

## REDUCING PITFALLS IN AGRICULTURAL DEVELOPMENT PROJECTS: A CASE FOR THE PARTICIPATORY PROJECT MANAGEMENT CYCLE (PPMC)

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### ABSTRACT

*The management of agricultural development projects is a factor that can contribute to their success or failure. In worst-case scenarios poorly managed projects seem to continue with a life of their own and without clear direction. In the cycle of agricultural development projects, including programmed extension, major pitfalls can occur if the necessary phases are ignored or incorrectly implemented. The argument is that these can be avoided if the Participatory Project Management Cycle (PPMC) is followed. While there are a number of methods available for trained agricultural extensionists these are not readily available for agricultural researchers who do not undergo such training but are often expected to carry out technology transfer. This is often done without the collaboration of trained extensionists. Subsequently, a method had to be developed using the basic project management knowledge that some agricultural researchers had obtained through experience and short courses. Two case studies are used to highlight what happens when the PPMC is followed or not. Case Study One is a project that was implemented to completion without following the Participatory Project Management Cycle. For the purpose of this study the PPMC was used during the ex-post evaluation to identify where and why major pitfalls occurred. Case Study Two concerns a project that was initiated using the PPMC but was temporarily suspended at the beginning of phase four of the cycle. This decision was based on the information obtained while following the PPMC and avoided the unnecessary use of scarce resources.*

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*The study concludes that when the PPMC is not used, the following concerns are raised:*

- *Are the issues, requirements and concerns used to conceptualise projects those of the farmers or those of other stakeholders?*
- *Do service providers and stakeholders understand the PPMC and have the necessary skills and capacity to implement participatory agricultural development projects?*
- *Are resources used efficiently if the PPMC is not followed?*

## **1. INTRODUCTION**

That the management of agricultural development projects is important to their success is unchallengeable. So great is the significance of management to the success of agricultural activities in southern Africa that the South African Society for Agricultural Extension convened a four day conference on this subject during May 2001. A number of obstacles were highlighted during the conference proceedings of which two stood out (1) the ineffective application of project management principles by managers and those tasked with project management/leadership, and (2) the lack of significant encouragement to participate shown towards those involved in projects. Our experiences as researchers from the social and natural sciences in the agricultural sector in Southern Africa suggests that many agricultural development projects are considered as linear journeys from point A to Z with very little consideration given to timing, duration, cost, impact and more importantly to those changes that might occur during the course of this journey which may affect these factors. Notably, scant attention has been paid to how projects achieve their intended goals and how this process unfolds (Hart, 2003). Today this has changed and in some circles it is recognised that projects undergo a series of phases from their conception to completion (Düvel, 1992). These phases are collectively termed the project management cycle (PMC) (Commission of the European Communities Evaluation Unit, 1993; Kagiso Trust, 1994). In agricultural extension these and similar phases are known collectively as Programmed Extension (PE) ((Düvel, 1992; Letsoalo, 2002) and Participatory Extension Approaches (PEA) (Hagmann, Chuma, Murwira & Connolly, 2000). Despite the various collective names, the phases can overlap, run parallel and even loop forward or

backward, depending on what transpires during each phase (Conyers and Hill, 1992 and Haggmann *et al*, 2000). The project cycle, irrespective of what name it goes by and the discipline that invokes it, offers a framework by which the project can be defined and put into operation in terms of its goal, objectives, activities, outputs and outcomes, and it also serves as a management tool for identifying and plotting the resources, costs and progress during the phases (Conyers and Hill, 1992).

