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Management of information in development projects – a proposed integrated model

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The first section of the article focuses on the need for development in Africa and the specific challenges of development operations. It describes the need for a holistic and integrated information management model as part of the project management body of knowledge aimed at managing the information flow between communities and development project teams. It is argued that information, and access to information, is crucial in development projects and can therefore be seen as a critical success factor in any development project. In the second section of the article, the three information areas of the holistic and integrated information management model are described. In the section thereafter we suggest roles and actions for information managers to facilitate information processes integral to the model. These processes seek to create a developing information community that aligns itself with the development project, and supports and sustains it.

Key words: Information management, development, Africa, information manager, project management, developing information community**,** cultural anthropology

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1 Development projects in Africa: Introduction and statement of the problem

Both African leaders and international organizations (*NEPAD Dialogue Online Weekly* 18 August 2006; Norris 2001) acknowledge the fact that information is a crucial resource in development projects, and, moreover, that there is a need for an interdisciplinary, holistic approach to the appropriate management of the flow of information in development projects (UNDP 2001). Greig, Hulme and Turner (2007), in their book *Challenging global inequality*, argue that there is a general disillusionment with current development theories and projects and that there is a need to redefine the 'aims, means and strategies for development' (2007:7).

The immediacy, relevance, trustworthiness and effective management of the flow of information are critical to the success of development projects (Boon 1992). This is especially so since internal and external stakeholders involved in development often have different expectations of development projects and, therefore, will respond differently to the objectives of projects and to the processes and procedures used to realize such expectations. It will, for example, be highly inappropriate for a development agency to build a shopping complex on a piece of land that is regarded as sacred, without prior consultation (sharing for information) with the local community.

Based on this broad introduction, the focus of this research was therefore to propose an integrated and holistic information management model that can be used in development projects in Africa. With this purpose in mind, the research problem could be narrowed down to the development of an integrated and holistic information management model that could facilitate and manage the flow of information in development projects in Africa.

The research, which was primarily based on a literature study, was qualitative in nature and focused on the description of the model. A minor empirical component was included, which comprised personal observations and informal interviews with local people who were affected by development projects. One of the authors (Bester) worked extensively on a development project in Africa. The proposed model presented in this article is therefore not only based on a literature study but is also a result of the practical experience.

The authors are of the opinion that this model will provide an appropriate framework to

guide information managers who are involved in development projects in Africa. The successful implementation of this model will not only benefit development organizations but also local communities, the reason being that it does not only take into account local customs and culture, but also takes as a starting point the information needs and behaviour of local communities.

The proposed information management model furthermore provides those engaged in development activities with some checklists to monitor and evaluate three areas of information use and their flows during the development process. The three areas are as follows:

- Information related to the initiation and introduction of the development project; followed by
- the application of information regarding the management of the development process self (including strategic information and project management information); and
- a seventeen-activity checklist of community life to monitor the developing community.

This re-emphasizes the authors' point of departure that communities are not merely important sources of information, but are also users and evaluators of information during development processes.

To address the abovementioned research question, the three information areas that represent the cyclic flow of information during development processes are identified and discussed, followed by a description of the facilitation processes, which is seen as the vehicle for the management of the flow of the information generated in the three information areas, as well as the roles and actions of information managers to facilitate these processes.

