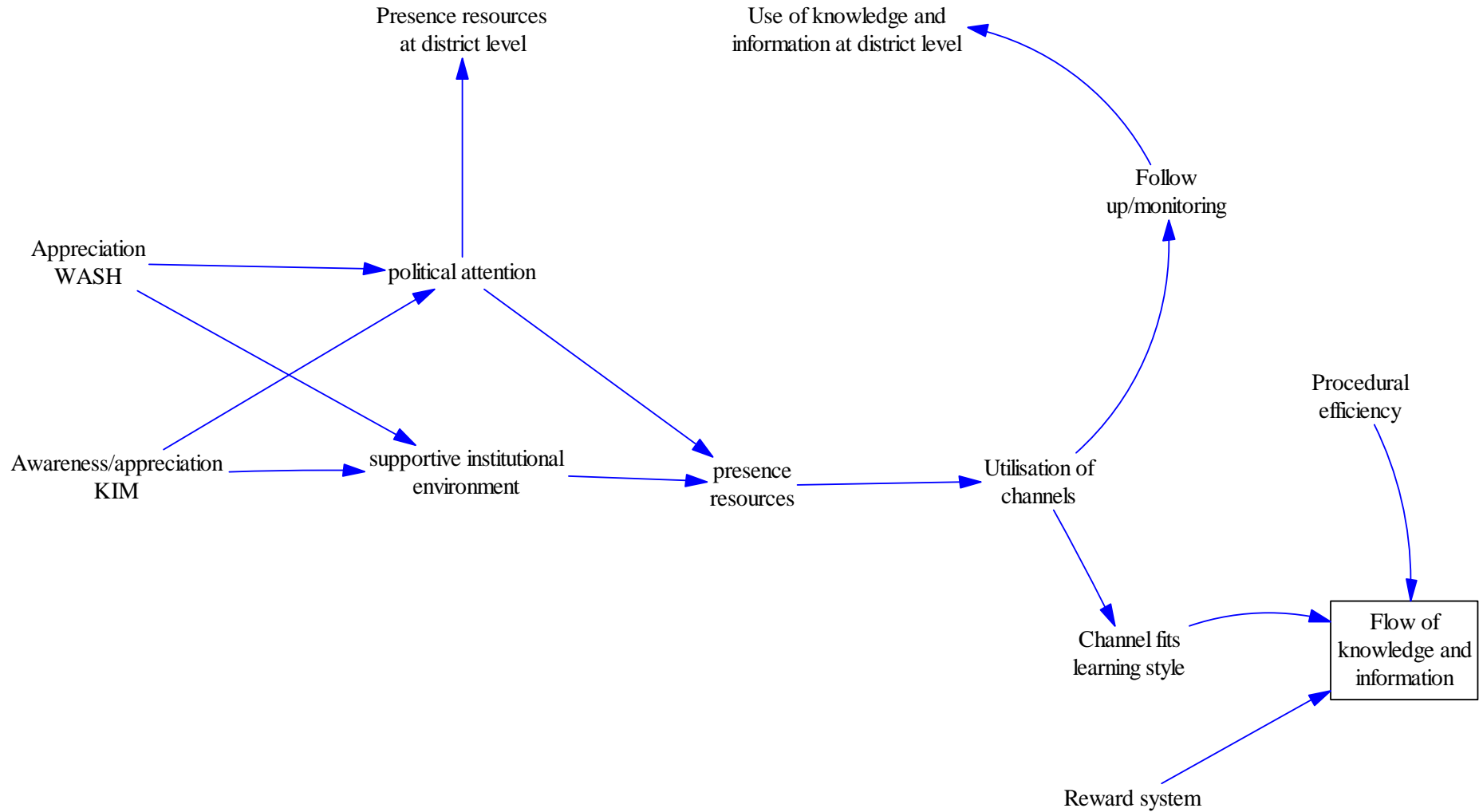
- Work pressure:
People in the communities are busy with providing themselves with food, and other domestic work. This takes time and costs energy that people cannot invest in water, sanitation and hygiene practices. In the VHT's there is also work pressure, since they are voluntary, they will have to provide food as well. This takes the lion share of their time.
- Addressee:
In the communities people are often not present when there are advocacy meetings.
- Appreciation and awareness knowledge and information management:
People in the communities rather have the government providing them with facilities, than that they have to construct the facilities themselves.
- Cultural barriers:
People in the communities have problems with thinking in the long term, planning and saving is not in their culture, which makes it difficult to see the benefits of activities concerning water and sanitation, after all they pay out in the long run.
- Reward system:
In this model I also consider the variable reward system independent since the VHT's are voluntary, and this is not solved by political attention at the lowest levels. In the model it looks like it is, but this relation is concerned with the influence that political attention has on enforcement of water, sanitation and hygiene practices.