Agricultural development projects in Africa have predominantly followed the input-output development model, which assumes that a country's economic, and social development can be externally induced (Donnelly-Roark, 1998). Projects based on these models identified beneficiaries who received various externally derived inputs that were expected to bring about development. However, such models have not achieved sustainable development. This is now considered to be achievable only if participation occurs and beneficiaries become participants and actors in their development (Burkey, 1993). To achieve participation, a common framework and platform is required upon which farmers, researchers and extensionists can interact. The participatory toolboxes such as Rapid Rural Appraisal (RRA), Participatory Rural appraisal (PRA), etc. can provide the platform. When these toolboxes and participatory principles are combined with the PMC it is possible that a suitable framework emerges for managing participatory development projects. Hart, Burgess, Beukes and Hart (2004) proposed a participatory project management cycle (PPMC) as a framework and platform for managing participatory projects. Their discussion included the theory behind such a tool and the management thereof. The current discussion looks at how this tool is able to function in practice and how it will benefit agricultural development, specifically applied research, but also extension where extensionists cannot access Programmed Extension, Participatory Extension or similar approaches. Two recent case studies are presented to illustrate that when the phases of the PPMC, or any other approach that involves the project management cycle and emphasises participation, are not followed then major pitfalls occur. However, when the phases are correctly followed these problems can be avoided. Avoidance of the pitfalls increases the likelihood of the success of the projects or at least, avoids unnecessary use of valuable and scarce resources.

## **2. WHY EXISTING EXTENSION APPROACHES WERE NOT USED**

In South Africa there are two adequate extension approaches available to extension officers, the Participatory Extension Approach (PEA) and Programmed Extension (PE), both are geared to situations in which extension collaborates with farmers. Both approaches are similar to the fundamental project management cycle and generally differ from it in terms of the level of detail in the activities that are carried out at each phase and their emphasis on extension related activities. PEA differs from PE and the fundamental project management cycle in that it places greater emphasis on the use of participatory tools and principles. While PE places some emphasis on the need for collaboration and consultation with farmer groups and individuals (Letsoalo, 2002) this is by no means explicit in the case of the basic project management cycle. In essence PE and PEA are improvements of the basic project management cycle that were developed to increase the effectiveness of extensionists and in some instances to move away from the constraints inherent in the Transfer of Technology (TOT) and Training and Visit (T&V) approaches (Hagmann *et al*, 2000). If these improved project management approaches exist in the agricultural development arena in South Africa the question arises as to why we felt it necessary to develop an alternative approach, the PPMC?

These approaches are not always easily accessible to all researchers or extensionists in South Africa:

1. Both these approaches were developed for extensionists, who are trained therein at Universities and other places of higher education while doing degrees and courses in extension or by means of informal courses facilitated by practitioners of a specific approach. However, agricultural researchers are not trained in these or similar approaches as part of their higher education. While this might be useful it is made difficult by the fact that agricultural researchers come from many disciplines and faculties, focusing on diverse career paths. They are thus not collectively required to attend such courses while undergoing higher education. When they are working, agricultural researchers are not encouraged to attend such courses as these explicitly emphasise extension rather than agricultural research,

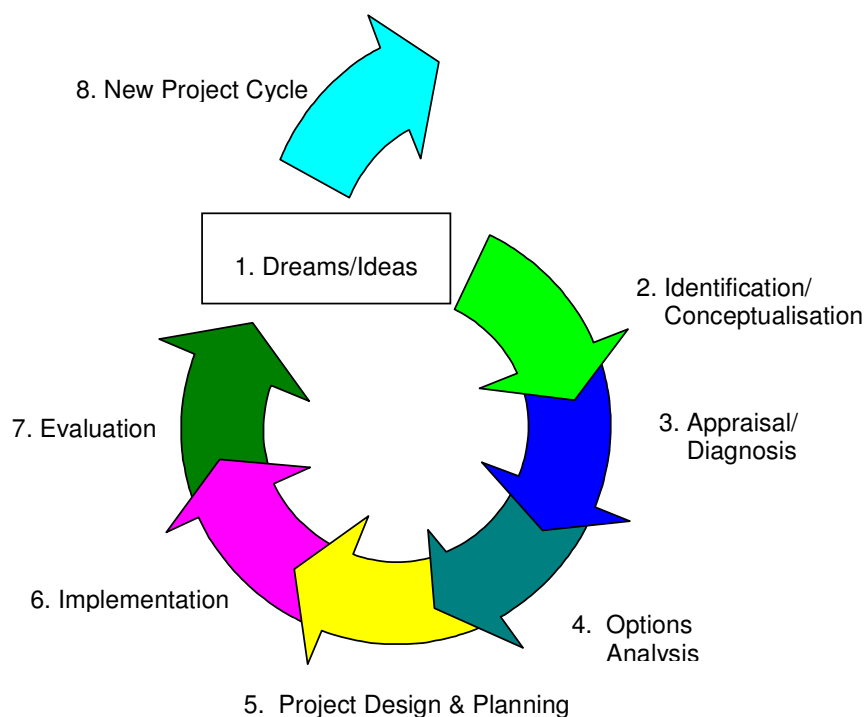
although research often has a strong implicit role in these approaches.