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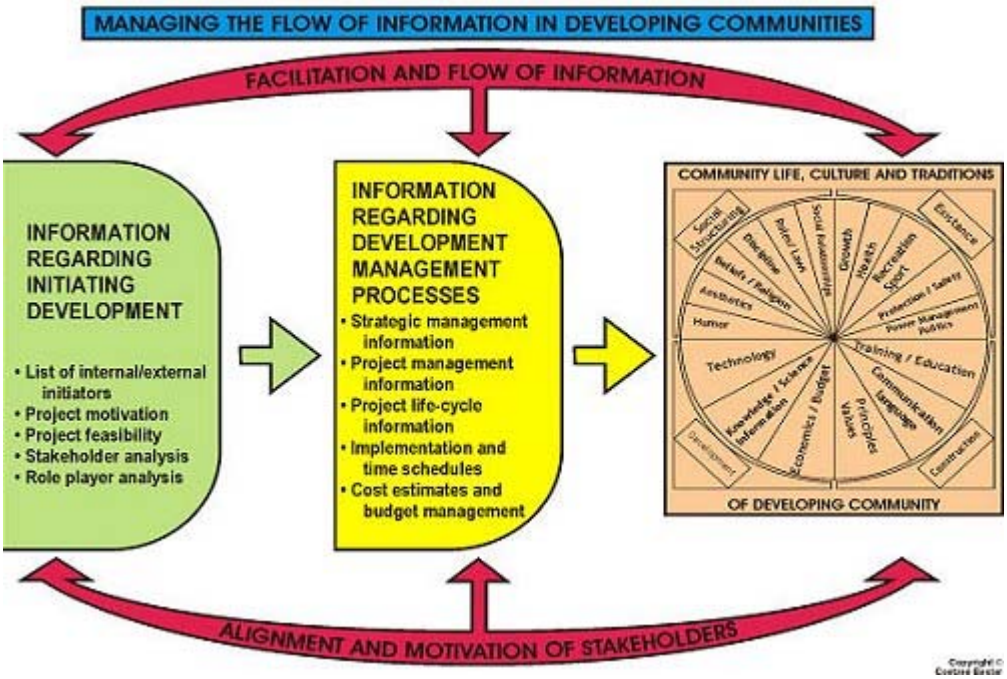
2 Different information areas

The proposed model is divided into three information areas, as it relates to the flow and use of information during development projects. Information area 1 deals with information regarding initiating development. Information area 2 focuses on information regarding the development management processes and information area 3 considers information regarding community life, culture and traditions of the developing community. For the composite model, see Figure 1. In the following paragraphs, the different information areas are discussed in more detail. The link to development is also illustrated.

2.1 Information area 1: Information regarding initiating development (motives, motivation, vision and mission)

In information area 1 of the model, a differentiation is made between external and internal initiators of development. External initiators include, for example, international development agencies that initiate development projects in developing communities. The vision and mission statements formulated by the external project initiators, as set out in the planning documents, typically reflect the intention, meaning and the purpose, aims and general objectives of a development project, whereas specific management objectives provide information on the project strategy and/or methodology.

Figure 1 Composite information management model for development projects



Bearing this in mind, it seems logical that the project's planning documents serve as the basis for the external and, to a lesser degree, for the internal initiators of development to enable the effective management of information pertaining to the development project.

Owing to a number of reasons, for example different interpretations of information and local customs and culture, it may well happen that there is a marked difference between the interpretation of the vision, mission and expectations of internal and the external initiators or stakeholders of a development project. Internal initiators or stakeholders, in other words the local leaders, view the project and its impact from the perspective of the target community, that is, from the inside out, while external initiators or stakeholders view it from the perspective of the development agency, that is, from the outside in (Van Dijk 2005:1−17). In the same context, Chatman (1996) refers to this as the difference between *insiders* and *outsiders*. Often, external initiators originate from more developed environments and from different information backgrounds. It follows that external initiators may have preconceived ideas (mental maps) about the community that is the object of development, its problems and its ability to solve them, which might be based on prior experience in other development contexts. Internal initiators are from the community and have intimate knowledge and understanding of the community's background which, in many cases, differs from that of the external initiators (Weigel and Waldburger 2004:162; Van Dijk 2005).

Based on practical experience and the literature (Van Dijk 2005; Greig *et al.* 2007; Burke 2001), the authors suggest, therefore, that given the differences in stakeholders' motives, both overt and covert, it might be sensible to conduct feasibility studies to test the acceptability of the objectives and methods of the intended project with the local community prior to its commencement. When it is found that there exist essential differences between the views of external and internal stakeholders, these must be taken into account for, in themselves, the results of such studies will not suffice as indicators of project success (Burke 2001:40). In line with Lievrouw and Farb (2003), the authors are of the opinion that a common understanding between the different stakeholders needs to be in place to ensure some measure of success in development projects.

