NAPIER: PLANNING FOR AND MONITORING OUTCOMES IN ACTION-
RESEARCH PROJECTS

Nyangaga J\textsuperscript{1}, Janice Proud\textsuperscript{2}, Margaret Mulaa\textsuperscript{2}, Jolly Kabirizi\textsuperscript{3} and Beatrice Pallangyo\textsuperscript{4}

\textsuperscript{1}International Livestock Research Institute (ILRI), P O Box 30709, Nairobi, Kenya
\textsuperscript{2}Kenya Agricultural Research Institute, PO Box 450-30200, Kitale, Kenya
\textsuperscript{3}National Livestock Resources Research Institute (NaLIRRI), P.O. Box 96, Tororo, Uganda
\textsuperscript{4}National Biological Control Programme (NBCP), PO Box 30031, Kibaha, Tanzania

ABSTRACT

This is a case study analysis on how Outcome Mapping (OM) was applied in Kenya, Tanzania and Uganda by researchers seeking solutions to Napier grass Smut and Stunt diseases. Impacts of R&D projects are not easily demonstrated within the duration of a project. Appropriate relationships with relevant stakeholders should elicit outcomes indicating progression towards impacts. OM provides frameworks for planning and monitoring outcomes. Through visits for interviews, group discussions and periodic review meetings, frameworks were developed and populated with information. By the end of the project, outcomes related with immediate response to disseminated information were observed, including adoption of mitigation measures, allocation of funds for further research and research interest in the diseases. Future OM application should include elaboration of the vision statements and what this entails for wider range of partners. Findings will aid R&D managers in designing, implementing and monitoring processes for effective progression.

Key words: outcome mapping, project planning, East Africa, Napier grass diseases
INTRODUCTION

Dairy farming is a sector on which the East Africa region’s rural communities and the livelihoods of millions of poor people depend for economic wellbeing and as a way out of poverty. Napier grass forms a large component of the forage supplying the region’s dairy herd (Bayer, 1990). The primary goal of the Napier grass diseases project was to seek solutions to the disease challenge increasingly affecting large portions of plots in various parts of the region (KARI, 2004). Researchers worked with farmers, extension agencies and other stakeholders to find solutions to the diseases through a project funded by Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). The project’s main aim was to assess genetic diversity to identify sources of resistance to smut and stunt in Napier grass in East Africa and make information available to users.

The researchers used the Outcome Mapping approach (Earl, et al 2001) to support and monitor societal responses to emerging information that would be used to underpin mitigation against the diseases, while keeping track with the progress being achieved in during the project’s three-year lifetime. Outcome mapping is an M & E approach that focuses on the social changes an initiative intends to bring about through key stakeholders (boundary partners), by clarifying the changes expected and providing requisite support. Outcome Mapping (OM) has been used by a wide range of program implementers in Africa, Latin America and Asia to help researchers consider how their outputs will be used, by whom and for what purposes (Jones, 2006). This report is a case study analysis on how OM was applied by the research team and how this impacted on the societal changes planned for and achieved.
METHODOLOGY

At the start of the project country team leaders were introduced to the OM concepts. Thereafter visits for interviews, focus group discussions and during periodic review meetings, the OM frameworks were developed and populated with emerging information, which entailed how the process was being applied and the resulting outcomes recorded.

The project targeted three countries – Kenya, Tanzania and Uganda. This three-site comparison is confined to the teams’ visions, mission, selected boundary partners and their outcome challenges, the research teams’ strategies to support these outcomes, and indicators of progress expected and observed (progress markers). There is a section on organizational practices and associated learning and growth. The other key elements of OM application – journalizing the method’s implementation and progress were not developed and used.

RESULTS – outcome challenges, strategies and progress made

Since the intention of information-sharing was to elicit transformation in knowledge, attitudes and practices that would minimize the diseases’ impacts, the OM framework developed the project’s vision (or goal) for each of the countries, the teams’ mission and (from a brainstormed list of stakeholders) the boundary partners they would work with or support to achieve the vision.

The three country teams identified a similar set of boundary partners – farmers, policy-makers, extension agents (or similar function agencies), and researchers – for whom they developed outcome challenges and the strategies that could be applied to support these challenges and progress indicators. These are shown in Table 1.

Table 1. Outcome challenges, strategies applied and outcomes achieved with selected boundary partners in project sites
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<th>Boundary Partner</th>
<th>Outcome challenges, strategies applied and outcomes achieved (progress made)</th>
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| Farmers and farmer groups | **Outcome challenge:** Farmers adopting resistant materials and disease management practices, disseminating this information and disease-tolerant material to other farmers and researchers for tests and trials. Farmers participating in monitoring and reporting the extent of disease incidence in their farms and communities.  

**Strategies applied:** The Project Team met and interacted with farmers. Forums for developing their information needs were organized in each of the countries. Information materials have been developed and distributed (MAFSC/ILRI/ASARECA, 2007).  