2. Even if researchers were encouraged to attend such courses this would be difficult for many, as most are presented in the northern provinces of South Africa, making it very costly for researchers and extensionists in the southern and eastern provinces to attend such training – the two areas in which the case studies were conducted.
3. Even when extensionists have undergone PE and PEA training they are often not available to work collaboratively with agricultural researchers, mainly due to structural and resource constraints, and therefore cannot disseminate this knowledge and associated skills to researchers.

Based on our experience with the Agricultural Research Council Sustainable Rural Livelihoods Programme (SRL), which was mandated in 1994 to conduct technology transfer with rural and urban smallholder farmers, and in particular our work with ARC Infruitec-Nietvoorbij researchers, we realised that it was necessary to develop a framework that could be easily grasped by the researchers working on SRL projects in collaboration with farmers. Very few of the researchers had neither any formal or experiential background in extension nor any framework with which to guide their interactions with smallholder farmers who practised diverse agricultural activities. Such a framework needed to be simple, but required the inclusion of participatory principles. Due to a lack of resources for further training the authors had to work with what agricultural researchers knew and develop this into a framework by which they could identify, plan, manage and evaluate agricultural projects, in conjunction with farmers, of which many involved on-farm research and the transfer of technology. Fortunately some of the researchers had been trained in or exposed to the basic project management principles and the Rapid and Participatory Rural Appraisal tools. While most had never used these techniques in practice this theoretical background was used to develop the simpler PPMC, rather than trying to obtain funding for training in PE and PEA.

### 3. THE PHASES OF THE PPMC:

In a recent discussion on the PPMC Hart *et al.* (2004) argued that development projects can be broken down into eight basic phases: Dreams and Ideas; Identification/Conceptualisation; Appraisal/Diagnosis; Options Analysis; Project Design and Planning; Implementation; Evaluation and the New Project Cycle. Figure 1 diagrammatically illustrates the phases of the PPMC. Detail regarding the actual activities and participatory tools that are relevant to each phase can be obtained from Hart *et al.* (2004).



**Figure 1: The Participatory Project Management Cycle**

### 4. CASE STUDIES

Two case studies are presented to illustrate how a project unfolds when (a) the PPMC or a similar project management cycle framework is not used, and (b) in contrast to when it is used as a management framework for project identification and implementation. Both case studies concern technology transfer projects that focus on the commercial production of agricultural crops. The first, involves a project that was implemented to “completion” without following the Participatory

Project Management Cycle. For the purpose of the current explanation the PPMC was used during the *ex-post* evaluation in order to place the various project activities of this example into the relevant phases. This allowed us to identify where and why problems occurred (Hart *et al.* 2004). The second case study concerns a project that was identified and initiated using the PPMC, but based on information obtained during this process it was temporarily suspended at the beginning of the fourth phase. This decision has avoided the unnecessary use of scarce resources. In both case studies the activities undertaken and the events that transpired as a result are indicated for each phase of the PPMC. The figures in parentheses next to the names of each phase indicate the time period in which these occurred.