5. Conclusions

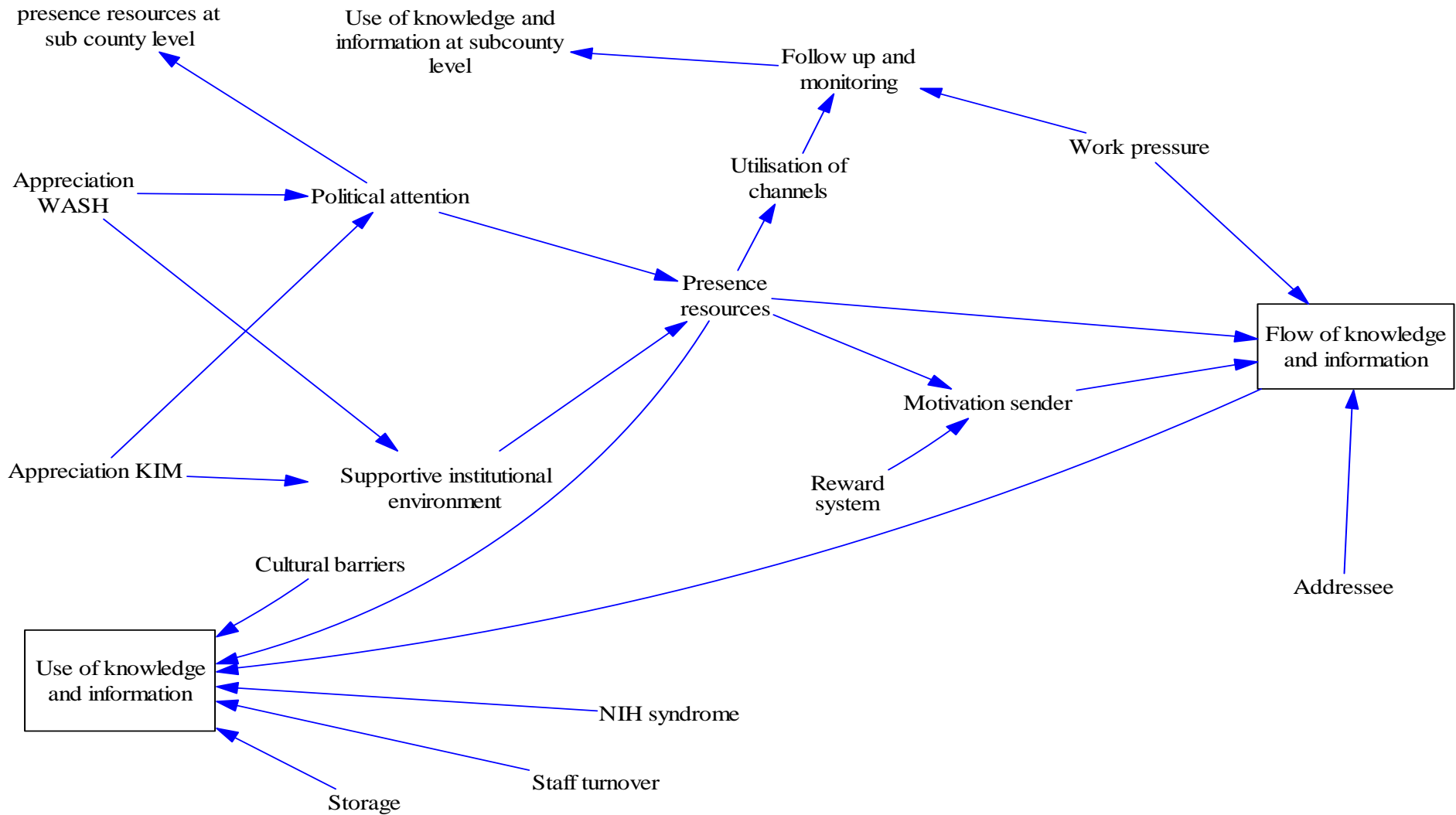
In the previous paragraph the independent factors that complicate the flow and use of knowledge and information have been presented. Besides this, all other factors that have been found to be problematic for the dissemination and use of knowledge and information, have been presented in the conceptual models that are included in the annexes. Hereby, the objective that has been stated in paragraph 1 of this report has been met. However, generalising these finding might prove difficult, after all only two of the 79 districts in Uganda have been included in the research. On top of this, only two of the 15 sub counties in the districts have been under investigation. Therefore it cannot be sure that the situation that has been found in the considered districts and sub counties is the same as in the ones that have not been included in this research. However, I have not found a difference between the answers that have been provided by the respondents in the different districts and sub counties. This is why I expect the situation in the other Ugandan districts to be similar to those in the sub counties that have been excluded from this research.