2.2 Information area 2: Information regarding development management processes (project methodology information)

Central to any development project is not only the identification of action plans but also the actual implementation and evaluation thereof. The Africa Development Bank refers to this as 'results-based management' (African Development Bank Group 2007). The internationally renowned *Association of Volunteers in International Service*, which is involved in many development projects, formulates it as follows: 'At the heart of project implementation is a human relationship between staff or volunteers and beneficiaries, rather than statistics of project impact or reach' (AVIS 2007). The second information area of the model focuses therefore on successful development project implementation rather than on the mere rationalization of the objectives or motives for the project. Central to this information area is the management of project methodology information, that is, the information related to the planning, organizing and control mechanisms required for the successful conclusion of a project. The information collected from information area 1 of the model (motives, motivation, vision and mission) forms the basis for the implementation strategy.

To identify the options and alternatives that are available to the project manager, the project's viability and its strategy are further informed by an analysis of the project environment based on the information gathered during information area 1 of the model, in other words, collecting and analysing information from the local community and integrating it into the aims and objectives of the project. This can be expected to result in relevant planning, organizing and control mechanisms. Since budgetary information is vital management information, this is included as an integral element of all other measurable sets of information.

A primary value of this second information area is that it can serve as a set of indicators against which internal and external stakeholders can assess quality, mutual consent and progress continuously, thereby ensuring the credibility of the development project.

The rationale for the inclusion of information regarding development management processes lies in the contribution it makes to both the management of project information and the enhancement of project credibility. In discussions with African leaders at local government level during the SADC workshops (Ajulu and Bester 2005), it transpired that when development projects are announced by international organizations or national leaders, the response of community leaders is often one of ambiguity and distrust, particularly when, at the same time, detailed implementation and management plans are not available. This confirms similar findings by Ba (2006) and FARM-Africa (2007). FARM-Africa is an international non-governmental organization that aims to reduce poverty in eastern and southern Africa and refers to its development projects as *participatory management projects* (FARM-Africa 2007). FARM-Africa made it very clear that local communities have to be involved at all levels of development projects. Therefore, the management of the implementation phase of a project must be guided, measured and evaluated on the basis of management information that is available to and shared with the target community from the onset.

Information managers can use the information generated in information area 2 of the model as a set of guiding and management indicators to monitor progress and to evaluate the probability of a successful conclusion of the project. It also assists project management teams in the creation of a checklist as a tool to monitor and evaluate the project to ascertain whether it complies with agreed-upon motives, objectives, time schedules and budget allocations.

2.3 Information area 3: Information on community life, culture and traditions of the developing community

During its life span, a development project can be likened to a temporary organization where

various groupings of stakeholders perform different 'organizational' roles. All stakeholders, both external and internal, generate and use information, and contribute to the formulation and realization of the vision, mission, goals and objectives of the project. Since the community that is targeted for development is seen as the main beneficiary of the development project, community members, in particular, must be regarded as important stakeholders (Norris 2001).

The target community, although expected to benefit most from the development project, also stands to lose the most. A development project may bring about 'progress' and provide community members with new skills and opportunities for growth. It may also, however, cause the community to sacrifice elements of its traditional ways of living, views of life and humanity, beliefs of what is right and wrong, etc. Eventually, the 'success' of the development project, that is, whether it brought joy or unhappiness to the community, will not be determined by the project managers but by the targeted community, and the community will decide whether or not the sacrifices were worth the benefits.