#### **4.1 Case Study 1: Small-scale commercial production of Honey bush (*Cyclopia sp.*) in the Southern Cape**

##### *Phase 1: Dreams and ideas (1999)*

Following their limited experiences with a handful of large-scale farmers, researchers believed that the honey bush plant (*Cyclopia sp.*), which is used as a herbal infusion, could be grown as a commercial crop by smallholder farmers residing in suitable climatic areas of the Western Cape. Its cultivation and subsequent sale to nearby processors was seen as a means of improving the livelihoods of smallholder farmers in such areas. At this point researchers failed to consider the fundamental differences between the large-scale and smallholder farmers such as access to resources, addressing immediate needs, agricultural priorities, issues relating to food security, and willingness and ability to take risks.

##### *Phase 2: Project Identification/Conceptualisation (1999)*

After discussions with representatives of the Departments of Agriculture and Land Affairs in the Southern Cape a suitable group of smallholder farmers was identified for the purposes of establishing a demonstration plot project. The intention was to show farmers how certain varieties of honey bush are cultivated and to train them to cultivate honey bush and sell the produce. A farmer made his land available for the demonstration plot project and a few honey bush plants were planted. Unsuitable soil conditions and conflict within the

group of farmers involved in the project, resulted in the plants dying. The lack of soil sampling before planting prevented problems with the soil from being identified and participating farmers felt that they were working for the farmer who owned the land, but were getting nothing in return.

*Phase 3: Project Appraisal/Diagnosis (2000)*

A smaller group of farmers showed renewed interest after acquiring farmland through the land reform process. After soil and water analyses were done the decision was taken to plant another demonstration plot. Before planting commenced a participatory appraisal (PA) was initiated to find out exactly how the farmers wanted this project to develop. However, two weeks into the appraisal, and contrary to the recommendations of the appraisal facilitator, the project manager decided to establish the demonstration plot and plant honey bush. Similarly, the proposed economic viability study was not conducted before the project was implemented. The seedlings were planted on a hectare of farmland, owned by the same farmer whose land was used for the 1999 planting and the same rivalries arose amongst the farmers. As with the 1999 planting the goal of the project remained the improvement of the socio-economic wellbeing of the farmers by means of the commercial sale of cultivated honey bush. A multi-disciplinary project team was identified to work towards this goal.

*Phase 4: Options Analysis (2000)*

Towards the end of the year the participatory appraisal indicated that because the farmers had recently acquired land with the assistance of the Department of Land Affairs they were more interested in preparing this land and planning its use than actually committing themselves to working on the demonstration plot, which they believed was owned by the farmer who provided the land. In a truly participatory undertaking the option of assisting these farmers with their land-use planning, etc. would have been identified and considered. The honey bush demonstration plot would have been postponed until such time as the farmers were in the position to make use of such a facility. Because the demonstration plot was established on land owned by a farmer who was unpopular with his peers conflict again arose. This resulted in



problems with obtaining sufficient labour to maintain the plot and eventually it became overgrown with weeds. Only two farmers attended the technology transfer sessions; the farmer whose land it was and one other who is one of the few progressive farmers in the village. This second farmer decided to do his own experimentation with honey bush and planted a small plot (1/10 of a hectare). After the demonstration plot failed he made this site available to researchers for demonstration purposes and for the collection of some field data. Unfortunately the researchers made very limited use of this opportunity.

*Phase 5: Project Design and Planning (2000)*

The project was provisionally designed and planned by the researchers and then reviewed with the farmers during the latter part of the participatory appraisal. Initially the planning involved eleven farmers but within a couple of months this had dwindled to two farmers. Before the researchers finalised their planning, internal friction within the research team resulted in disagreements on how to proceed and what the roles were of the various researchers. The planting of honey bush in 1999 and 2000 was actually implemented before clarity on the project design and planning were achieved.