In order to improve the dissemination and use of knowledge and information, I recommend to focus on the issues of the appreciation of knowledge and information management and the appreciation of water, sanitation and hygiene. Political leaders should be convinced that their own interest in the short term should not be considered superior to the long term sustainable interest of the people in the community (even when the communities have difficulties realising this themselves). If sustainable development is the goal, then a focus from hardware towards software should be established. Also should sanitation and hygiene, just like water, have a high priority, after all these issues are closely connected. The other independent problematic factors should be considered by the people in the positions to change the values of these factors. I consider it outside the scope of this research to make extensive statements about the interventions that can be placed in order to improve the problematic factors that have been discovered. However, it should be clear that the main interventions should be placed at the factors that are independent; if successful all other factors should improve. Nevertheless the dependent problematic factors should be monitored closely, as well as the actual flow and use of knowledge and information, to be sure that interventions have worked and no other relevant problematic factors are being left out.

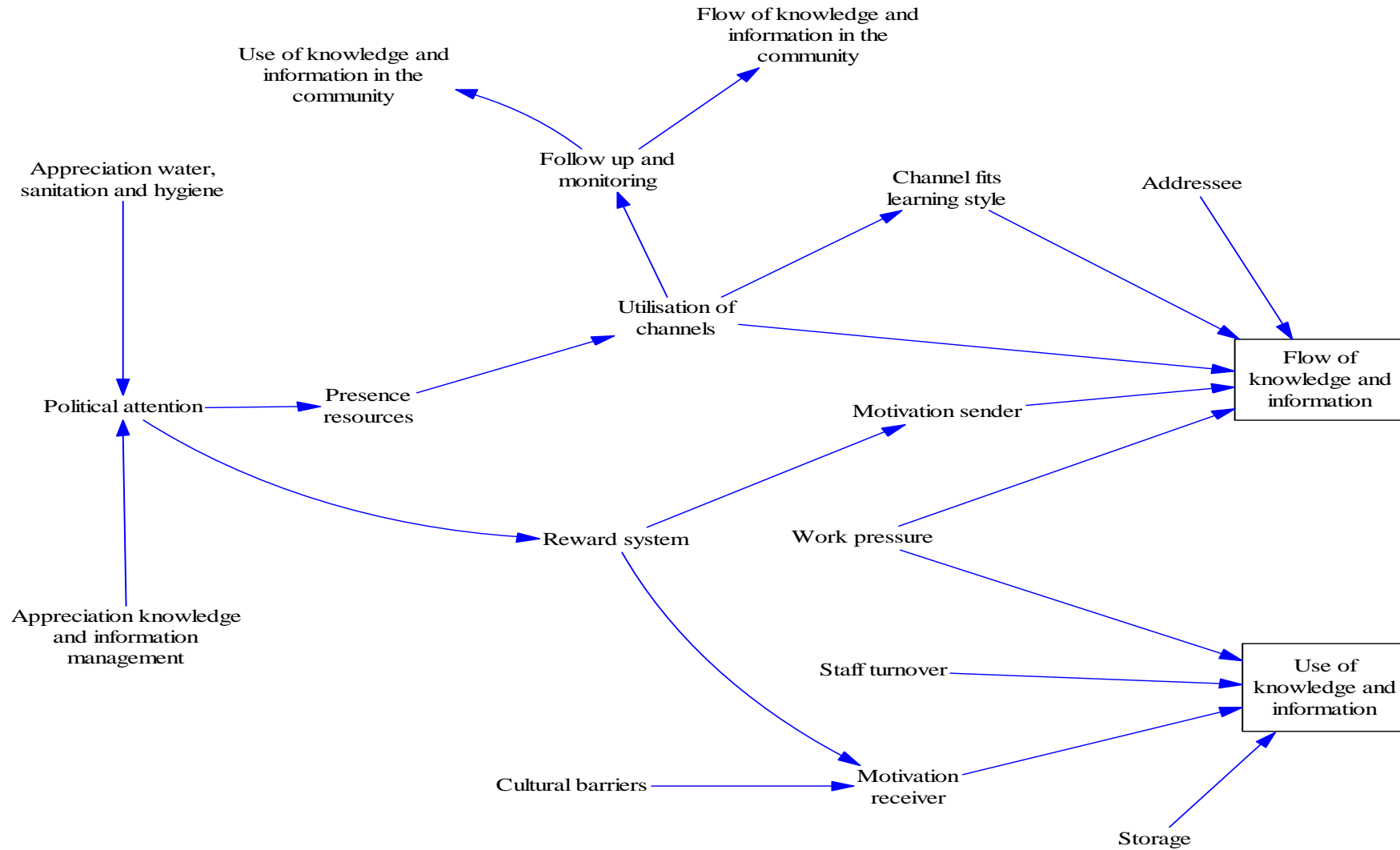
Annex 1: the conceptual model of problematic factors at national level



Annex 2: the conceptual model of problematic factors at district level



Annex 3: the conceptual model of problematic factors at sub county level



Annex 4: the conceptual model of problematic factors at community level