At the heart of information area 3 is the assumption that societies do not function in discrete categorized areas, but use strategies and integrated activities to adapt to and manage their environments so as to maximally satisfy their fundamental human needs (Burton 1990; Max Neeff 1991). Information area 3 centres on the information-related needs of all role players in the project and the activities necessary to satisfy these needs. The focus is furthermore on the process of acquisition of new information and the active realization of what this new information means to the community, and how it relates to the prevailing socio-cultural knowledge-base (Muriithi and Crawford 2003).

Founded on the notion that individuals, groups and institutions exist on four levels of needs, which are thought not to be hierarchical and linear (Wahba and Bridwell 1976; Max-Neeff 1991), this part of the model assists stakeholders to be part of a developmental cycle moving from level to level: from *existence* to *construction* to *development* to *social structuring,* and again *to existence,* whereupon the cycle recommences. These four levels comprise 17 critical socio-cultural variables that typically guide community activities, affect new developments and have a mutual influence on one another. These levels and variables must be managed as a part of community development projects. Information area 3 serves as a tool for experiential learning and awareness. It creates ways of experiencing new (i.e. external) information while it raises awareness of the value and meaning of existing information, and the relation between the two. External as well as internal stakeholders will need to be able to assimilate the new with the current information to create *new* meaning that can be useful in support of the development project.

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3 Roles and actions for information managers: Facilitating the development process

The three information areas described in the previous paragraphs provide a framework to understand and structure the flow of information during development projects. Following from this, the question arises: How should the information identified within the three areas be managed? This can be referred to as the facilitation processes that aim to align and motivate both internal and external stakeholders and are, in a sense, the vehicle for the management of the information generated in the information areas. Without these processes, there cannot be any effective management of the information flow related to the development process. If the flow of information between the three different areas is not managed in an effective manner, it can create an environment of distrust or misunderstanding that can seriously hamper the implementation of the project plans.

3.1 Creating an information community

In this part of the article, the focus is on the interaction and exchange of information between the different stakeholders. We refer to this as the development of an *information community* that evolves around the sharing of information to enable not only mutual understanding, but also ensure the success of the project. Implicit in this understanding is the notion that an information community refers to an environment where groups of people are aware of the importance of information and where they interact as a team to access information, which enables them to fulfil their needs, thereby facilitating their development (Ajulu and Bester 2005).

In development projects, project management teams and, in particular, information managers frequently have the task to create an information community comprising the developing (target) community and the project team. The main focus will be on the effective addressing of the information needs of all the stakeholders. For this to happen optimally, an active information flow between the project team and the developing community is necessary. Developing a successful information community depends on a number of factors. These are:

- *Awareness of the need for information:* Information is of no value if its usefulness is not realized. Therefore, it is imperative that the developing community understands the relationship between its need for information and the achievement of specific goals, such as the information needed to solve a problem, to survive or develop, or to be educated. Olorunda (2004) correctly argues that no development can take place without addressing the information needs of people. The developing community must, therefore, identify its need for information related to the development project. This must be agreed upon and it must be expressed (Van Dijk 2005; Ajulu and Bester 2005).
- *Availability of information sources:* Generally, information can be sourced in a number of accessible formats. Unless information sources are available to and accessed by the developing community, they are of no use (Britz, Coetzee andBester2006). We suggest, therefore, that the term 'availability' of information sources be redefined to mean not only that the source exists and is generally available, but also that specific groups can 'avail themselves' of it, that is, can make use of it. Local radio and television are information sources, for instance, that are available to most groups. Information on the Internet, although 'out there', is not necessarily available to developing communities. High cost, dominance of English as the medium, lack of access skills, lack of relevant content for a development context, lack or technological support and a lack of access to electricity are just some of the barriers for disadvantaged communities to avail themselves of information that is available on the Internet (Chen and Wellman 2004).
- *Access to information sources:* The methods used by developing communities to access, process and use information vary and do not only reflect the level of education of members of the community, but also their cultural attitudes. Literate community members can access text-based sources of information to find the information they need. It is also important to distinguish between access and accessibility of information. A person might have access to a book but, if the language is foreign and not understandable, there is no accessibility to the content (Britz 2004). Illiterate community members are dependent on word-of-mouth information – the oral tradition – and, by extension, on audio and visual communication media such as (local) radio and television. When the mass communication media use local languages, this makes the information available and accessible. Approximately three quarters of the world's Internet Websites are in the English language (World Economic Forum 2002), which makes the information contained on the Internet much less accessible, even if the Internet is available. In this regard, it must be mentioned that awareness of the need to