*Phase 6: Project Implementation (1999 – 2003)*

The first demonstration plot was planted in 1999 and the second in 2000. However, by March 2001 the second site was overgrown with weeds due to a labour shortage and was also abandoned. The site owned by the experimenting farmer was then used for demonstration purposes. Only two of the project objectives could be applied to general crop production and farm management: (1) training in production practices, and (2) business management. When the training sessions involving these two objectives were held, the attendance at each session averaged about eight farmers but training specifically focusing on honey bush had a poor turnout with often only one farmer being present. This suggested that local farmers were interested in technology transfer activities that could be generally applied or adapted to improve their vegetable and livestock production activities, but not specifically in honey bush. This indicated a major oversight on the part of the researchers by not carefully carrying out the project conceptualisation

phase in a participatory manner. During the project implementation phase remedial action could have been taken so that the project concentrated on these two objectives, moving away from the exclusive focus on honey bush, and concentrating on local crop production.

During the five-year period the project management passed between four different people whose abilities to manage the project in a participatory and interdisciplinary manner varied significantly. For the first few years the project was implemented in a multidisciplinary fashion, with each specialist concentrating on his or her specific tasks within the project, which were often not clearly defined. Attempts were then made to increase participation and emphasise an interdisciplinary team-work. Eventually this dwindled and the project again operated in a predominantly multidisciplinary fashion with each specialist only being concerned with their specific tasks and not the larger picture. Occasionally, even their interest in these tasks dwindled.

#### *Phase 7: Project Evaluation (2000 – 2002)*

Monitoring was supposed to take place monthly and while various monitoring forms were completed and distributed many researchers failed to attend meetings or to follow the communicated recommendations. Most farmers were not interested in attending monitoring meetings because of their general lack of interest in honey bush cultivation. However, some participatory monitoring occurred during the participatory appraisal process. In 2001/2002 an evaluation, using some participatory tools, was carried out with those farmers who were still involved in the project. The process also included interviews with some of those farmers who were no longer involved in the project. The evaluation highlighted the following issues that had been overlooked during conceptualisation and planning:

1. Honey bush was not a priority for the farmers and they considered it to be risky. They felt that they had no use for it except to sell it and initially the markets were extremely far away and uncertain. To be economically viable it seemed to require their entire two-hectare land allotment, which conflicted with their household food security needs. Researchers were also against the idea of intercropping vegetables between the honey bush plants.

2. An economic feasibility study was only initiated in late 2001. Farmers reported that they were cautious about planting honey bush because it was a new crop and they felt that the researchers had insufficient knowledge about its cultivation and returns, leaving them with the fear that plantings might fail as a commercial venture.
3. Farmers wanted to remain involved in crop growing and other agricultural activities with which they were familiar and could use for both household consumption and commercial purposes.

*Phase 8: New Project Cycle Starts (2002 – 2003)*

Since obtaining the new farmland some local farmers experienced problems with their vegetable production activities but were hesitant of asking the researchers for advice because of the latter's unwavering focus on honey bush cultivation. However, through interactions the researchers gradually realised that some farmers were experiencing severe constraints regarding the lack of water and the incidence of root-knot nematodes in the soil. The researchers only identified these as problems when they started to affect the honey bush plants in January 2002, yet the farmers had been experiencing these problems with their other crops since acquiring the land in 2000. At this point a few researchers realised that soil health and access to water were generally severe problems for some farmers, limiting the crops they grew and the subsequent yields. A few of the affected farmers and some researchers started to consider the need for a project to identify locally acceptable practices to promote soil health, as this affected all types of crop production and not only honey bush. Some researchers felt that this was a far better way of developing and transferring technology because farmers and researchers collaborated to solve problems that were of immediate importance to the farmers.