**Outcomes achieved:** Farmers in Uganda are aware of the problem and applying promoted mitigation practices. They have stepped up demands for alternatives to Napier. Control measures increased by over 60%, reducing the disease incidences by 20 – 40% and improved fodder yield by 25% (Kabirizi, 2009; Kabirizi, et al, 2010). In Kenya farmers have used public forums to raise awareness among themselves. There is decreased disease incidences and a subsequent increase in milk production (by 20%) (KARI, 2008). In Kakamega farmers are participating in evaluation of management strategies and the ranking of tolerant varieties (Mulaa, et al., 2009). In Tanzania farmers are part of routine farm inspection to identify and remove diseased plants. More than 90% of farmers have adopted the recommended management practices leading to a decline of disease incidences in affected areas (Pallangyo, 2009). |
| Extension and media agents | **Outcome challenge:** Extension agents are publicizing the problem and the project’s intentions at regional and community levels. They organize forums where the diseases are discussed and solutions debated. The agents support communities in setting up systems of continued monitoring and collections of tolerant materials for screening, multiplication and community-based bulking and distribution.  

**Strategies applied:** In the affected areas the extension agents were provided information on diseases and management strategies. The research teams also shared information through visits and planning and review meetings.  

**Outcomes achieved:** In Uganda extension agents (NAADS, 2008)) and media agencies routinely sensitize farmers on stunt disease control methods. In Kenya extension agents in surveyed districts attended all their meetings and have used other forums to share information from stakeholders. They give continuous feedback to research teams in KARI. They participate in mobile clinics advisory services (Boa, et al, 2006). In Tanzania Ward agricultural officers are part of a surveillance system where regular farms visits ensure that infected plants are uprooted. The media (newspapers, radio and TV) has been involved in communicating about the diseases. |
| Researchers and research agencies | **Outcome challenge:** Researchers give priority to Napier diseases challenge and undertake projects to analyze incidences, severity, and distribution. Researchers are collecting and developing tolerant or resistant varieties, screening and bulking clean and high-yielding Napier in disease free-sites. They are evaluating the effectiveness of disease mitigation management practices, economic impacts of the diseases and mitigation practices and sharing the information.  

**Strategies applied:** The Project teams shared information and the project’s progress through routine periodic meetings (monthly, annual, quarterly, etc.). Specific forums used were the country launching sessions where researchers had a chance to hear the project’s objectives and plans.  

**Outcomes achieved:** Researchers (external to the project) have participated in surveys and
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<td>information-sharing forums. They have taken part in the preparations of information material distributed to farmers and extension personnel. In affected areas, the researchers conducted surveys and workshops and presented project findings (Mulaa, et al, 2009; Kabirizi, 2009) and developed proposals to seek funds to boost or complement the project’s work. During the project’s presentation in the Striga workshop in Tanzania (Maeda, et al, 2009) researchers agreed to consider the Napier diseases as threats to the Push-Pull Habitat Management technology.</td>
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| Policy-makers and regulatory agents | **Outcome challenge:** Policy makers increase government support to policies, resources and structures that would enforce containment of the diseases.  

**Strategies applied:** To researchers involved high-level government representatives in the formal launching events. The Teams have continuously facilitated government representatives’ participation in related forums where they could appreciate the problem and pass the information on to other stakeholders. In Uganda policy briefs were developed by a researcher and presented at a stakeholder meeting.  

**Outcomes achieved:** Government extension departments in affected areas now urge their staff to include Napier disease management in trainings and meetings. In Kenya KARI provided funds through KAPP to support the research team to evaluate other management interventions. The Tanzanian Government allocated funds for the Push Pull Habitat Management technology in Mkinga and Muheza district under DADPs, and Tarime district under DASIP. The Plant Quarantine and Phytosanitary offices deployed at border posts have been alerted about possible movement of affected plants, while the government supports (funds) research teams’ technical meetings and monthly meetings held in each district to share the project’s progress. |

In the Outcome mapping framework, transformation of the research teams is monitored as part of the program’s outcome. This is essentially the learning and change or growth transformation by the implementing team based on information coming via organizational practices. In summary, the country teams learned to closely heed farmers’ information needs but also appreciate ways in which they (the farmers) were managing the diseases. They also enhanced their relationship with other stakeholders when developing solutions to serve expressed needs and package resulting products in appropriate formats and channels.
RESULTS AND DISCUSSION

The program’s goal – as stated in the project logframe (*Diversity of Napier grass contributes to enhanced productivity and sustainability of small holder livestock system*) remained the same throughout the project. This was used as the project’s vision and none of the team developed a comprehensive OM-type goal with details on targeted changes in cultural or institutional behaviours. Needs articulated by stakeholders during the initial introductory and planning workshops could have been used to develop the vision and mission. Teams should not undermine the value of detailed statements, since it is in such content that one is able to identify boundary partners and the transformation sought more distinctly.