make information more accessible to developing communities is growing (Van Dijk 2005:1−17). Therefore, the Local Language Speech Technology Initiative, a collaborative effort to develop an open-source toolset for the effective development of a text-to-speech (TTS) system was instituted (Meraka Institute 2003). This, however, is a rare attempt and, by implication, a community's ability to avail itself of electronic information sources to access the information, to select useful information and match the information to the community's needs is limited.

- *Infrastructural influences on the availability of information:* The extent to which developing communities can develop towards the 'ideal' of an information community, in other words to allow the successful exchange of internal and external information, depends largely on the communities' ability to apply and integrate their customs and traditions with local industrial capabilities and with modern information and communication technologies such as the Internet and computers (Weigel 2004). When assessing the state of developing information communities, the following environmental factors will influence the communities' ability to avail themselves of information: distance to the information source, transport cost, availability of electricity and telephone connections, time, internal motivation, level of education, and finances (Van Dijk 2005; Coertze and Coertze 1996).

The main rationale for information management is the formation of an aligned information community in which the internal and external project goals, processes and procedures are shared as much as possible. One of the pivotal tasks of information managers who are involved in project management is to facilitate an information flow so that it addresses, from an information needs perspective, both the community's needs for development and the external development goals of the project. Furthermore, it is important that these information managers must be aware of the existing gaps in the awareness of, and availability and access to the needed information, and the possible barriers to free information flow. They must inform themselves about existing credible, available, accessible and usable sources of information in the community and be knowledgeable about the common methods of communication, such as oral communication through community leaders, newspapers and electronic communication. Where needed, they should design strategies for managing information within the constraints and opportunities identified. Information managers could, for instance, begin the communication process at the level of existing, indigenous knowledge that resides within the local community. Gradually the 'foreign' information can be introduced, and it can also be illustrated how this new external information might benefit the community. In this way mutual trust can be built and certain community members may be identified to introduce the external/foreign information into the community on the information manager's behalf, since it is more likely that this will be accepted, particularly if it entails a departure from a traditional practice (Carbo 2007). If information managers can guide the community towards discovering or uncovering the new information and put it into use, the possibility that the community will accept this new information might be reinforced.

The pertinent questions that information managers must answer are:

- Is there a lack of information relating to the development project among the community in terms of content and format?
- What information is available, accessible and usable, and is the community aware of its need for this information?
- How can the community receive usable, credible and relevant information about the project while keeping in mind the content, sources and format needed to relay the required information?

3.2 Categories of information and consequences for information management

Human survival and development is inextricably linked to both individual and group knowledge. Knowledge is not only crucial to preserve and maintain what is valued, but is just as important for change. Knowledge is not, however, neutral. The roots of knowledge reside in a particular culture and reflect a particular world view, a mental map (Lor and Britz 2005). In developing communities, indigenous knowledge plays a pivotal role that needs to be taken into account in any development project. It is constructed over time, with one generation sharing its norms and ideals with the next. In contrast, the information that is imported into the community by development workers is largely foreign and relatively recent (Chatman 1996). At times this imported information is imposed upon the community, at times it may be borrowed by choice and, if successful, it may be integrated into indigenous knowledge as an integral part of community development (Peoples and Baily 2000). Therefore, it seems logical to assume that communities might reject, distrust or undermine the introduction of new ideas or information if this is seen as a threat to the continued existence of the community's culture, religion, language and way of living. It can be expected that once the community considers the new information relevant and contextually acceptable, it will more readily engage with the integration process. It is imperative that project leaders, including the information managers, understand this and manage both indigenous and foreign knowledge in ways that promote and enhance the development process.