**4.2 Case Study 2: Small-scale commercial production of stone fruit (peaches, apricots and nectarines) in the Eastern Cape**

*Phase 1: Dreams and ideas (February 2003)*

While conducting an exploratory study for USAID in farming areas along the Greater Fish River Valley in the Eastern Cape, researchers

encountered a group of land reform beneficiaries and local stakeholders who wanted to cultivate stone fruit (specifically apricots) commercially. A nearby area had been the site of a thriving dried apricot industry in the 1920s and 1930s and there was a local desire to rekindle the industry. The existence of new rootstocks and cultivars suggested that this was a possibility. Local stakeholders<sup>4</sup> believed that the future re-introduction of a large-scale stone fruit industry in the area would improve the socio-economic circumstances of local residents by ensuring local economic development and job creation.

*Phase 2: Project Identification/Conceptualisation (May 2003)*

After discussions with local stakeholders and representatives of the land reform beneficiaries' Trust, a potential project was conceptualised in which two to three hectares of stone fruit would initially be planted on the Trust's farm and gradually scaled-up during the ensuing years. This site would also provide a training area for the beneficiaries, other emerging farmers and household gardeners engaged in farming activities in the surrounding area. The ARC envisaged that it would need to provide technology transfer support for the next five years or until at least two harvests had occurred. Subsequently, the ARC appointed a project manager to manage the project and to liaise with the appointed local representatives. The two ARC research and training coordinators, an economist and a sociologist were active members of the ARC team to ensure awareness of the activities required during each phase and to promote an interdisciplinary culture within the project. This also ensured that they could assume their specific interdisciplinary roles during the different phases in a manner that integrated them into the overall project. During this phase the different team members were able to integrate their understanding of the different technical, economic and social requirements of the project and potential obstacles associated with these dimensions.

*Phase 3: Project Appraisal/Diagnosis (June to October 2003)*

In order to determine the technical, economic and social feasibility of this project the ARC embarked on a Participatory Appraisal process in

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<sup>4</sup> *Stakeholders included farmer, service provider, government and municipal representatives.*

conjunction with the manager of the Trust, some local stakeholders, service providers and emerging farmers.

Technical findings in terms of the local climate, and the water and soil analyses indicated that of the proposed sites only the Trust farm had potential for the commercial cultivation of stone fruit, such as peaches, nectarines and apricots. Other areas surveyed were unfavourable for even small-scale production of stone fruit for household consumption. This was mainly due to the salinity of the soil and water.

The economic feasibility study indicated that the production of early bearing stone fruit cultivars could be economically viable in the areas which met the necessary technical requirements. However, given some of the environmental risks such as hail and frost, the management of the production process would be critical for success.

Due to faltering commitment from some local stakeholders during the feasibility study, only a cursory social assessment was done in order to avoid raising the expectations of the local farmers. However, local farmer management structures were identified and included in the assessment. The assessment indicated that local emerging farmers were not overly interested in stone fruit production as they were involved in other agricultural activities, including cattle, goat, chicken and vegetable production. It also suggested that those interested in stone fruit production did not have the necessary experience and commitment to manage the production process.

#### *Phase 4: Options Analysis (November 2003)*

Based on their experiences during the feasibility study the research team realised that some local stakeholders were not committed to the conceptualised project, as they were unable or unwilling to carry out some of the collaborative tasks that had been required during the feasibility study phase. Given the distances involved, if the ARC was to provide ongoing and long-term support it was imperative that the locally based project management team was committed to the project. This commitment seemed to falter during critical periods of the feasibility study and was considered likely to pose a long-term constraint to the success of the project. The feasibility study also indicated that some of the current activities with which the emerging

farmers were involved, such as chicken, goat, cattle and vegetable production, were experiencing problems. Some of these problems were the result of ill conceived or weakly designed projects in which their feasibility had not been accurately assessed. Other problems related to temporary delays in funding that were outside the control of the management structures of the projects.

Given these circumstances the ARC team recommended that the farmers, local stakeholders and service providers review the existing local agricultural activities and continue with those proving successful, rather than embarking on activities such as stone fruit production which demanded a greater use of resources, many of which were both scarce and costly. It was also recommended that the project be suspended for a one-year period during which the farmers and local stakeholders monitor the salinity of the soil and water sources and the climatic patterns. After this period, based on the data collected by the farmers and the ARC, a combined decision will be taken whether to proceed with the project or to officially close it.