The teams had a similar set of boundary partners to work with – mainly farmers, extension agents, researchers and policy-development agents. In visioning processes implementing teams should also use emerging details to identifying who or what is targeted for transformation and how. The selection of boundary partners requires a careful analysis to demonstrate who exactly the project team wants to work with and what kind of change demonstrates that the vision targeted. For example, there was no mention of specific community CBOs (especially farming groups), local government offices, and private sector actors who play key roles in supporting community agriculture. It is possible that the research teams worked with partners that they routinely interact with, rather than those that could have made effective progression towards the project goal. Given the listed boundary partners and indicators of progress expressed in various meetings, the following outcome challenges (or ideal outcomes) were missing or un-achieved:
- **Farmers** constantly seeking resistant Napier types, testing their susceptibility, *bulking and sharing* tolerant varieties, *monitoring and regulating of forage movements* among themselves, lobbying policy-makers and resource providers for support.

- **Extension agents** supporting the search and testing of tolerant varieties, establishing institutionalized country-wide surveillance in farms, and collecting data on disease severity, distribution and effects of adopting mitigation measures on forage productivity.

- **Researchers** developing programs to search and test for disease resistance, analyzing the economic impacts of the diseases and proposed management practices.

- **Policy-makers** increasing support (resources and regulation) for related.

Clearly these would have been ideal developments for the project. They were not included in the outcome challenges nor observed in any substantial level during the project period and they should be included in any continued implementation.

The country teams considered their main contribution limited to information sharing. This assumption fails to demonstrate different ways a project team can work with various actors using a range of approaches to support transformations necessary to realize such a target goal. The strategy matrix guide that appears in OM manuals was not fully exploited.

As for progress made it can be argued that in the absence of resistant materials for adoption by farmers and any drastic organizational changes, the most significant progress the project has made is increasing awareness of the diseases’ threat and mitigation practices to address the diseases where the project operated. Progress markers for these qualitative changes were
observed and noted as reported in the OM frameworks. The project did not arrange for extensive surveys to analyse the numbers of farmers (or the extent of such) planting resistant materials, adopting the mitigation practices and the effects of these practices on forage harvested. Such quantified information could have been collected by extension agents who routinely develop and share status reports on agriculture and livestock farming in their respective areas. Effort should be made by the project teams for extension agents include the status and effect of the diseases.

A monitoring and reporting system is mentioned by the Tanzanian team working with extension agents, this practice appears only confined to the project areas. This outcome could have been achieved nation-wide if the teams had interacted more effectively with policy-makers, local governing structures, and heads of Ministry departments. In Kenya the regulation agent KEPHIS has not been involved but have attended some field days and Agricultural demonstration fairs without translating to any institutional changes. This is an example of the need for the need to be more innovative with certain stakeholders if their support is required.

In Uganda Napier stunt disease already affects over 90% area of the country (Kabirizi, et al, 2010) and increasing awareness of its danger was relatively less important. Reports indicate that dairy farmers were instead demanding for alternatives to Napier grass. However, proof of this demand is weak in evidence documents procured – a classic case where it is easy to miss evidence for particular qualitative indicator of change if it is articulated in forums where there is little or no written recording of proceedings.
The country teams were relatively more successful with researchers than the other partners mentioned. Research colleagues supported project teams in implementing various activities, developing proposals to procure funds and implementing parallel research activities in line with the project goals. It is possible that these outcomes were easy to achieve given that the ease with which they interact and share information with these partners. However, one would question the extent to which the country teams are influencing other researchers, i.e. separating progress made by the project researchers from what the other researchers in the country are doing and progress being made with them.

The outcomes achieved at policy level seem rather inadequate. Funds allocated for further researcher were one-time responses which appear aimed only at specific areas. It is only in Uganda where there appears to be a regularized budgetary allocation, but even here there is little evidence of nation-wide and longer-term policy supported developments. A committee was established to address the program but, besides being the recipient of the funds allocated, there is little evidence of how far the committee had gone to carry out its objective. In Tanzania regulatory agencies have taken distinct steps to train border personnel on the Napier grass disease dangers, cross-border travelling as a possible source of disease in the country. This then demonstrates the inadequacy of strategies applied by the project teams to impact on policy.

And finally in regard to the teams learning and growth, the three country teams report similar lessons as a result of different organizational practices. Learning to be more cooperative or collaborative is mentioned being a result of two, three or more of the organizational practices. However, the teams do not adequately capture or document the transformation they underwent,
by concrete information documents or reports. For example it was not easy to demonstrate what was meant by ‘learning to pay greater attention to stakeholders needs’; this is a standard practice – even without OM. Just like the challenge of capturing progress markers realized, teams should arrange for the observation of such transformation and capturing of any evidence that demonstrates such change.

More work needs to be done to find out how teams apply OM in different contexts, how they manage similar or different gaps and the effect this has on OM as a planning, monitoring and evaluation approach.

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