Central to the successful management of information during development projects lies the active realization of the status and application of various information categories that can be found within a developing community (Ajulu and Bester 2005; Norris 2001). These information categories are:

- *Original information*. By original information is meant a totally new way of thinking about an issue, a theory, or a strategy. As such, it can be regarded as original.
- *Potential information.* This category of information is existing information that might be used, but is not done so at present. This might be due to a variety of reasons such as the fact that the information is unavailable, or that the true value thereof is not yet discovered.
- *Active information*. This is information that is recognized and interacted with, leading to knowledge creation that is used for decision making and actions.
- *Passive information.* Passive information is available and 'out there' but is not used in the 'here and now'. It differs from potential information in the sense that this information has been recognized and interacted with in the past. In other words, it has been used, but is currently not applied or put to use. Passive information is however available when needed.
- *Interpreted information.* This category of information has been analysed during use and can also be seen as value-added information within a specific context.
- *Existing information*. By existing information is meant the knowledge base of an individual or group of people. It can therefore be seen as collective knowledge that is used to interpret and integrate new information. It can furthermore be categorized as open and public information.
- *New information.* This category of informationis new content that is integrated into the existing body of knowledge of individuals or a community. As such, it is build upon existing information and is gradually integrated into the decision-making processes.

Information managers must understand the differences between these categories of information during development projects and also ensure that the background knowledge and information from the community form part of the basis of all project information. Research, that is, feasibility studies, attitudinal profiles and situation analyses, contributes to the information manager's understanding of the community's knowledge or lack of knowledge about the intended development project. New challenges may require new information that the community might not be aware of.

The project team is not always aware of the pivotal role that a community's passive information can play in decisions they are making regarding development projects. While it might be latent, it can play a decisive role in the behaviour and decisions of the community. This is particularly true if the information was validated or endorsed in the past by community leaders. Passive information is not always communicated to outsiders and might be withheld from the project team. This can be done either consciously or subconsciously. If information managers are not aware of the existence of passive information or if it is mismanaged when known, it can contribute towards distrust and ethical problems jeopardizing the success of the project.

Motivation is of crucial importance for the sustainability of development projects. Motivation is more likely to be maintained if applicable information is freely available throughout the project, and is credible. Experience gained at workshops with initiators and facilitators in government and community contexts has shown that information sharing is one of the most important elements to motivate communities and to build trust and enhance their sustained acceptance of and commitment to development projects (Ajulu and Bester 2005).

Based on their knowledge of the developing community, information managers, who are involved in project management, should ensure that they:

- Are aware of the ability of the local community to correctly interpret new information
- Make the needed information accessible through appropriate and usable formats
- Monitor, interpret and address the community's changing needs and feelings towards the projects, so that progress can be made in terms of the objectives of the project
- Make available to the community new information needed to fully comprehend the project objectives so that it can become integral to the community's existing knowledge of the development project
- Understand the reasons, if any, for a community's resistance towards the project and to find ways of addressing these issues.

3.3 Facilitating information flows

Benkler (2006:354) argues that development depends on the transfer of information and knowledge from the advanced economies to the developing economies. It is important to understand how this flow of information and knowledge should be facilitated. Based on the guidelines from Norris (2001) and our own experiences, it seems appropriate that, when project managers enter a developing community, their first priority is to determine whether the environment of the intended development project is conducive for sustainable development. Once this has positively been established and the project has commenced, the project manager must observe its potential impact on the existence and needs of the targeted community. To do this well, the proposed model encourages an awareness of different characteristics, needs and existential elements of developing communities. With the motivation and commitment depending to a large extent on the provision of timely, credible and usable information, facilitation processes depend on the early compilation of a *holistic information map* for the development project. The information map reflects the three information areas discussed earlier. It is then possible, based on the information map, to facilitate the information flow between the developing community and the project team. The facilitation process should focus on the following:

- *Information flow based on information sourced from the community.* This will cover information gained from the following questions: Who is the community? Who are the most important role players? What are the strengths and weaknesses of the community and its members? What are the community's needs for development? How does the community regard the external stakeholders, as a threat or an opportunity?