## **5. DISCUSSION**

By identifying each phase and the associated activities the PPMC makes project managers and local participants aware of what is required in terms of activities, timing, methods and tools during each phase, i.e. it communicates to all involved as to what needs to happen where, when and how. It is useful as a brief checklist when managing a project and also as a means of identifying if something did or didn't work and where and why this occurred during the project cycle.

In the first case study neither the PPMC nor any other form of project management cycle was used. The project was based on the ideas of the researchers, poorly conceptualised and continued for the entire five-year period without any significant action being taken to rectify the various problems that occurred or to cancel/suspend the project. This was despite strong evidence indicating that at least some corrective measures were required. Clear participatory communication between the stakeholders did not take place until after problems occurred. Reflection only took place two years after the project had started and when it started going seriously wrong despite the need for this to continue throughout the project cycle. The lack of any specific project

management framework resulted in poor conceptualisation, vague planning and design, interrupted diagnostic and delayed feasibility studies, erratic implementation and failure to take corrective action.

The use of the PPMC in the second case allowed for greater communication between stakeholders from the Conceptualisation/ Identification Phase onwards. It also permitted them to reflect on the process and discuss concerns at a number of combined meetings held during the first four phases. This enabled the research team to identify the likely strengths and weaknesses and to report on these. Furthermore the project manager could build a strong case for postponing the project and obtain agreement during Phase Four that the project should be suspended for a period of one year. It also enabled the project team to consider the various local options and to make suggestions on how existing activities could be improved. If the position of the local stakeholders changes, a decision can then be made to continue or terminate the project. The decision to postpone the project was taken within seven months after project conceptualisation and ensured that resources were not wasted, as might have been the case if the project had followed the same muddled pattern as the first case study.

## 6. CONCLUSION

The comparison of the case studies suggests that when an approach such as the PPMC is not used during agricultural development projects the following concerns are raised:

- It is questionable whether the ideas, requirements and concerns from which projects are conceptualised are those of the farmers or those of other local stakeholders and service providers, such as research, extension and other government departments;
- It is also questionable whether service providers and stakeholders understand and or value the importance of approaches such as the PPMC and have the necessary skills and capacity to implement and manage participatory agricultural development projects; and
- Various resources are inefficiently used if a framework such as the PPMC is not followed.

The study also provided the following general lessons regarding project management:

- Only one project manager should be appointed for the duration of the project and this person should have the necessary skills to manage the project effectively and to ensure that the project is implemented in an interdisciplinary manner. This ensures that activities and resources are integrated for the benefit of the project.
- Projects that are not tested for feasibility or where feasibility studies indicate that they are unfeasible should not enter the design and planning phase, let alone be implemented. If this happens poorly conceived projects could have a life of their own and continue indefinitely. The project discussed in the first case study was only terminated when one of the successive project managers decided to close down the project. In the meantime resources had been used without ever being likely to achieve the intended goals and objectives.
- All parties collaborating on a project need to work together rather than for individual purposes or in opposition to one another. This is achieved by setting clear goals and objectives through clear communication that is done in a participatory manner amongst the representatives, ensuring that all the voices are heard. This allows effective decisions to be made and implemented based on agreed and identified goals and objectives. The PPMC provides a framework that enhances communication between researchers, extension and local actors.

The use of the PPMC in the second case study suggests that the concerns that are raised in the first case study can be significantly reduced ensuring that projects are well conceptualised and implemented in a participatory manner. This has the effect of bringing about a greater degree of consultation, negotiation, participatory ownership (rights) and responsibility (obligations) than if the cycle is not followed. A project that is completed in this fashion should achieve its goals. While one that is conducted along the lines of the first case study leads to increasing confusion and the wastage of resources.



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