- *Information flow based on information sourced from the external development agency.* This information can be obtained from the following questions: What are the development needs that are identified by the external stakeholders? Do these converge with the community's development needs? It is furthermore important that this external information be 'translated' in terms of benefits and opportunities for the developing community. It is important to keep in mind the credibility of the external initiators, the processes as well as the envisaged outcomes of the project.
- *Information flow to create alignment and commitment of the developing community.* The community must understand the objectives of a community development project so that it can agree and align itself with the project objectives (Norris 2001). Since it is not always possible to consult with the entire community on new projects, key role-players in the community need to be identified and invited to be actively involved in the project. The following questions will assist in attaining alignment:
    - Did the role-players identify all possibilities of the project?
    - What processes will be used to achieve maximum alignment?
    - Are the processes the most practical?
    - Were the community's needs taken into consideration?

Answers to the above questions will give important input to project managers so that agreement can be reached on the highest priorities for the project managers and the community. Once the project objectives have been managed as primary objectives, the secondary objectives should include answers to this question: What is the most desired, and practical way, place and method to implement the adjusted project objectives?

During this phase the information manager should be aware of any relevant local or indigenous knowledge that may exist in the community, which may impact on the project. The flow of the local or indigenous information back to the project managers and, possibly, the project initiators, with the assistance of information managers, might create a new information base that could be used to inform the project team. Information managers should therefore from time to time be prepared to resort to the methodology of change management. Some pertinent questions in this respect are:

- What does the community need to know regarding the envisaged project?
- How can new information be integrated into existing local structures of information?
- How can the community's traditions, beliefs, norms and values be accommodated without compromising the aims and objectives of the project?
- How can the community's traditions, beliefs, norms and values be accommodated in such a way that information is communicated, used and applied by the information manager?
- How can differences between existing information and new/foreign information be reconciled? Can the new information be interpreted in terms of the existing knowledge? Does it need more background knowledge? Does it clash with existing beliefs?

Based on the answers to the above questions, it might be necessary to include change management processes into information and project management.

Given that a project could easily come to a halt because of the lack of community involvement, it cannot be stressed enough that project and information managers must ensure that information about the project, and the internal and external needs, is freely and readily available. To do so, the following processes are suggested:

- Facilitation of the needs analysis and needs prioritization of the developing community within the holistic approach

- Developing and maintaining networks as information instruments in the process of development.

3.4 Facilitation of a needs analysis and the prioritization of needs

How can the needs of the developing community be prioritized and addressed? We take as a starting point that all communities are engaged in a range of distinct interrelated cultural activities such as health, education, religion, politics and economics that are often interrelated (see Figure 1). The holistic development of the community will only be possible if these activities are integrated into a single, holistic approach. Crucial to the success of such an approach is the information managers' ability to:

- See the expressed needs from the point of view of community members
- Manipulate specific needs in such a way that different aspects are balanced
- Negotiate the feasibility of addressing the community's expressed needs by painting the whole picture for them
- Prioritize different needs in cooperation with the community.

Information managers should, moreover, be aware of different priorities within the developing community and understand the differences between the community's 'wants' and the community's 'needs'. Even though the community might initially disagree, the information manager must motivate and assist the community to prioritize its information needs in terms of the developmental goals as jointly formulated by the information manager and the community at the onset of the project.

In addition, information managers should be sensitive to information that is most likely to affect sustainability, namely:

- *Politics and governance:* Knowledge and sensitivity about the political climate in the community, attitudes towards and the status of the project; the extent of government involvement in the project and its control over the project; and the legal and governmental framework in which the development will take place, including the Constitution. This sensitivity must direct itself to all sources of power in the community as well as all stakeholders who are involved in managing this power. Without this kind of sensitivity, the project might fail simply because of clashing political ideologies.
- *Culture*: There should be consultations with community leaders, religious groups and opposing ethnic groups prior to the commencement of the project. Such consultations can be seen as an expression of 'respect' for the traditions and customs of the targeted community. If this is not taken seriously, certain decisions or project activities might offend the community's cultural sensibilities and, consequently, the community might oppose the project.
- *Availability of services and resources*: It is important to do an analysis of the resources and services required for the successful management of the project to inform the strategic and management plan for the development project. If resources and services such as water, roads, electricity and housing are needed but lacking, they will have to be provided prior to the commencement of the project. This could lead to delays, to financial losses, or to the cancellation of the project. The information manager must ensure that detailed and relevant information is available when needed.
- *Economy*: Economic information should also be provided to the communities on resources, finances or budgets and the constraints and possible benefits to the community. The information manager must ensure that information on income and expenditure and the economic benefits are regularly and clearly shared, not only to prevent deficits but also to keep external and internal stakeholders motivated and

focused. This will also help to build trust.

- *Natural environment*: The collecting and presenting of up-to-date information on the natural environment should also be considered during the planning and operational phases of the project. This is needed to make an appropriate decision on the most suitable place for a development project.
- *Levels of human development and change*: The gathering of information on the developmental levels of communities is also crucial for the identification of appropriate project strategies, processes and activities, given that literacy, educational and skills levels have an explicit effect on the viability of a project and on the community members' understanding of the purpose and possible effects of the project on their lives. One of the author's experiences in Africa has shown that the less literate a community is, the more conservative and rigid it tends to be, the less likely it is to welcome change and the longer it will take to convince the community of the benefits of change.

3.5 Community consultation as a source of information in development projects

As has been argued, it is important to consult the developing community when one intends to launch a development project. This is a complex matter and covers many kinds of information that needs to be gathered. These different kinds of information are presented in information area 3 (Figure 1). It provides for the accommodation of four levels (the quadrants) comprising 17 interrelated components representing specific socio-cultural actions with clustered activities and community (or appointed) leaders to guide the community on related matters. Consulting the community in matters of importance implies that one needs to take note of each level and its components, adopt a balanced approach in accommodating the cultural components and base community consultation processes on these components.

In the consultation process, it is important that project managers should strive to include all community leaders representing the different socio-cultural and political spheres. Moreover, the project management team should create strategies to keep all community stakeholders fully informed − of good and bad news − and establish communication channels between the community leadership and the project management team, thus providing opportunities to discuss the positive and negative aspects of the project. This might create lasting credibility for the project, build trust and may assist in curbing the influence of local politics.

The following checklist for community consultation is suggested:

- An description of the envisaged development project
- Objectives for the development project
- Motives and motivation for the project
- Strategy and management plan for the project
- Financial benefits or implications for the project
- Possible information on local knowledge regarding the project
- Possible indigenous knowledge that could influence the project.

The processes used by an information manager to consult the community might include sessions that aim at:

- Informing community leaders of the background to the project and providing them with basic information in this regard
- Answering possible questions that the community has and creating opportunities for leaders to report back to their constituencies or interest groups
- Guiding community leaders towards the project objectives and informing them of

project progress to experience movement and success.

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4 Conclusion

In conclusion, the authors argue that information and access to information are crucial in development projects and can therefore be seen as a critical success factor in any development project. Based on the premises, it is argued that there should be a holistic, multi-disciplinary and integrated approach to the management of information in development projects. As such, an integrated model is presented that can be used by project management teams because it provides greater insight into the information needs and the information flow in developing communities.

The successful implementation of this model will not only benefit development organizations but also local communities. The reason being that it does not only take into account local customs and culture but also takes the information needs and behaviour of local communities as a starting point.

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